



Mn/DOT Name: 1 DRL

NGS Name: 1 DRL

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	25	107 N	13 W	440229.00	922019.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	YES	21802		SEE DESCRIPTION

Monument Type

BRIDGE HEADWALL

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1972)

Stamping: 1 DRL 1972

2.5 MILES NORTH OF CHESTER, 6.7 MILES NORTHWEST OF EYOTA, 4.45 MILES WEST ALONG SILVER CREEK ROAD NORTHEAST FROM THE JUNCTION OF SILVER CREEK ROAD NORTHEAST AND TRUNK HIGHWAY 42 IN CHESTER, THEN 0.4 MILE NORTH ON COUNTY ROAD 119, IN THE SOUTHEAST CORNER OF A COUNTY ROAD 119 BRIDGE OVER SILVER CREEK, 10.0 FEET SOUTH AND 12.0 FEET EAST OF THE CENTER OF THE BRIDGE.

Station Notes

5-13-2010 FOUND THAT THE BRIDGE WAS REPLACED BY TWIN 6.0 FOOT DIAMETER CULVERTS.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1200.034	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.130 12B = -98.140 09 = -98.002 03 = -97.910

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/1_DRL-3NE-13MAY2010.jpg	NE	May 13, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 1026

NGS Name: 1026

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	20	108 N	14 W	440841.00	923217.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1934)

Stamping: 1026

1.2 MILES SOUTH AND 0.2 MILE WEST OF ORONOCO, 0.5 MILE WEST ON COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, 42.0 FEET NORTH AND 27.0 FEET EAST OF A CROSSROADS.

Station Notes

6-29-2010 THE POSITION FALLS UNDER NEW PAVEMENT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1025.474	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.435 03 = -98.297

* No Horizontal Positions in the Database *



Mn/DOT Name: 136

NGS Name: 136

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	107 N	14 W	440208.00	923315.00		

NGS ACRN: [PP0217](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	DESTROYED	Horz=NO Vert=NO	NO	M 136		NO MAG MATERIAL

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SEE DESCRIPTION

Mon. Agency

CNWRR

Description: (2010)

Stamping:

4.8 MILES WEST OF ROCHESTER, 4.8 MILES WEST ALONG THE CHICAGO AND NORTHWESTERN RAILWAY FROM THE STATION AT ROCHESTER, NEAR MILEPOST 54, AT BRIDGE NUMBER M 136, IN THE TOP OF THE SOUTHEAST CORNER OF THE COPING.

Station Notes

7-14-2010 FOUND A DRAINAGE STRUCTURE 150.0 FEET SOUTHWEST OF MILEPOST 54. NO MARKS OF ANY KIND.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1058.928	.007	1/1				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1058.928	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT

Geoid Separations(ft): GEOID18 = -98.642 12B = -98.642 09 = -98.573 03 = -98.389

* No Horizontal Positions in the Database *



Mn/DOT Name: 2 DRL

NGS Name: 2 DRL

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	11	107 N	13 W	440508.00	922020.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SEE DESCRIPTION	USGS

Description: (1972)

Stamping: 2 DRL 1972

1.5 MILES NORTH AND 3.5 MILES WEST OF VIOLA, 2.75 MILES WEST ALONG 65TH STREET NORTHEAST FROM THE JUNCTION OF 65TH STREET NORTHEAST AND TRUNK HIGHWAY 42 VIOLA, THEN CONTINUE WEST 2.0 MILES ON COUNTY ROAD 24 NORTHEAST/ 65TH STREET NORTHEAST, THEN 0.5 MILE SOUTH ON 70TH AVENUE NORTHEAST, IN THE TOP CENTER OF THE WEST HEADWALL OF A CONCRETE CULVERT, 9.0 FEET WEST OF A NORTH-SOUTH ROAD.

Station Notes

3-30-2010 THE CONCRETE CULVERT HAS BEEN REPLACED BY AN 8.0 FOOT DIAMETER CIRCULAR CULVERT.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1186.595	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.182 09 = -98.051 03 = -97.962

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/2_DRL-3W-30MAR2010.jpg	W	Mar 30, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 24 A

NGS Name: 24 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2137](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	36	108 N	15 W	440631.00	923359.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	1991	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNKNOWN	NGS

Description:

Stamping:

7.7 MILES NORTHWEST OF ROCHESTER, 2.5 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 NORTH IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1096.740	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.451 03 = -98.300

* No Horizontal Positions in the Database *



Mn/DOT Name: 27 GJS

NGS Name: 27 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	28	108 N	14 W	440722.00	923112.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1965)

Stamping: 27 GJS 1964 1120

3.0 MILES SOUTH OF ORONOCO, 3.5 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 IN ORONOCO, 2.7 MILES EAST AND 1.0 MILE NORTH OF DOUGLAS, 46.0 FEET EAST AND 24.0 FEET NORTH OF THE NORTHBOUND LANE OF TRUNK HIGHWAY 52 AT A TEE-ROAD EAST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1020.139	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.441 03 = -98.307

* No Horizontal Positions in the Database *



Mn/DOT Name: 28 GJS

NGS Name: 28 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0331](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	8	108 N	14 W	441011.00	923205.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2001	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1985)

Stamping: 28 GJS 1964 985

IN ORONOCO, AT THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12, IN THE TRIANGLE FORMED BY A ROAD FORK, 2.0 FEET EAST OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
985.234	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
985.149	.016	2				VERTICAL CONTROL SURVEY		1973	L137 MINN
985.149	.016	2				VERTICAL CONTROL SURVEY		1972	L22792
985.320	.033	3				VERTICAL CONTROL SURVEY		1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.523 09 = -98.415 03 = -98.274

* No Horizontal Positions in the Database *



Mn/DOT Name: 3 DRL

NGS Name: 3 DRL

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	35	108 N	13 W	440658.00	922020.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	GOOD	Horz=NO Vert=YES	YES			NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SURVEY DISK	USGS

Description: (2010)

Stamping: 3 DRL 1972

1.0 MILE SOUTH AND 4.5 MILES WEST OF ELGIN, 4.0 MILES WEST ALONG COUNTY ROAD 25 FROM THE JUNCTION OF COUNTY ROAD 25 AND COUNTY ROAD 2 IN ELGIN, THEN 1.4 MILES SOUTH ON 70TH AVENUE NORTHEAST, 17.0 FEET WEST OF A NORTH-SOUTH ROAD, 105.0 FEET NORTH OF NUMBER 8034 FARM ENTRANCE, IN THE NORTH END OF THE WEST HEADWALL OF A CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1112.737	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.248 09 = -98.117 03 = -98.021

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_DRL-3N-30MAR2010.jpg	N	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_DRL-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_DRL-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 3-001

NGS Name: 3 001

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0343](#)

[Get Map](#)

NGS Quad / Sta Num : 44092324/

USGS Quad: PINE ISLAND

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	5	108 N	15 W	441133.73	923854.69	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2012	GOOD	Horz=NO Vert=YES	YES	7212	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 3 001 1972

IN PINE ISLAND, 0.2 MILE SOUTH ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND 8TH STREET
SOUTHWEST IN PINE ISLAND, IN THE SOUTHEAST CORNER OF COUNTY ROAD 3 BRIDGE NUMBER 7212 OVER THE
ZUMBRO RIVER, 1.8 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1005.733	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1005.733	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1005.720	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1005.720	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1005.608	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1005.608	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1005.608	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1005.566	.262		907.374	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.290 12B = -98.271 09 = -98.192 03 = -98.015

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 11 33.73267	92 38 54.69371	570334.467	230924.171	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2979106.058	765799.228	1732567.902	16054221.212	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_001-PP0343-3N-04MAY2010.jpg	N	May 4, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_001-PP0343-2-04MAY2010.jpg		May 4, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/3_001-PP0343-1-04MAY2010.jpg		May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 31 GJS

NGS Name: 31 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	15	107 N	15 W	440420.00	923629.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2010	DESTROYED	Horz=NO Vert=NO	YES			STEEL ROD IMBED IN MON

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1964)

Stamping: 31 GJS 1964 1222

2.5 MILES NORTH AND 2.0 MILES EAST OF BYRON, 2.0 MILES EAST ALONG COUNTY ROAD 134 FROM THE JUNCTION OF COUNTY ROAD 134 AND COUNTY ROAD 5 IN BYRON, THEN 2.5 MILES NORTH ON COUNTY ROAD 3, 48.0 FEET SOUTH AND 59.0 FEET EAST OF A CROSSROADS.

Station Notes

5-5-2010 FOUND THE MONUMENT WITH THE TOP KNOCKED OFF, EXPOSING THE REBAR.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1222.196	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.517 09 = -98.428 03 = -98.261

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/31_GJS-1-05MAY2010.jpg		May 5, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 32 GJS

NGS Name: 32 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	32	108 N	15 W	440644.00	923818.20		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2010) **Stamping:** 32 GJS 1964 1276

6.3 MILES SOUTHWEST OF ORONOCO, 1.5 MILES WEST OF GENOA, 6.2 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 IN ORONOCO, 54.0 FEET NORTH AND 22.5 FEET WEST OF THE INTERSECTION OF COUNTY ROAD 14 AND COUNTY ROAD 105, 4.0 FEET NORTH-NORTHEAST A POWER POLE WITH AN ANCHOR, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1275.955	.033	3					VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.376 12B = -98.376 09 = -98.284 03 = -98.117

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/32_GJS-3N-05MAY2010.jpg	N	May 5, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/32_GJS-2-05MAY2010.jpg		May 5, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/32_GJS-1-05MAY2010.jpg		May 5, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 33 GJS

NGS Name: 33 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	21	108 N	15 W	440902.00	923724.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2004	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2009)

Stamping: 33 GJS 1964 1935

3.5 MILES SOUTHEAST OF PINE ISLAND, 3.5 MILES SOUTH-SOUTHEAST ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND 8TH STREET SOUTHWEST IN PINE ISLAND, 51.0 FEET WEST AND 35.0 FEET NORTH OF A TEE-ROAD WEST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1034.772	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.409 12B = -98.402 09 = -98.310 03 = -98.149

* No Horizontal Positions in the Database *



Mn/DOT Name: 35 GJS

NGS Name: 35 GJS

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	107 N	15 W	440629.00	923424.00		

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1964) Stamping: 35 GJS 1964 1082

4.4 MILES SOUTHWEST OF ORONOCO, AT THE WEST END OF DOUGLAS, 2.85 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52, 89.0 FEET WEST AND 25.0 FEET SOUTH OF COUNTY ROAD 14 AT A TEE-ROAD SOUTH (COUNTY ROAD 3).

Station Notes

THE POSITION FALLS IN A SHALLOW DITCH BOTTOM WHICH HAS BEEN GRADED.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1081.632	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT	

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.448 03 = -98.294

* No Horizontal Positions in the Database *



Mn/DOT Name: 37 GJS

NGS Name: 37 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	8	106 N	14 W	435947.00	923227.00			1964	2010	NOT FOUND	Horz=? Vert=YES	NO			STEEL SPIKE IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1964) Stamping: 37 GJS 1964 1037

5.5 MILES EAST AND 3.0 MILES SOUTH OF BYRON, 0.9 MILE SOUTHWEST ALONG SALEM ROAD SOUTHWEST FROM THE JUNCTION OF SALEM ROAD SOUTHWEST AND COUNTY ROAD 125 WEST OF ROCHESTER, 21.0 FEET EAST AND 45.0 FEET SOUTH OF A GAME REFUGE ENTRANCE.

Station Notes

5-6-2010 NO GAME REFUGE ENTRANCE WAS FOUND IN THIS VICINITY.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1036.733	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.658 12B = -98.668 09 = -98.605 03 = -98.399

* No Horizontal Positions in the Database *



Mn/DOT Name: 37 RDS

NGS Name: 37 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	35	106 N	14 W	435633.00	922757.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1956)

Stamping: 37 RDS 1953

5.5 MILES NORTH OF STEWARTVILLE, 5.7 MILES SOUTH OF ROCHESTER, 2.4 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, 329.0 FEET NORTHWEST OF A PRIVATE DRIVE, 23.0 FEET EAST OF TRUNK HIGHWAY 63, IN THE CENTER OF THE EAST HEADWALL OF A TRUNK HIGHWAY 63 CATTLE PASS.

Station Notes

THE CATTLE PASS WAS REMOVED WHEN TRUNK HIGHWAY 63 BECAME A 4 LANE IN THE LATE 1950'S.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1112.048	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.395 12B = -98.415 09 = -98.343 03 = -98.136

* No Horizontal Positions in the Database *



Mn/DOT Name: 38 GJS

NGS Name: 38 GJS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	106 N	15 W	440026.00	923929.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1964	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1964) Stamping: 38 GJS 1964 1215

2.0 MILES SOUTH AND 0.5 MILE WEST OF BYRON, 1.45 MILES SOUTH ALONG COUNTY ROAD 5 FROM THE JUNCTION OF COUNTY ROAD 5 AND TRUNK HIGHWAY 14 IN BYRON, THEN 0.5 MILE WEST ON 10TH STREET SOUTHWEST, 31.0 FEET SOUTH AND 33.0 FEET EAST OF AN EAST-WEST ROAD AT A TEE-ROAD SOUTH.

Station Notes

THE POSITION FALLS IN A RECONSTRUCTED INTERSECTION.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1214.715	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.418 09 = -98.336 03 = -98.136

* No Horizontal Positions in the Database *



Mn/DOT Name: 38 RDS

NGS Name: 38 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	105 N	15 W	435056.00	923554.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: 38 RDS 1953 1256

5.0 MILES SOUTH AND 2.0 MILES EAST OF ROCK DELL, 5.5 MILES WEST OF STEWARTVILLE, 2.7 MILES WEST ALONG COUNTY ROAD 6 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 6 SOUTHWEST AND INTERSTATE HIGHWAY 90, THEN 0.6 MILE NORTH ON COUNTY ROAD 115 SOUTHWEST, 28.5 FEET WEST OF THE ROAD, 30.0 FEET SOUTH OF A POWER POLE WITH AN ANCHOR, 14.0 FEET SOUTH OF A PRIVATE DRIVE EAST (11930) EXTENDED WEST, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1256.307	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.304 12B = -98.317 09 = -98.261 03 = -98.021

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/38_RDS-3NW-27APR2010.jpg	NW	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/38_RDS-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/38_RDS-1-27APR2010.jpg		Apr 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 39 RDS

NGS Name: 39 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	22	105 N	15 W	435238.82	923553.55		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	1963	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE)	SURVEY DISK	USGS

Description: (2010)

Stamping: 39 RDS 1953

5.7 MILES NORTHWEST OF STEWARTVILLE, 3.0 MILES SOUTH AND 2.0 MILES EAST OF ROCK DELL, 5.55 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63, THEN 1.0 MILE SOUTH ON 80TH AVENUE SOUTHWEST, 532.0 FEET SOUTH AND 28.0 FEET WEST OF THE CROSSROADS.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1304.092	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.428 09 = -98.376 03 = -98.126

* No Horizontal Positions in the Database *



Mn/DOT Name: 4 DRL

NGS Name: 4 DRL

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	108 N	13 W	440926.60	922132.30	2	

NGS ACRN: [DN5972](#)
NGS Quad / Sta Num : 44092231/
USGS Quad: MILLVILLE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	USGS

Description: (1972)

Stamping: 4 DRL 1972

5.7 MILES NORTHWEST OF ELGIN, 5.0 MILES WEST ALONG COUNTY ROAD 25 FROM THE JUNCTION OF COUNTY ROAD 25 AND COUNTY ROAD 2 IN ELGIN, THEN 1.35 MILES NORTH ON COUNTY ROAD 11 NORTHEAST, 0.6 MILE SOUTH AND 1.0 MILE WEST OF POTSDAM, 44.0 FEET SOUTH AND 13.0 FEET EAST OF COUNTY ROAD 11 AT A DRIVEWAY EAST, IN THE CENTER OF THE EAST HEADWALL OF A BOX CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.284	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1066.284	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1066.268	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.225	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.343 12B = -98.343 09 = -98.205 03 = -98.107

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/4_DRL-DN5972-3NW-23MAR2010.jpg	NW	Mar 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/4_DRL-DN5972-2-23MAR2010.jpg		Mar 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/4_DRL-DN5972-1-23MAR2010.jpg		Mar 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 40 RDS

NGS Name: 40 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	105 N	15 W	435428.00	923553.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1974)

Stamping: 40 RDS 1953

6.55 MILES NORTHWEST OF STEWARTVILLE, 1.0 MILE SOUTH AND 2.0 MILES EAST OF ROCK DELL, 5.55 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 NORTH OF STEWARTVILLE, THEN 1.1 MILES NORTH ON 80TH AVENUE SOUTHWEST, 392.0 FEET NORTH AND 33.0 FEET WEST OF THE CROSSROADS.

Station Notes

FOUND A 30.0 INCH LONG REBAR 100.0 FEET FROM THE POSITION.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1184.935	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.546 09 = -98.474 03 = -98.231

* No Horizontal Positions in the Database *



Mn/DOT Name: 41 RDS

NGS Name: 41 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	105 N	15 W	435602.00	923552.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: 41 RDS 1953 1208

7.7 MILES NORTHWEST OF STEWARTVILLE, 2.0 MILES EAST AND 1.0 MILE NORTH OF ROCK DELL, 5.5 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 NORTH OF STEWARTVILLE, THEN 2.9 MILES NORTH ON COUNTY ROAD 126 SOUTHWEST (80TH AVENUE SOUTHWEST), 0.5 MILE NORTH OF THE BRIDGE OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 381.0 FEET SOUTH AND 38.0 FEET EAST OF THE ROAD AT A TEE-ROAD EAST, 2.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1207.862	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.602 09 = -98.533 03 = -98.297

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/41_RDS-3NE-27APR2010.jpg	NE	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/41_RDS-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/41_RDS-1-27APR2010.jpg		Apr 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 48 RDS

NGS Name: 48 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	106 N	13 W	435835.00	922018.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	GOOD	Horz=NO Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (1953)

Stamping: 48 RDS 1953 1147

2.1 MILES SOUTH OF CHESTER, 2.0 MILES SOUTH ALONG CHESTER ROAD SOUTHEAST FROM THE JUNCTION OF CHESTER ROAD SOUTHEAST AND TRUNK HIGHWAY 14 IN CHESTER, 471.0 FEET SOUTH AND 66.0 FEET EAST OF COUNTY ROAD 19 AT A TEE-ROAD EAST (COUNTY ROAD 23), 66.0 FEET EAST OF COUNTY ROAD 19, 43.0 FEET NORTH OF A PRIVATE TEE-ROAD WEST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1146.658	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.126 12B = -98.123 09 = -98.008 03 = -97.900

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/48_RDS-3E-13MAY2010.jpg	E	May 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/48_RDS-2-13MAY2010.jpg		May 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/48_RDS-1-13MAY2010.jpg		May 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 49 RDS

NGS Name: 49 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0140](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	35	106 N	13 W	435655.90	922019.80	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1953	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: 1175 49 RDS 1953

0.5 MILE NORTHEAST OF MARION, 0.7 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), THEN 0.6 MILE EAST ALONG 54TH STREET SOUTHEAST, THEN 0.4 MILE NORTH ALONG 70TH AVENUE SOUTHEAST, 285.0 FEET SOUTH OF A PRIVATE DRIVE EAST, 30.0 FEET WEST OF 70TH AVENUE SOUTHEAST, 2.5 FEET SOUTHEAST OF A POWER POLE, 0.5 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1175.280	.016	2/0					VERTICAL ADJUSTMENT		1991	00000025

NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1175.234	.016	2/0					UNKNOWN/APPROXIMATE		1992	UNCHECKD
1175.234	.016	2					VERTICAL CONTROL SURVEY		1972	L105 MINN
1175.234	.016	2					VERTICAL CONTROL SURVEY		1971	L22211
1175.224	.033	3					VERTICAL CONTROL SURVEY		1957	USGS-VERT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1175.191	.262			1077.107	.197	2011	GPS - RTRN		2016	RTRN2016
1175.076	.262			1077.078	.197	2007	GPS - RTRN		2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.094 12B = -98.084 09 = -97.998 03 = -97.871

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County			Project Info	
Geodetic Position				X	Y	Acc	Order	Determination Method
Latitude	Longitude							
43 56 55.89920	92 20 19.79510			652190.478	142446.621	.131	3	GPS - RTRN

NAD83(2007)				Olmsted County			Project Info	
Geodetic Position				X	Y	Acc	Order	Determination Method
Latitude	Longitude							
43 56 55.90061	92 20 19.79667			652190.362	142446.763	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15			Project Info	
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method
3062122.936	678426.953			1814478.369	15965865.077	.131	3	GPS - RTRN

NAD83(2007)				UTM - Zone 15			Project Info	
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method
3062122.819	678427.093			1814478.253	15965865.218	.131	3	GPS - RTRN



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/49_RDS-OO0140-3W-09AUG2016.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/49_RDS-OO0140-2-09AUG2016.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/49_RDS-OO0140-1-09AUG2016.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Aug 9, 2016
	Aug 9, 2016
	Aug 9, 2016



Mn/DOT Name: 5 DRL

NGS Name: 5 DRL

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	10	108 N	13 W	441044.00	922244.00	2	

NGS ACRN: DN5971	Get Map
NGS Quad / Sta Num : 44092234/	
USGS Quad: ZUMBRO LAKE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	USGS

Description: (1972)

Stamping: 5 DRL 1972

7.1 MILES NORTHWEST OF ELGIN, 1.0 MILE NORTH AND 2.0 MILES WEST OF POTSDAM, 2.0 MILES EAST ON TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63 IN ELGIN, THEN 0.9 MILE NORTH ON COUNTY ROAD 128 NORTHEAST, 476.0 FEET SOUTH AND 37.0 FEET EAST OF THE CROSSROADS, IN THE EAST END OF A COUNTY ROAD 128 CONCRETE CULVERT, 0.5 FOOT WEST OF THE END OF THE CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1090.949	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1090.949	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1090.936	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1091.136	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.379 12B = -98.376 09 = -98.248 03 = -98.153

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5_DRL-DN5971-3SE-23MAR2010.jpg	SE	Mar 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5_DRL-DN5971-2-23MAR2010.jpg		Mar 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5_DRL-DN5971-1-23MAR2010.jpg		Mar 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5 RDS

NGS Name: 5 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	105 N	11 W	435145.00	920802.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2016) Stamping: 5 RDS 1952

3.0 MILES EAST-NORTHEAST OF CHATFIELD, 1.9 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 1.65 MILES NORTH AND EAST ON 110TH STREET SOUTHEAST, THEN 0.1 MILE NORTH ON 170TH AVENUE SOUTHEAST, 25.0 FEET WEST OF A TEE-ROAD NORTH, 355.0 FEET NORTH OF AN EAST-WEST ROAD.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1119.561	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.336 12B = -98.343 09 = -98.254 03 = -98.110

* No Horizontal Positions in the Database *



Mn/DOT Name: 50 RDS

NGS Name: 50 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	2	105 N	13 W	435533.70	922055.00			1953	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010) **Stamping:** 50 RDS 1953 1257

7.3 MILES SOUTHWEST OF EYOTA, 3.0 MILES EAST OF SIMPSON, 0.4 MILE SOUTH ON COUNTY ROAD 16 FROM THE JUNCTION OF COUNTY ROAD 16 AND TRUNK HIGHWAY 52 IN EYOTA, THEN 0.5 MILE SOUTH ON 65TH AVENUE SOUTHEAST, 501.0 FEET SOUTH OF A TEE-ROAD EAST, 71.0 FEET NORTH OF A PRIVATE DRIVE WEST, 38.0 FEET WEST OF THE ROAD, 2.5 FEET WEST OF A POWER POLE, 3.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1256.871	.033	3					VERTICAL CONTROL SURVEY	1957	USGS-VERT	

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.035 09 = -97.956 03 = -97.834

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/50_RDS-3NW-16JUN2010.jpg	NW	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/50_RDS-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/50_RDS-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 51 RDS

NGS Name: 51 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	105 N	13 W	435408.00	922140.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: 51 RDS 1953 1246

7.1 MILES NORTHEAST OF STEWARTVILLE, 1.5 MILES SOUTH AND 2.5 MILES EAST OF SIMPSON, 1.9 MILES SOUTHWESTERLY ALONG COUNTY ROAD 16 FROM THE JUNCTION OF COUNTY ROAD 16 AND TRUNK HIGHWAY 52 IN STEWARTVILLE, THEN 2.4 MILES SOUTHEASTERLY ON COUNTY ROAD 116 SOUTHEAST, 620.0 FEET EAST OF A TEE-ROAD SOUTH, 42.0 FEET SOUTH OF THE ROAD, 6.0 FEET EAST-SOUTHEAST OF A POWER POLE, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1245.831	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -97.962 12B = -97.956 09 = -97.877 03 = -97.756

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/51_RDS-3S-12MAY2010.jpg	S	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/51_RDS-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/51_RDS-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 52 RDS

NGS Name: 52 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	22	105 N	13 W	435254.00	922224.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	CONCRETE POST	USGS

Description: (1953) **Stamping:** 52 RDS 1953

6.0 MILES NORTHEAST OF STEWARTVILLE, 0.7 MILE NORTH AND 0.5 MILE EAST OF PLEASANT GROVE, 0.9 MILE NORTH ALONG COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 AND TRUNK HIGHWAY 20 IN STEWARTVILLE, THEN 0.5 MILE ON COUNTY ROAD 140 SOUTHEAST, 1.15 MILES NORTHERLY ON COUNTY ROAD 139 SOUTHEAST, 570.0 FEET SOUTH OF A PRIVATE DRIVE EAST, 156.0 FEET SOUTH OF A FENCE WEST, 33.0 FEET WEST OF COUNTY ROAD 139, 26.0 FEET SOUTH OF A PASTURE GATE.

Station Notes

5-12-2010 FOUND THE REMAINS, THE TOP WITH THE DISK WAS GONE, EXPOSING THE REBAR.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1247.996	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -97.874 12B = -97.890 09 = -97.802 03 = -97.664

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/52_RDS-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/52_RDS-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 53 RDS

NGS Name: 53 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	28	105 N	13 W	435150.00	922318.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (2008) Stamping: 53 RDS 1953

5.0 MILES NORTHEAST OF STEWARTVILLE, 0.5 MILE SOUTH OF PLEASANT GROVE, 0.6 MILE NORTH ALONG COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, 2460.0 FEET NORTH AND 33.0 FEET EAST OF TRUNK HIGHWAY 30 AT A PRIVATE DRIVE WEST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1303.787	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -97.831 12B = -97.861 09 = -97.775 03 = -97.624

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 AA

NGS Name: 5501 AA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9048](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	31	107 N	15 W	440140.71	924008.27	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1976	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5501 AA 1976

1.2 MILES WEST OF BYRON, 1.0 MILE WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5 IN BYRON, AT TRUNK HIGHWAY 14 MILEPOINT 201.65, 175.6 FEET WEST OF A WOOD FENCE CORNER, 109.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 23+96.4, 1.5 FEET NORTH OF A BURIED CABLE POLE, 1.0 FOOT NORTH OF A WITNESS POST AND A RIGHT-OF-WAY POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1223.876	.016	2/1						VERTICAL CONTROL SURVEY		2024	VHAVA		
1223.876	.016	2/1						VERTICAL ADJUSTMENT		2008	00000425-30		
1223.876	.016	2/1						VERTICAL CONTROL SURVEY		2006	VCANI		
1223.876	.016	2/1						VERTICAL ADJUSTMENT		2006	00000497		
1223.872	.016	2/1						VERTICAL CONTROL SURVEY		2001	VKASS		

<u>NGVD29</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1223.810	.033	3						VERTICAL CONTROL SURVEY		1976	CS5501		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1223.872	.262			1125.542	.197	2011		GPS - OPUS		2021	GPSBM		
1223.941	.262			1125.611	.197	2011		GPS - RTRN		2021	RTRN2021		
				1125.546	.009	2011		HORIZONTAL ADJUSTMENT		2012	GPS2800		
				1125.628	.010	2007		HORIZONTAL ADJUSTMENT		2007	GPS2300		
1223.882	.131			1125.851	.066	1996		HORIZONTAL ADJUSTMENT		2002	GPS1779		
1223.882	.131			1125.851	.066	1996		GPS - STATIC		2001	HKASS		

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.336 09 = -98.254 03 = -98.058

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Geodetic Position</u>			<u>Olmsted County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>					
44 01 40.70716	92 40 08.27407	565153.629	170852.749	.131	3	GPS - OPUS	2021	GPSBM					
44 01 40.70779	92 40 08.27337	565153.679	170852.813	.131	3	GPS - RTRN	2021	RTRN2021					
44 01 40.70750	92 40 08.27365	565153.659	170852.783	.016		ADJUSTMENT	2012	GPS2800					

<u>NAD83(2007)</u>				<u>Geodetic Position</u>			<u>Olmsted County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>					
44 01 40.70767	92 40 08.27461	565153.589	170852.800	.016		ADJUSTMENT	2007	GPS2300					

<u>NAD83(1996)</u>				<u>Geodetic Position</u>			<u>Olmsted County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>					
44 01 40.70710	92 40 08.27410	565153.626	170852.743	.033	C	ADJUSTMENT	2002	GPS1779					
44 01 40.70710	92 40 08.27410	565153.627	170852.742	.033	C	GPS - STATIC	2001	HKASS					

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2974723.917	705670.794	1727450.506	15994171.241	.131	3	GPS - OPUS	2021	GPSBM
2974723.967	705670.859	1727450.557	15994171.305	.131	3	GPS - RTRN	2021	RTRN2021
2974723.947	705670.829	1727450.536	15994171.276	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2974723.877	705670.845	1727450.466	15994171.293	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2974723.915	705670.788	1727450.503	15994171.235	.033	C	ADJUSTMENT	2002	GPS1779
2974723.915	705670.788	1727450.503	15994171.235	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AA-DE9048-3S-04APR2023.jpg	S	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AA-DE9048-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AA-DE9048-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 AB

NGS Name: 5501 AB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9049](#)

[Get Map](#)

NGS Quad / Sta Num : 44092323/

USGS Quad: BYRON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	31	107 N	15 W	440141.30	923929.80	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1976	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5501 AB 1976

0.6 MILE SOUTHWEST OF BYRON, 0.6 MILE WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5 IN BYRON, AT TRUNK HIGHWAY 14 MILEPOINT 202.20, 124.5 FEET SOUTH-SOUTHEAST OF A CULVERT, 109.1 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 51+98, 1.0 FOOT NORTH-NORTHEAST OF A RIGHT-OF-WAY AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1229.505	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1229.505	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-30
1229.505	.016	2/1				VERTICAL CONTROL SURVEY	2006	VCANI
1229.505	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1229.502	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1229.453	.033	3				VERTICAL CONTROL SURVEY	1976	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1131.113	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1131.195	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1229.492	.131		1131.412	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1229.492	.131		1131.412	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.389 12B = -98.389 09 = -98.310 03 = -98.117

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 41.29840	92 39 29.79904	567964.596	170921.247	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 41.29856	92 39 29.80001	567964.525	170921.263	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 41.29803	92 39 29.79947	567964.565	170921.210	.033	C	ADJUSTMENT	2002	GPS1779
44 01 41.29803	92 39 29.79947	567964.566	170921.210	.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2977533.458	705776.606	1730260.158	15994242.553	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2977533.386	705776.621	1730260.087	15994242.569	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2977533.427	705776.568	1730260.126	15994242.515	.033	C	ADJUSTMENT	2002	GPS1779
2977533.427	705776.568	1730260.126	15994242.515	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AB-DE9049-3S-04APR2023.jpg	S	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AB-DE9049-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_AB-DE9049-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 AC

NGS Name: 5501 AC

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	107 N	15 W	440142.00	923854.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1976	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1976) Stamping: 5501 AC 1976

IN BYRON, 98.5 FEET SOUTH OF TRUNK HIGHWAY 14, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND 2ND AVENUE
SOUTHWEST, AT TRUNK HIGHWAY 14 STATION 77+24, 111.0 FEET WEST OF COUNTY ROAD 5, 72.8 FEET WEST-SOUTHWEST
OF A POWER POLE, 34.5 FEET NORTHEAST OF THE NORTH SIDE OF THE NORTH PILLAR OF THE EUBANK REALTY
BUILDING, 1.6 FEET NORTHEAST OF RIGHT-OF-WAY POST B-10.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1231.664	.033	3				VERTICAL CONTROL SURVEY	1976 CS5501

Geoid Separations(ft): GEOID18 = -98.432 12B = -98.435 09 = -98.356 03 = -98.166

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 B

NGS Name: 5501 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	32	107 N	15 W	440142.00	923836.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2000	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2001) Stamping: 5501 B 1960

IN BYRON, 0.25 MILE EAST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5
IN BYRON, 42.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, IN THE CENTER ISLAND DITCH BLOCK, AT TRUNK
HIGHWAY 14 STATION 90+44.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1242.360	.033	3				VERTICAL CONTROL SURVEY	1960 CS5501

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.455 09 = -98.379 03 = -98.189

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 C

NGS Name: 5501 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	33	107 N	15 W	440144.30	923814.20		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1960) **Stamping:** 5501 C 1960

IN BYRON, 0.6 MILE EAST ALONG A FRONTAGE ROAD NORTHWEST FROM THE JUNCTION OF A FRONTAGE ROAD NORTHWEST AND COUNTY ROAD 5 IN BYRON, 250.0 FEET EAST OF THE END OF A SERVICE DRIVE, 69.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 107+41.

Station Notes

6-16-2010 FOUND A REBAR PIN AT THE LOCATION, 2.5 FEET DOWN.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1250.601	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.477 09 = -98.402 03 = -98.215

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_C-2-16JUN2010.jpg		Jun 16, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 D

NGS Name: 5501 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9050](#) [Get Map](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	33	107 N	15 W	440144.71	923743.35	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2006	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	MNDT

Description: (2000) **Stamping:** 5501 D 1960

IN BYRON, 69.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE NORTHEAST, AT TRUNK HIGHWAY 14 STATION 129+24.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1245.864	.016	2/1				VERTICAL ADJUSTMENT	2006 00000497
1245.864	.016	2/1				VERTICAL CONTROL SURVEY	2001 VKASS

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1245.811	.033	3				VERTICAL CONTROL SURVEY	1960 CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			1147.357	.010	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			1147.435	.011	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1245.864	.131		1147.642	.066	1996	HORIZONTAL ADJUSTMENT	2002 GPS1779
1245.864	.131		1147.642	.066	1996	GPS - STATIC	2001 HKASS

Geoid Separations(ft): GEOID18 = -98.507 12B = -98.510 09 = -98.438 03 = -98.248

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 44.71139	92 37 43.34917	575741.057	171292.632	.020		ADJUSTMENT	2012 GPS2800	

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 44.71154	92 37 43.35014	575740.986	171292.647	.020		ADJUSTMENT	2007 GPS2300	

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 44.71107	92 37 43.34959	575741.027	171292.600	.033	C	ADJUSTMENT	2002 GPS1779	
44 01 44.71107	92 37 43.34959	575741.027	171292.600	.033	C	GPS - STATIC	2001 HKASS	



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2985303.556	706251.199	1738032.805	15994621.641	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2985303.485	706251.213	1738032.734	15994621.655	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2985303.526	706251.166	1738032.775	15994621.608	.033	C	ADJUSTMENT	2002	GPS1779
2985303.526	706251.166	1738032.775	15994621.608	.033	C	GPS - STATIC	2001	HKASS



Mn/DOT Name: 5501 E

NGS Name: 5501 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS2420](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	33	107 N	15 W	440145.00	923715.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 7 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5501 E STA 150+10 1960 1222.98

0.85 MILE EAST OF BYRON, 0.4 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE NORTHEAST IN BYRON, 59.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 150+10, 28.5 FEET NORTH-NORTHEAST OF A COUNTY ROAD 34 SIGNPOST, 1.0 FOOT SOUTH OF A WITNESS POST.

Station Notes

THE MARK FALLS UNDER A TRANSMISSION LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1223.059	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1222.980	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.533 12B = -98.537 09 = -98.464 03 = -98.274

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_E-DS2420-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_E-DS2420-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_E-DS2420-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 F

NGS Name: 5501 F

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	107 N	15 W	440145.48	923652.28	2	C

NGS ACRN: [PP2353](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		PROJECTS 7 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5501 F STA 167+26 1960

1.8 MILES EAST OF BYRON, 0.7 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE NORTHEAST IN BYRON, AT TRUNK HIGHWAY 14 MILEPOINT 204.3 AND STATION 167+26, 68.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 0.5 FOOT SOUTH OF A WITNESS POST.

Station Notes

THE STATION IS USED AS KALMAR RM 2.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1216.389	.016	2/1						VERTICAL CONTROL SURVEY	2024	VHAVA		
1216.310	.016	2/1						VERTICAL ADJUSTMENT	2006	00000497		
1216.310	.016	2/1						VERTICAL CONTROL SURVEY	2001	VKASS		

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
1216.159	.033	3						VERTICAL CONTROL SURVEY	1960	CS5501		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>		
			1117.747	.010	2011			HORIZONTAL ADJUSTMENT	2012	GPS2800		
			1117.826	.011	2007			HORIZONTAL ADJUSTMENT	2007	GPS2300		
1216.303	.131		1118.019	.066	1996			HORIZONTAL ADJUSTMENT	2002	GPS1779		
1216.303	.131		1118.019	.066	1996			GPS - STATIC	2001	HKASS		
1217.189	.197		1119.007	.131	1996			HORIZONTAL ADJUSTMENT	1999	17648		

Geoid Separations(ft): GEOID18 = -98.553 12B = -98.556 09 = -98.484 03 = -98.294

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 45.48366	92 36 52.27686	579472.262	171384.188	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 45.48373	92 36 52.27783	579472.191	171384.195	.023		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 45.48330	92 36 52.27723	579472.235	171384.151	.033	C	ADJUSTMENT	2002	GPS1779
44 01 45.48330	92 36 52.27723	579472.237	171384.152	.033	C	GPS - STATIC	2001	HKASS
44 01 45.48364	92 36 52.27837	579472.152	171384.185	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 45.47509	92 36 52.27902	579472.108	171383.319	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 45.60458	92 36 51.61737			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989032.858	706392.299	1741762.273	15994716.931	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989032.787	706392.305	1741762.202	15994716.938	.023		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989032.832	706392.262	1741762.246	15994716.894	.033	C	ADJUSTMENT	2002	GPS1779
2989032.832	706392.263	1741762.246	15994716.895	.033	C	GPS - STATIC	2001	HKASS
2989032.748	706392.296	1741762.162	15994716.928	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989032.715	706391.429	1741762.119	15994716.063	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2364424.682	378318.004			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_F-PP2353-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_F-PP2353-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_F-PP2353-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 G

NGS Name: 5501 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7909](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	15 W	440146.00	923629.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5501 G STA 189+16 1960

1.5 MILES EAST OF BYRON, AT THE NORTHEAST CORNER OF THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 3, 75.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 204.65 AND STATION 184+16, 31.0 FEET EAST OF COUNTY ROAD 3, 1.5 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1209.017	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1209.013	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1208.810	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.504 03 = -98.313

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_G-DH7909-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_G-DH7909-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_G-DH7909-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 H

NGS Name: 5501 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2351](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	15 W	440146.06	923611.84	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 1193.99 5501 H STA. 196+87 1960

6.6 MILES WEST OF ROCHESTER, 6.16 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, 63.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 204.85 AND STATION 196+87, 7.8 FEET NORTH-NORTHEAST OF THE NORTH FACE OF A CONCRETE POWER POLE, 0.3 FOOT SOUTH OF A WITNESS POST.

Station Notes

THE STATION IS USED AS KALMAR RM 1 AND FALLS UNDER THE NORTHERLY POWERLINE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>								<u>Project Info</u>	
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				
1194.086	.016	2/1				VERTICAL CONTROL SURVEY		2024	VHAVA
1194.102	.016	2/1				VERTICAL ADJUSTMENT		2006	00000497
1194.099	.016	2/1				VERTICAL CONTROL SURVEY		2001	VKASS
<u>NGVD29</u>								<u>Project Info</u>	
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				
1193.990	.033	3				VERTICAL CONTROL SURVEY		1960	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>								<u>Project Info</u>	
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				
			1095.513	.009	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800
			1095.592	.010	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300
1194.092	.131		1095.785	.066	1996	HORIZONTAL ADJUSTMENT		2002	GPS1779
1194.092	.131		1095.785	.066	1996	GPS - STATIC		2001	HKASS
1194.223	.197		1096.012	.131	1996	HORIZONTAL ADJUSTMENT		1999	17648

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.586 09 = -98.514 03 = -98.323

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 46.05832	92 36 11.84017	582426.451	171453.407	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 46.05817	92 36 11.84121	582426.375	171453.392	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 46.05775	92 36 11.84061	582426.419	171453.349	.033	C	ADJUSTMENT	2002	GPS1779
44 01 46.05775	92 36 11.84061	582426.420	171453.348	.033	C	GPS - STATIC	2001	HKASS
44 01 46.05776	92 36 11.84168	582426.341	171453.350	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 46.04913	92 36 11.84230	582426.299	171452.476	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 46.17864	92 36 11.18205			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2991985.583	706500.751	1744715.091	15994789.109	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2991985.507	706500.734	1744715.015	15994789.094	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2991985.552	706500.692	1744715.059	15994789.051	.033	C	ADJUSTMENT	2002	GPS1779
2991985.552	706500.692	1744715.059	15994789.051	.033	C	GPS - STATIC	2001	HKASS
2991985.474	706500.692	1744714.981	15994789.052	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2991985.444	706499.818	1744714.940	15994788.178	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2367377.391	378426.400			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_H-PP2351-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_H-PP2351-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_H-PP2351-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 I

NGS Name: 5501 I

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9051](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	107 N	15 W	440144.86	923536.10	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2023	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 1156.90 5501 I STA 222+95 1960

2.25 MILES EAST OF BYRON, 1.75 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE NORTHEAST IN BYRON, 52.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 205.35 AND STATION 222+95, 0.8 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1156.664	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1156.664	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1156.661	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1156.599	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1156.618	.262		1058.010	.197	2011	GPS - OPUS	2021	GPSBM
1156.658	.262		1058.052	.197	2011	GPS - RTRN	2021	RTRN2021
			1058.065	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1058.144	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1156.658	.131		1058.328	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1156.658	.131		1058.328	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.609 12B = -98.605 09 = -98.537 03 = -98.350

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 44.86210	92 35 36.10284	585037.980	171342.350	.131	3	GPS - OPUS	2021	GPSBM
44 01 44.86210	92 35 36.10189	585038.050	171342.350	.131	3	GPS - RTRN	2021	RTRN2021
44 01 44.86257	92 35 36.10196	585038.044	171342.397	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 44.86270	92 35 36.10283	585037.981	171342.410	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 44.86229	92 35 36.10218	585038.028	171342.369	.033	C	ADJUSTMENT	2002	GPS1779
44 01 44.86229	92 35 36.10218	585038.029	171342.371	.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994598.107	706424.409	1747325.585	15994680.743	.131	3	GPS - OPUS	2021	GPSBM
2994598.176	706424.410	1747325.655	15994680.744	.131	3	GPS - RTRN	2021	RTRN2021
2994598.170	706424.458	1747325.649	15994680.791	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994598.107	706424.470	1747325.586	15994680.804	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994598.155	706424.429	1747325.633	15994680.763	.033	C	ADJUSTMENT	2002	GPS1779
2994598.154	706424.429	1747325.633	15994680.763	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_I-DE9051-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_I-DE9051-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_I-DE9051-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 J

NGS Name: 5501 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9052](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	107 N	15 W	440142.55	923509.86	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5501 J STA 242+31 1960

2.7 MILES EAST OF BYRON, 2.1 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE IN BYRON, 5.3 MILES WEST OF ROCHESTER, 80.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 205.7 AND STATION 242+31, 98.0 FEET EAST-NORTHEAST OF THE EASTERLY FACE OF A CONCRETE POWER POLE, 41.5 FEET SOUTH OF THE SOUTH RAIL OF A RAILROAD, 0.3 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1139.830	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1139.830	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1139.827	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1139.761	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1041.212	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1041.291	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1139.827	.131		1041.474	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1139.827	.131		1041.474	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.622 12B = -98.619 09 = -98.553 03 = -98.363

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.55332	92 35 09.85628	586956.563	171116.151	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.55344	92 35 09.85716	586956.499	171116.163	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.55304	92 35 09.85651	586956.547	171116.122	.033	C	ADJUSTMENT	2002	GPS1779
44 01 42.55304	92 35 09.85651	586956.546	171116.121	.033	C	GPS - STATIC	2001	HKASS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996519.342	706223.743	1749243.555	15994456.585	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996519.278	706223.754	1749243.491	15994456.597	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996519.326	706223.715	1749243.539	15994456.557	.033	C	ADJUSTMENT	2002	GPS1779
2996519.326	706223.715	1749243.539	15994456.557	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_J-DE9052-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_J-DE9052-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_J-DE9052-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 K

NGS Name: 5501 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7910](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SW	36	107 N	15 W	
	440140.00	923441.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5501 K STA. 263+33 1960 1120.66

4.9 MILES WEST OF ROCHESTER, 3.4 MILES EAST OF BYRON, 2.5 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 10TH AVENUE NORTHEAST IN ROCHESTER, 67.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 206.10 AND STATION 263+33, 0.4 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1120.693	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1120.693	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1120.690	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1120.660	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.635 12B = -98.632 09 = -98.566 03 = -98.376

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_K-DH7910-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_K-DH7910-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_K-DH7910-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 L

NGS Name: 5501 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9053](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	36	107 N	15 W	440138.41	923415.80	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5501 L STA 282+28 1960 1098.72

4.54 MILES WEST OF ROCHESTER, 2.9 MILES NORTHWEST THEN SOUTHWEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 72.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 206.55 AND STATION 282+28, 50.0 FEET NORTHEAST OF THE NORTHEASTERLY FACE OF A CONCRETE POWER POLE, 8.0 FEET EAST OF A RIGHT-OF-WAY POST, 0.4 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1098.794	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1098.794	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1098.790	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1098.722	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1000.162	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1000.241	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1098.784	.131		1000.425	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1098.784	.131		1000.425	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.642 12B = -98.642 09 = -98.576 03 = -98.386

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 38.41143	92 34 15.79944	590907.903	170712.910	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 38.41153	92 34 15.80033	590907.838	170712.920	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 38.41115	92 34 15.79970	590907.884	170712.882	.033	C	ADJUSTMENT	2002	GPS1779
44 01 38.41115	92 34 15.79970	590907.883	170712.880	.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3000475.313	705873.081	1753193.572	15994057.519	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3000475.248	705873.090	1753193.507	15994057.529	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3000475.294	705873.052	1753193.553	15994057.491	.033	C	ADJUSTMENT	2002	GPS1779
3000475.295	705873.052	1753193.553	15994057.491	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_L-DE9053-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_L-DE9053-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_L-DE9053-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 M

NGS Name: 5501 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7911](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	107 N	14 W	440159.00	923328.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 17 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5501 M STA.323+85 1960 1063.59

3.75 MILES WEST OF ROCHESTER, AT TRUNK HIGHWAY 14 STATION 323+85, AT THE NORTHEAST CORNER OF THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 104, 64.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 43.0 FEET EAST OF THE CENTERLINE OF COUNTY ROAD 104, 12.0 FEET NORTHWEST OF A WITNESS POST (WEST LEG OF A RAILROAD CROSSING SIGN).

Station Notes

THE STATION FALLS UNDER A HIGH-TENSION POWERLINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1063.643	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1063.643	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1063.640	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1063.590	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.645 12B = -98.645 09 = -98.576 03 = -98.389

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_M-DH7911-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_M-DH7911-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_M-DH7911-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 N

NGS Name: 5501 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7912](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SW	30	107 N	14 W	
	440213.00	923307.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5501 N STA. 346+51 1960 1051.51

3.32 MILES WEST OF ROCHESTER, 1.75 MILES NORTHWEST THEN SOUTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 70.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 346+51, 0.09 MILE EAST OF A NORTH-SOUTH ROAD, 0.9 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1051.566	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1051.566	.016	2/1				VERTICAL ADJUSTMENT	2006 00000497
1051.563	.016	2/1				VERTICAL CONTROL SURVEY	2001 VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1051.510	.033	3				VERTICAL CONTROL SURVEY	1960 CS5501

Geoid Separations(ft): GEOID18 = -98.642 12B = -98.642 09 = -98.569 03 = -98.389

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_N-DH7912-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_N-DH7912-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_N-DH7912-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 O

NGS Name: 5501 O

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7913](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	30	107 N	14 W	440218.00	923254.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	GOOD	Horz=NO Vert=NO	NO		FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5501 O 1960

4.0 MILES WEST OF ROCHESTER, 3.1 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, 1.5 MILES NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22, IN THE SOUTHEAST CORNER OF A CULVERT, 115.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, AT MILEPOINT 207.9, THE STATION 357+15, 30.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 16.0 FEET EAST OF A WITNESS POST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1051.458	.016	2/1				VERTICAL ADJUSTMENT		2006	00000497
1051.455	.016	2/1				VERTICAL CONTROL SURVEY		2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1051.369	.033	3				VERTICAL CONTROL SURVEY		1960	CS5501

Geoid Separations(ft): GEOID18 = -98.638 12B = -98.638 09 = -98.566 03 = -98.389

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 P

NGS Name: 5501 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7914](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	30	107 N	14 W	440227.00	923221.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2023	GOOD	Horz=NO Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5501 P 1960

2.65 MILES WEST OF ROCHESTER, 1.05 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 178.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14 STATION 382+10, 56.0 FEET NORTHWEST OF A BILLBOARD POST, 1.0 FOOT SOUTH OF A WITNESS POST.

Station Notes

DUE TO TREE COVER, THIS SURVEY MARK HAS BEEN ABANDONED FOR MNDOT GEODETIC HORIZONTAL SURVEYS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1038.745	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1038.745	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1038.745	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1038.669	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.632 12B = -98.632 09 = -98.560 03 = -98.382

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_P-DH7914-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_P-DH7914-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_P-DH7914-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 Q

NGS Name: 5501 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	107 N	14 W	440223.00	923150.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2001) Stamping: 5501 Q 1960

3.0 MILES WEST OF ROCHESTER, 0.6 MILE NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 96.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 403+62.

Station Notes

THE SOUTH EDGE OF THE FRONTAGE ROAD IS 90.0 FEET NORTH OF THE WESTBOUND TRUNK HIGHWAY 14 CENTERLINE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1040.221	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.628 12B = -98.632 09 = -98.560 03 = -98.382

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 R

NGS Name: 5501 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9054](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	29	107 N	14 W	440216.85	923128.28	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1960	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012) **Stamping:** 5501 R STA. 422+57 1960 1033.51

IN ROCHESTER, 1.9 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52/TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 209.10, 71.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 154.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, 5.0 FEET NORTH OF A RETAINING WALL AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.525	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1033.525	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1033.525	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1033.522	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1033.554	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1033.551	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.508	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.436	.262		934.880	.197	2007	GPS - RTRN	2012	RTRN2012
			934.929	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			935.008	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1033.561	.131		935.195	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1033.561	.131		935.195	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.628 12B = -98.632 09 = -98.556 03 = -98.379

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 16.84837	92 31 28.28437	603128.849	174660.012	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 16.84892	92 31 28.28527	603128.783	174660.067	.131	3	GPS - RTRN	2012	RTRN2012
44 02 16.84845	92 31 28.28527	603128.783	174660.020	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 16.84808	92 31 28.28472	603128.823	174659.983	.033	C	ADJUSTMENT	2002	GPS1779
44 02 16.84808	92 31 28.28472	603128.823	174659.982	.033	C	GPS - STATIC	2001	HKASS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012641.540	709981.882	1765405.192	15998015.274	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012641.473	709981.936	1765405.126	15998015.330	.131	3	GPS - RTRN	2012	RTRN2012
3012641.474	709981.889	1765405.126	15998015.282	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012641.515	709981.852	1765405.166	15998015.245	.033	C	ADJUSTMENT	2002	GPS1779
3012641.515	709981.852	1765405.166	15998015.245	.033	C	GPS - STATIC	2001	HKASS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_R-DE9054-3S-13APR2023.jpg	S	Apr 13, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_R-DE9054-2-13APR2023.jpg		Apr 13, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_R-DE9054-1-13APR2023.jpg		Apr 13, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 S

NGS Name: 5501 S

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	107 N	14 W	440210.00	923055.00		

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	1997	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SURVEY DISK	MNDT

Description: (1960)

Stamping: 5501 S 1960

IN ROCHESTER, 0.1 MILE SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22, AT TRUNK HIGHWAY 14 STATION 447+65, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 14 CULVERT, 112.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1019.069	.033	3				VERTICAL CONTROL SURVEY	1960 CS5501

Geoid Separations(ft): GEOID18 = -98.625 12B = -98.625 09 = -98.550 03 = -98.373

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 S RESET

NGS Name: 5501 S RESET

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	107 N	14 W	440209.26	923055.31	2	3

NGS ACRN: [DO9085](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1997	2012	GOOD	Horz=NO Vert=NO	YES	8955	FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5501-S RESET 1997

IN ROCHESTER, 1.45 MILES WEST-NORTHWEST OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 TO THE WEST JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 14, 0.1 MILE SOUTHEAST ALONG THE EASTBOUND ENTRANCE RAMP, AT TRUNK HIGHWAY 14 MILEPOINT 209.70, 32.0 FEET SOUTH OF ON THE RAMP TO EASTBOUND TRUNK HIGHWAY 14, 15.0 FEET WEST OF THE SOUTHEAST CORNER OF A BOX CULVERT, IN THE HEADWALL, ON LINE WITH THE WALL BETWEEN THE 1ST AND 2ND BARREL FROM THE EAST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1019.060	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1019.060	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1019.060	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1019.571		3				VERTICAL CONTROL SURVEY	1997	CS5501

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1018.955	.262		920.405	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.625 12B = -98.628 09 = -98.550 03 = -98.373

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 02 09.25595	92 30 55.30629	605541.690	173902.747	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015064.002	709256.833	1767817.754	15997260.783	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_S_RESET-DO9085-3W-15JUL2010.jpg	W	Jul 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_S_RESET-DO9085-2-15JUL2010.jpg		Jul 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_S_RESET-DO9085-1-15JUL2010.jpg		Jul 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 T

NGS Name: 5501 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	33	107 N	14 W	440204.80	923022.70		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1960) **Stamping:** 5501 T 1960

IN ROCHESTER, 0.9 MILE NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, 120.0 FEET EAST OF COUNTY ROAD 122, 37.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 471+76.

Station Notes

IN 1996 PART OF THE DISK WAS FOUND STILL INTACT-THE ELEVATION IS QUESTIONABLE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1012.071	.033	3				VERTICAL CONTROL SURVEY	1960	CS5501

Geoid Separations(ft): GEOID18 = -98.615 12B = -98.619 09 = -98.537 03 = -98.363

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_T-2-15JUL2010.jpg		Jul 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_T-1-15JUL2010.jpg		Jul 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 U

NGS Name: 5501 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	33	107 N	14 W	440201.00	923005.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1960) Stamping: 5501 U 1960

IN ROCHESTER, 0.65 MILE NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, 75.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 STATION 485+65.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.799	.033	3				VERTICAL CONTROL SURVEY	1960 CS5501

Geoid Separations(ft): GEOID18 = -98.609 12B = -98.612 09 = -98.530 03 = -98.356

* No Horizontal Positions in the Database *



Mn/DOT Name: 5501 V

NGS Name: 5501 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7915](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	107 N	14 W	440211.44	923102.60	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1996	2012	GOOD	Horz=NO Vert=NO	YES	55012	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5501 V 2000

1.5 MILES WEST OF ROCHESTER, 1.5 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 209.6, IN THE BRIDGE RAIL BETWEEN THE ROADWAY AND WALKWAY AT THE SOUTHEAST QUADRANT OF COUNTY ROAD 22 BRIDGE NUMBER 55012 OVER TRUNK HIGHWAY 14, 67.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 22.5 FEET EAST OF NORTHBOUND COUNTY ROAD 22, 21.5 FEET NORTH OF THE SOUTH END OF THE BRIDGE RAIL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1047.819	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1047.819	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1047.819	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1047.819	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1047.816	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1047.773	.262		949.221	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.625 12B = -98.628 09 = -98.553 03 = -98.373

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 11.44207	92 31 02.59857	605007.887	174121.541	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3014527.389	709468.490	1767283.961	15997478.941	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_V-DH7915-3N-14JUL2010.jpg	N	Jul 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_V-DH7915-2-14JUL2010.jpg		Jul 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_V-DH7915-1-14JUL2010.jpg		Jul 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 W

NGS Name: 5501 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9055](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	33	107 N	14 W	440204.11	923023.82	2	C	2000	2023	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 40 FT)	SURVEY DISK	MNDT

Description: (2012) Stamping: 5501 W 2000

1.0 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, 75.0 FEET SOUTH OF TRUNK HIGHWAY 14 MILEPOST 210, 47.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, 36.0 FEET NORTH OF EASTBOUND TRUNK HIGHWAY 14, IN THE MEDIAN, 2.9 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1012.639	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1012.639	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1012.639	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1012.639	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1012.636	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1012.639			914.017	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1012.639	.131		914.276	.066	1996	GPS - STATIC	2013	HCHES
1012.639			914.027	.008	2011	GPS - STATIC	2013	HCHES
1012.534	.262		913.994	.197	2007	GPS - RTRN	2012	RTRN2012
			914.017	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1012.629	.131		914.093	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1012.629	.131		914.093	.066	2007	GPS - STATIC	2011	HFRON
1012.629	.131		914.273	.066	1996	GPS - STATIC	2010	HFRON
			914.093	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1012.629	.131		914.273	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1012.629	.131		914.273	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.615 12B = -98.619 09 = -98.537 03 = -98.363

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.11116	92 30 23.82282	607844.278	173393.070	.010		ADJUSTMENT	2013	GPS2950
44 02 04.11119	92 30 23.82282	607844.278	173393.073	.010	C	GPS - STATIC	2013	HCHES
44 02 04.11116	92 30 23.82282	607844.278	173393.070	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.11191	92 30 23.82332	607844.241	173393.145	.131	3	GPS - RTRN	2012	RTRN2012
44 02 04.11126	92 30 23.82380	607844.207	173393.079	.033	C	ADJUSTMENT	2011	GPS2814
44 02 04.11126	92 30 23.82380	607844.207	173393.079	.033	C	GPS - STATIC	2011	HFRON
44 02 04.11126	92 30 23.82380	607844.207	173393.079	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.11094	92 30 23.82319	607844.252	173393.047	.033	C	GPS - STATIC	2013	HCHES
44 02 04.11094	92 30 23.82319	607844.252	173393.047	.033	C	GPS - STATIC	2010	HFRON
44 02 04.11094	92 30 23.82319	607844.252	173393.047	.033	C	ADJUSTMENT	2002	GPS1779
44 02 04.11094	92 30 23.82319	607844.250	173393.046	.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3017372.939	708777.863	1770119.860	15996753.658	.010		ADJUSTMENT	2013	GPS2950
3017372.939	708777.866	1770119.860	15996753.661	.010	C	GPS - STATIC	2013	HCHES
3017372.939	708777.863	1770119.860	15996753.658	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3017372.901	708777.938	1770119.823	15996753.734	.131	3	GPS - RTRN	2012	RTRN2012
3017372.867	708777.872	1770119.788	15996753.668	.033	C	ADJUSTMENT	2011	GPS2814
3017372.867	708777.872	1770119.788	15996753.668	.033	C	GPS - STATIC	2011	HFRON
3017372.867	708777.872	1770119.788	15996753.668	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3017372.912	708777.840	1770119.833	15996753.636	.033	C	GPS - STATIC	2013	HCHES
3017372.912	708777.840	1770119.833	15996753.636	.033	C	GPS - STATIC	2010	HFRON
3017372.912	708777.840	1770119.833	15996753.636	.033	C	ADJUSTMENT	2002	GPS1779
3017372.912	708777.840	1770119.833	15996753.636	.033	C	GPS - STATIC	2001	HKASS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W-DE9055-3W-08APR2010.jpg	W	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W-DE9055-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W-DE9055-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 W RESET

NGS Name: 5501 W RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS2422](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	33	107 N	14 W	440204.11	923023.82	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2023	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 40 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023) Stamping: 5501 W RESET 2023

IN ROCHESTER, 1.0 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 210, 47.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, 36.0 FEET NORTH OF EASTBOUND TRUNK HIGHWAY 14, 75.0 FEET SOUTH OF TRUNK HIGHWAY 14 MILEPOST 210, 2.9 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1012.528	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA	

No Geoid Separations Available

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W_RESET-DS2422-3W-13APR2023.jpg	W	Apr 13, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W_RESET-DS2422-2-13APR2023.jpg		Apr 13, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_W_RESET-DS2422-1-13APR2023.jpg		Apr 13, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 X

NGS Name: 5501 X

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS2421](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	30	107 N	14 W	440222.90	923233.27	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 34 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5501 X 2023

4.0 MILES WEST OF ROCHESTER, 2.65 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUCK HIGHWAY 14 AND TRUNK HIGHWAY 52 AND HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 208.15, 53.1 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1041.596	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1041.622	.262		942.987	.197	2011	GPS - RTRN	2023	RTRN2023

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 22.90164	92 32 33.26644	598379.022	175250.950	.131	3	GPS - RTRN	2023	RTRN2023

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3007884.740	710509.573	1760656.833	15998601.143	.131	3	GPS - RTRN	2023	RTRN2023

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_X-DS2421-3S-19APR2023.jpg	S	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_X-DS2421-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_X-DS2421-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5501 Y

NGS Name: 5501 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS2419](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	107 N	15 W	440143.99	923824.94	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5501 Y 2023

IN BYRON, 0.4 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5 IN BYRON, AT TRUNK HIGHWAY 14 MILEPOINT 203, 47.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 18.2 FEET SOUTH FROM THE EASTBOUND LANE CENTERLINE OF FRONTAGE ROAD NORTHEAST, 12.1 FEET NORTH OF MILEPOST NUMBER 203, 12.1 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1247.881	.016	2/1						VERTICAL CONTROL SURVEY	2024	VHAVA		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1247.999	.262		1149.532	.197	2011			GPS - RTRN	2023	RTRN2023		

No Geoid Separations Available

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
44 01 43.98653	92 38 24.93925	572702.610	171208.831	.131	3	GPS - RTRN	2023	RTRN2023	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order		Year	Reference	
2982266.781	706127.057	1734995.784	15994534.802	.131	3	GPS - RTRN	2023	RTRN2023	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_Y-DS2419-3N-26APR2023.jpg	N	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_Y-DS2419-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5501_Y-DS2419-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 A

NGS Name: 5502 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0145](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440200.50	922911.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	9033	FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5502 A 1970 NN

IN ROCHESTER, AT THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 9033 OVER TRUNK HIGHWAY 14.

Station Notes

THE BRIDGE WAS REPLACED BY BRIDGE 55050 IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1023.528	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1023.528	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS
1023.545	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1023.479	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1023.479	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.507 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 AA

NGS Name: 5502 AA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8775](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	34	106 N	14 W	440118.85	922920.17	2	C	2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5502 AA 2012

IN ROCHESTER, AT THE JUNCTION OF 2ND STREET SOUTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 55.50, 290.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 52, 46.5 FEET NORTH OF 2ND STREET SOUTHWEST, 35.0 FEET WEST OF THE WEST FRONTAGE ROAD, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1022.875	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1022.875	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1022.875	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1022.875	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1022.875			924.299	.009	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1022.875	.131		924.539	.066	1996	GPS - STATIC	2024	HTH63
1022.875			924.299	.009	2011	GPS - STATIC	2024	HTH63
1022.875			924.299	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1022.875	.131		924.539	.066	1996	GPS - STATIC	2013	HCHES
1022.875			924.299	.009	2011	GPS - STATIC	2013	HCHES
1022.836	.262		924.316	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.592 09 = -98.517 03 = -98.336

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>									
Geodetic Position		Olmsted County				Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 01 18.85053	92 29 20.16989	612518.267	168833.341	.007		ADJUSTMENT	2024	GPS3721	
44 01 18.85053	92 29 20.16989	612518.267	168833.341	.007	C	GPS - STATIC	2024	HTH63	
44 01 18.85053	92 29 20.16989	612518.267	168833.341	.013		ADJUSTMENT	2013	GPS2950	
44 01 18.85053	92 29 20.16989	612518.267	168833.341	.013	C	GPS - STATIC	2013	HCHES	
<u>NAD83(2007)</u>									
Geodetic Position		Olmsted County				Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 01 18.84989	92 29 20.17005	612518.256	168833.276	.131	3	GPS - RTRN	2012	RTRN2012	
<u>NAD83(1996)</u>									
Geodetic Position		Olmsted County				Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 01 18.85033	92 29 20.17017	612518.247	168833.321	.033	C	GPS - STATIC	2024	HTH63	
44 01 18.85033	92 29 20.17017	612518.247	168833.321	.033	C	GPS - STATIC	2013	HCHES	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022106.695	704281.121	1774796.444	15992200.632	.007		ADJUSTMENT	2024	GPS3721
3022106.695	704281.121	1774796.444	15992200.632	.007	C	GPS - STATIC	2024	HTH63
3022106.695	704281.121	1774796.444	15992200.632	.013		ADJUSTMENT	2013	GPS2950
3022106.695	704281.121	1774796.444	15992200.632	.013	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022106.685	704281.056	1774796.433	15992200.568	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022106.675	704281.101	1774796.424	15992200.612	.033	C	GPS - STATIC	2024	HTH63
3022106.675	704281.101	1774796.424	15992200.612	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_AA-DO8775-3N-04APR2023.jpg	N	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_AA-DO8775-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_AA-DO8775-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 B

NGS Name: 5502 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0144](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	107 N	14 W	440118.00	922915.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2010) Stamping: 5502-B 1970

IN ROCHESTER, 0.5 MILE SOUTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52, 50.0 FEET
SOUTHWEST OF THE SOUTHWEST CORNER OF THE DONALDSONS BUILDING, 25.0 FEET NORTH OF 2ND STREET
NORTHWEST, 18.0 FEET EAST OF THE EAST FRONTAGE ROAD, 4.0 FEET NORTHWEST OF A LIGHT POLE, 1.0 FOOT EAST OF A
BITUMINOUS CURB, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.909	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.844	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1004.844	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.514 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 C

NGS Name: 5502 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0143](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	106 N	14 W	440117.00	922914.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO	55013		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1994)

Stamping: 5502-C 1970

IN ROCHESTER, IN THE SOUTHEAST CORNER OF 2ND STREET SOUTHWEST BRIDGE NUMBER 55013 OVER TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1019.870	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1019.801	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1019.801	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.514 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 D

NGS Name: 5502 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0142](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	106 N	14 W	440101.90	922915.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	55014	FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (2016) Stamping: 5502-D 1970

IN ROCHESTER, 0.8 MILE NORTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 EAST, AT TRUNK HIGHWAY 52 MILEPOINT 55.13, IN THE SOUTHEAST CORNER OF 6TH STREET SOUTHWEST BRIDGE NUMBER 55014 OVER TRUNK HIGHWAY 52.

Station Notes

A NEW BRIDGE 55052 WAS BUILT IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.090	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3
1061.090	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.015	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3
1061.015	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1061.015	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.592 09 = -98.517 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 E

NGS Name: 5502 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0141](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	106 N	14 W	440052.30	922909.50	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 1 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5502-E 1970

IN ROCHESTER, 0.2 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND THE 6TH STREET BRIDGE, AT TRUNK HIGHWAY 52 MILEPOINT 54.92, 100.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 35.0 FEET NORTH OF A DEAD END ROAD, 18.0 FEET EAST OF THE EAST FRONTAGE ROAD, 12.0 FEET FROM A FIRE HYDRANT, 4.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.424	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3
1049.424	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.348	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3
1049.348	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1049.348	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.517 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 H

NGS Name: 5502 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0140](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	11	106 N	14 W	440025.00	922816.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO	55016		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5502-H 1970

IN ROCHESTER, 0.5 MILE WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 14 BRIDGE NUMBER 55016 OVER THE ZUMBRO RIVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1008.492	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1008.413	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1008.413	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.560 09 = -98.477 03 = -98.294

* No Horizontal Positions in the Database *



Mn/DOT Name: 5502 J

NGS Name: 5502 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5965](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	106 N	14 W	440025.18	922819.93	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1994	2013	GOOD	Horz=NO Vert=YES	YES	55037	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5502 J 1994

IN ROCHESTER, 0.45 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, 0.5 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 14 MILEPOINT 213.20, IN THE SOUTHWEST CORNER OF WESTBOUND TRUNK HIGHWAY 14 BRIDGE NUMBER 55037 OVER THE ZUMBRO RIVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.707	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1011.707	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1011.697	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.619	.033	3				VERTICAL CONTROL SURVEY	1994	CS5500

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.717	.262		913.154	.197	2011	GPS - RTRN	2013	RTRN2013
1011.658	.262		913.174	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.553 12B = -98.563 09 = -98.481 03 = -98.297

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 25.18238	92 28 19.93181	616949.226	163421.895	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 25.18231	92 28 19.93296	616949.142	163421.887	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026608.809	698929.584	1779230.964	15986795.996	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026608.725	698929.576	1779230.880	15986795.989	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_J-DN5965-3E-03APR2013.jpg	E	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_J-DN5965-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_J-DN5965-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 K

NGS Name: 5502 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5964](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	106 N	14 W	440025.18	922816.38	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1994	2013	GOOD	Horz=NO Vert=YES	YES	55037	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5502 K 1994

IN ROCHESTER, 0.40 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, 0.54 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 14 MILEPOINT 213.20, IN THE SOUTHEAST CORNER OF WESTBOUND TRUNK HIGHWAY 14 BRIDGE NUMBER 55037 OVER THE ZUMBRO RIVER.

Station Notes

THE ELEVATION WAS ESTABLISHED FROM BENCHMARK 5502 H BY A BRIDGE INSPECTOR.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.435	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1011.435	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1011.425	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.369	.033	3				VERTICAL CONTROL SURVEY	1994	CS5500

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1011.484	.262		912.925	.197	2011	GPS - RTRN	2013	RTRN2013
1011.386	.262		912.908	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.560 09 = -98.477 03 = -98.294

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 25.18281	92 28 16.37791	617208.978	163423.339	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 25.18279	92 28 16.37762	617208.999	163423.338	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026868.495	698934.483	1779490.603	15986797.703	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026868.517	698934.482	1779490.624	15986797.701	.131	3	GPS - RTRN	2012	RTRN2012



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_K-DN5964-3W-03APR2013.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_K-DN5964-2-03APR2013.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_K-DN5964-1-03APR2013.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Apr 3, 2013
	Apr 3, 2013
	Apr 3, 2013



Mn/DOT Name: 5502 L

NGS Name: 5502 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	1	106 N	14 W	440028.64	922643.53		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1994	2012	GOOD	Horz=NO Vert=?	YES	55041	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (1994)

Stamping: 5502 L 1994

IN ROCHESTER, 0.9 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 14 MILEPOINT 214.50, 17.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 14, IN THE SOUTHEAST CORNER OF WESTBOUND TRUNK HIGHWAY 14 BRIDGE NUMBER 55041 OVER BEAR CREEK.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1010.579	.033	3				VERTICAL CONTROL SURVEY	1994	CS5500	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1010.648	.262		912.252	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.487 09 = -98.395 03 = -98.231

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 00 28.63573	92 26 43.53076	623993.120	163810.717	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3033646.257	699412.023	1786271.444	15987191.766	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_L-3W-15JUL2010.jpg	W	Jul 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_L-2-15JUL2010.jpg		Jul 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_L-1-15JUL2010.jpg		Jul 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 M

NGS Name: 5502 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5966](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	10	106 N	14 W	440024.61	922854.65	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1983	2013	GOOD	Horz=NO Vert=YES	YES	55011	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5502 M 2002

0.6 MILE SOUTHWEST OF ROCHESTER, IN THE ABUTMENT AT THE SOUTHEAST CORNER OF THE EASTBOUND TRUNK HIGHWAY 14 EAST BRIDGE NUMBER 55011 WING WALL OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 54.3, 32.5 FEET SOUTH OF TRUNK HIGHWAY 14 EAST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.220	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1033.220	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1033.220	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1033.220	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1033.220	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1033.203	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1033.236	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.161	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC3

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1033.128	.262		934.542	.197	2011	GPS - RTRN	2013	RTRN2013
1033.161	.262		934.654	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.586 09 = -98.507 03 = -98.317

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 24.61013	92 28 54.65484	614411.644	163350.416	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 24.60975	92 28 54.65633	614411.535	163350.377	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024072.637	698824.372	1776694.546	15986721.985	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024072.529	698824.331	1776694.438	15986721.946	.131	3	GPS - RTRN	2012	RTRN2012



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_M-DN5966-3S-03APR2013.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_M-DN5966-2-03APR2013.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_M-DN5966-1-03APR2013.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Apr 3, 2013
	Apr 3, 2013
	Apr 3, 2013



Mn/DOT Name: 5502 N

NGS Name: 5502 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM6997](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	34	107 N	14 W	440120.90	922912.20	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2002	2012	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
UNKNOWN	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5502 N 2002

IN ROCHESTER, 1.0 BLOCK EAST ON 2ND STREET SOUTHWEST FROM THE JUNCTION WITH TRUNK HIGHWAY 52, THEN 1.0 BLOCK NORTH ON 16TH AVENUE SOUTHWEST, THEN 200.0 FEET WEST ON 1ST STREET SOUTHWEST, 50.0 FEET SOUTH OF 1ST STREET, IN THE NORTHWEST CORNER OF A LIGHT POLE BASE FOR A PARKING LOT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1018.374	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1018.371	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1018.305	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.514 03 = -98.330

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_N-DM6997-3N-16AUG2010.jpg	N	Aug 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_N-DM6997-2-16AUG2010.jpg		Aug 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_N-DM6997-1-16AUG2010.jpg		Aug 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 P

NGS Name: 5502 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9088](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	3	106 N	14 W	440101.08	922914.34	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2012	GOOD	Horz=NO Vert=YES	YES	55052	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5502 P 2004

IN WEST ROCHESTER, 0.75 MILE NORTH ALONG TRUNK HIGHWAY 14 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF 6TH STREET SOUTHWEST BRIDGE NUMBER 55052 OVER TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1064.817	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1064.817	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
1064.821	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1064.801	.262		966.281	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.592 09 = -98.517 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 01 01.07903	92 29 14.33936	612953.681	167035.915	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3022565.930	702489.814	1775233.488	15990404.422	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_P-DO9088-3SW-08SEP2010.jpg	SW	Sep 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_P-DO9088-2-08SEP2010.jpg		Sep 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_P-DO9088-1-08SEP2010.jpg		Sep 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 Q

NGS Name: 5502 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9086](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	3	106 N	14 W	440117.17	922915.98	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2012	GOOD	Horz=NO Vert=YES	YES	55051	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5502 Q 2004

IN ROCHESTER, 0.05 MILE EAST ALONG COUNTY ROAD 34 FROM THE JUNCTION OF COUNTY ROAD 34 AND TRUNK HIGHWAY 52, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF 2ND STREET SOUTHWEST BRIDGE NUMBER 55051 OVER TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1025.634	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1025.634	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1025.634	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1025.618	.262		927.104	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.592 09 = -98.517 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 17.16812	92 29 15.98441	612824.992	168664.559	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3022415.608	704116.449	1775103.207	15992032.234	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Q-DO9086-3S-08SEP2010.jpg	S	Sep 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Q-DO9086-2-08SEP2010.jpg		Sep 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Q-DO9086-1-08SEP2010.jpg		Sep 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 R

NGS Name: 5502 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440147.36	922924.38		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=?	YES	55059	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5502 R 2003

IN ROCHESTER, 0.08 MILE SOUTHWEST OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 (SOUTHWEST QUADRANT OF THE INTERCHANGE), 0.05 MILE SOUTH ALONG THE TRUNK HIGHWAY 14 RAMP FROM THE JUNCTION OF THE RAMP AND CIVIC CENTER DRIVE NORTHWEST, ABOUT 270.0 FEET SOUTH OF CIVIC CENTER DRIVE NORTHWEST, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 55059 OVER CASCADE CREEK.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1016.195	.262			917.682	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.589 12B = -98.592 09 = -98.514 03 = -98.336

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 01 47.35560	92 29 24.38276			612195.497	171718.331	.131	3	GPS - RTRN	2012 RTRN2012

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3021745.622	707161.289			1774470.894	15995084.051	.131	3	GPS - RTRN	2012 RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_R-3E-08SEP2010.jpg	E	Sep 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_R-2-08SEP2010.jpg		Sep 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_R-1-08SEP2010.jpg		Sep 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 S

NGS Name: 5502 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440147.19	922923.75		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=?	YES	55060	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5502 S 2003

IN ROCHESTER, 0.08 MILE SOUTHWEST OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 55060 OVER CASCADE CREEK (SOUTHWEST QUADRANT OF THE INTERCHANGE), 0.9 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF ELTON HILLS DRIVE NORTHWEST, 19TH STREET NORTHWEST AND TRUNK HIGHWAY 52 TO THE EXIT RAMP TO CIVIC CENTER DRIVE, THEN 0.1 MILE ALONG THE RAMP.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1013.249	.262		914.736	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.589 12B = -98.592 09 = -98.514 03 = -98.336

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 47.18888	92 29 23.74840	612241.932	171701.688	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3021792.269	707145.266	1774517.325	15995067.462	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_S-3N-08SEP2010.jpg	N	Sep 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_S-2-08SEP2010.jpg		Sep 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_S-1-08SEP2010.jpg		Sep 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 T

NGS Name: 5502 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440146.65	922918.95		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=YES	YES	55063	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5502 T 2003

IN ROCHESTER, IN THE EXIT RAMP LOOP, IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 55063 OVER CASCADE CREEK, 0.9 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF ELTON HILLS DRIVE NORTHWEST, 19TH STREET NORTHWEST AND TRUNK HIGHWAY 52 TO EXIT 56A (TO CIVIC CENTER DRIVE NORTHWEST).

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1028.797	.262			930.287	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.592 09 = -98.510 03 = -98.336

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 46.65418	92 29 18.95016	612592.780	171649.358	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022143.748	707097.611	1774868.075	15995015.510	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_T-3S-14SEP2010.jpg	S	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_T-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_T-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 U

NGS Name: 5502 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440146.32	922916.60		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2012	GOOD	Horz=NO Vert=?	YES	55062	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5502 U 2005

IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 56.0, 300.0 FEET SOUTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, ALONG TRUNK HIGHWAY 52 NORTHBOUND, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 BRIDGE NUMBER 55062 OVER CASCADE CREEK.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1025.933	.262		927.423	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.589 09 = -98.510 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 46.31612	92 29 16.60034	612764.640	171616.016	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022316.020	707066.561	1775039.894	15994982.356	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_U-3N-14SEP2010.jpg	N	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_U-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_U-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 V

NGS Name: 5502 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440146.15	922915.27		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=YES	YES	55064	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5502 V 2003

IN ROCHESTER, IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 56064 OVER CASCADE CREEK, 350.0 FEET SOUTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, 0.53 MILE NORTH OF 2ND STREET SOUTHWEST ALONG NORTHBOUND TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 AND THE RAMP TO CIVIC CENTER DRIVE NORTHWEST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1016.133	.262			917.623	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.510 03 = -98.333

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 01 46.14979	92 29 15.26685			612862.155	171599.679	.131	3	GPS - RTRN	2012 RTRN2012

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3022413.734	707051.524			1775137.383	15994966.125	.131	3	GPS - RTRN	2012 RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_V-3NE-14SEP2010.jpg	NE	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_V-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_V-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 W

NGS Name: 5502 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440148.77	922916.61		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2012	GOOD	Horz=NO Vert=?	YES	55050	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5502 W 2005

IN ROCHESTER, AT THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 BRIDGE NUMBER 55050 OVER CIVIC CENTER DRIVE NORTHWEST, AT TRUNK HIGHWAY 52 MILEPOINT 56.05.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1029.952	.262		931.445	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.589 09 = -98.507 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 48.77359	92 29 16.61045	612762.607	171864.870	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022310.679	707315.342	1775037.611	15995231.100	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_W-3N-14SEP2010.jpg	N	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_W-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_W-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 X

NGS Name: 5502 X

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8776](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	1	106 N	14 W	440026.56	922648.71	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5502 X 2012

IN ROCHESTER, 0.85 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 (SOUTH BROADWAY) IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 214.45, 0.1 MILE NORTHEAST OF COUNTY ROAD 11 (11TH AVENUE SOUTHEAST), 26.3 FEET SOUTHEAST OF EASTBOUND TRUNK HIGHWAY 14, 11.4 FEET NORTHWEST OF A CHAIN-LINK FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1005.700	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1005.700	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825
1005.703	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1005.684	.262			907.200	.197	2011	GPS - OPUS	2021	GPSBM
1005.739	.262			907.255	.197	2011	GPS - RTRN	2021	RTRN2021
1005.703				907.255	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1005.703	.131			907.469	.066	1996	GPS - STATIC	2013	HCHES
1005.703				907.255	.012	2011	GPS - STATIC	2013	HCHES
1005.664	.262			907.265	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.484 12B = -98.491 09 = -98.402 03 = -98.235

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 00 26.55691	92 26 48.71105			623615.702	163598.045	.131	3	GPS - OPUS	2021	GPSBM
44 00 26.55675	92 26 48.71099			623615.706	163598.028	.131	3	GPS - RTRN	2021	RTRN2021
44 00 26.55749	92 26 48.71113			623615.696	163598.103	.020		ADJUSTMENT	2013	GPS2950
44 00 26.55749	92 26 48.71113			623615.696	163598.103	.020	C	GPS - STATIC	2013	HCHES

NAD83(2007)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 00 26.55762	92 26 48.71055			623615.738	163598.117	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 00 26.55727	92 26 48.71121			623615.690	163598.081	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3033271.735	699194.370	1785894.402	15986978.804	.131	3	GPS - OPUS	2021	GPSBM
3033271.740	699194.354	1785894.407	15986978.787	.131	3	GPS - RTRN	2021	RTRN2021
3033271.728	699194.428	1785894.396	15986978.862	.020		ADJUSTMENT	2013	GPS2950
3033271.728	699194.428	1785894.396	15986978.862	.020	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3033271.770	699194.442	1785894.438	15986978.876	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3033271.723	699194.406	1785894.390	15986978.840	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_X-DO8776-3SE-14NOV2012.jpg	SE	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_X-DO8776-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_X-DO8776-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 Y

NGS Name: 5502 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9089](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	11	106 N	14 W	440023.85	922748.49	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 52 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** 5502 Y 2012

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 (SOUTH BROADWAY) IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 213.60, 142.5 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 42.4 FEET WEST-NORTHWEST OF SOUTHBOUND TRUNK HIGHWAY 63, 43.0 FEET NORTHEAST OF THE ON-RAMP TO TRUNK HIGHWAY 63 SOUTH, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.306	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1004.306	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1004.306	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.273	.262		905.818	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.530 12B = -98.537 09 = -98.455 03 = -98.277

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 23.84509	92 27 48.48804	619248.177	163298.982	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3028908.979	698837.269	1781529.051	15986675.458	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Y-DO9089-3W-03APR2013.jpg	W	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Y-DO9089-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Y-DO9089-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5502 Z

NGS Name: 5502 Z

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DO9087 NGS Quad / Sta Num : 44092233/ USGS Quad: ROCHESTER	Get Map
NW	3	106 N	14 W	440102.33	922919.18	2	C		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 36 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: 5502 Z 2012

IN ROCHESTER, 0.15 MILE SOUTH ALONG THE WEST FRONTAGE ROAD FROM THE JUNCTION OF 2ND STREET SOUTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, 250.0 FEET WEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 55.15, 48.4 FEET NORTH OF 6TH STREET SOUTHWEST, 54.3 FEET WEST OF THE WEST FRONTAGE ROAD, 5.7 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1068.607	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1068.607	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1068.607	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1068.607	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1068.607			970.031	.014	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1068.607	.131		970.274	.066	1996	GPS - STATIC	2014	HOLMS
1068.607			970.031	.014	2011	GPS - STATIC	2014	HOLMS
1068.564	.262		970.041	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.592 09 = -98.520 03 = -98.333

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 01 02.33162	92 29 19.17584	612599.586	167160.922	.016		ADJUSTMENT
44 01 02.33162	92 29 19.17584	612599.586	167160.922	.016	C	GPS - STATIC

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 01 02.33096	92 29 19.17566	612599.599	167160.855	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 01 02.33143	92 29 19.17606	612599.570	167160.903	.033	C	GPS - STATIC



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022210.237	702610.089	1774879.419	15990529.017	.016		ADJUSTMENT	2014	GPS3018
3022210.237	702610.089	1774879.419	15990529.017	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022210.252	702610.023	1774879.433	15990528.950	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022210.222	702610.070	1774879.403	15990528.998	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Z-DO9087-3W-04APR2023.jpg	W	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Z-DO9087-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5502_Z-DO9087-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 A

NGS Name: 5503 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1710](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	106 N	12 W	435956.21	921532.41	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 5503 A 2010

1.6 MILES NORTHWEST OF EYOTA, 0.45 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 224.1, 50.2 FEET SOUTH OF TRUNK HIGHWAY 14, 25.5 FEET EAST OF 110TH AVENUE SOUTHEAST, 5.7 FEET WEST OF A RIGHT-OF-WAY POST, 5.7 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1268.600	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1268.600	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1268.600	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES
1268.600	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1268.600	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1268.600			1170.565	.008	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1268.600	.131		1170.795	.066	1996	GPS - STATIC	2014 HOLMS
1268.600			1170.565	.008	2011	GPS - STATIC	2014 HOLMS
1268.600			1170.565	.006	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1268.600	.131		1170.795	.066	1996	GPS - STATIC	2013 HCHES
1268.600			1170.569	.006	2011	GPS - STATIC	2013 HCHES
1268.544	.262		1170.651	.197	2007	GPS - RTRN	2012 RTRN2012
			1170.565	.009	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1268.557	.262		1170.664	.197	2007	GPS - RTRN	2011 RTRN2011
1268.600	.131		1170.664	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1268.600	.131		1170.664	.066	2007	GPS - STATIC	2011 HFRON
1268.600	.131		1170.788	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.894 03 = -97.805

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 56.21221	92 15 32.40753	673070.091	160863.135	.007		ADJUSTMENT	2014	GPS3018
43 59 56.21219	92 15 32.40750	673070.093	160863.133	.007	C	GPS - STATIC	2014	HOLMS
43 59 56.21221	92 15 32.40753	673070.091	160863.135	.007		ADJUSTMENT	2013	GPS2950
43 59 56.21231	92 15 32.40779	673070.071	160863.145	.007	C	GPS - STATIC	2013	HCHES
43 59 56.21221	92 15 32.40753	673070.091	160863.135	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 56.21227	92 15 32.40873	673070.003	160863.140	.131	3	GPS - RTRN	2012	RTRN2012
43 59 56.21108	92 15 32.40795	673070.061	160863.020	.131	3	GPS - RTRN	2011	RTRN2011
43 59 56.21229	92 15 32.40864	673070.009	160863.142	.033	C	ADJUSTMENT	2011	GPS2814
43 59 56.21229	92 15 32.40864	673070.009	160863.142	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 56.21210	92 15 32.40775	673070.074	160863.123	.033	C	GPS - STATIC	2014	HOLMS
43 59 56.21210	92 15 32.40775	673070.074	160863.123	.033	C	GPS - STATIC	2013	HCHES
43 59 56.21210	92 15 32.40775	673070.074	160863.123	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3082753.598	697118.290	1835330.840	15984294.963	.007		ADJUSTMENT	2014	GPS3018
3082753.601	697118.288	1835330.842	15984294.961	.007	C	GPS - STATIC	2014	HOLMS
3082753.598	697118.290	1835330.840	15984294.963	.007		ADJUSTMENT	2013	GPS2950
3082753.579	697118.300	1835330.821	15984294.973	.007	C	GPS - STATIC	2013	HCHES
3082753.598	697118.290	1835330.840	15984294.963	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3082753.510	697118.294	1835330.753	15984294.968	.131	3	GPS - RTRN	2012	RTRN2012
3082753.570	697118.175	1835330.811	15984294.848	.131	3	GPS - RTRN	2011	RTRN2011
3082753.517	697118.296	1835330.759	15984294.970	.033	C	ADJUSTMENT	2011	GPS2814
3082753.517	697118.296	1835330.759	15984294.970	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3082753.583	697118.279	1835330.824	15984294.951	.033	C	GPS - STATIC	2014	HOLMS
3082753.583	697118.279	1835330.824	15984294.951	.033	C	GPS - STATIC	2013	HCHES
3082753.583	697118.279	1835330.824	15984294.951	.033	C	GPS - STATIC	2010	HFRON

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_A-DN1710-3S-20MAY2010.jpg	S	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_A-DN1710-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_A-DN1710-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 B

NGS Name: 5503 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8777](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	9	106 N	12 W	435959.73	921644.78	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** 5503 B 2012

1.5 MILES WEST OF EYOTA, 1.5 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 223.1, 200.4 FEET NORTH OF TRUNK HIGHWAY 14, 26.4 FEET EAST OF 100TH AVENUE SOUTHEAST, 1.3 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1269.614	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1269.614	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1269.617	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1269.617			1171.576	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1269.617	.131		1171.805	.066	1996	GPS - STATIC	2013	HCHES
1269.617			1171.576	.012	2011	GPS - STATIC	2013	HCHES
1269.578	.262		1171.674	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.035 09 = -97.903 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 59.73398	92 16 44.77575	667777.351	161178.219	.013		ADJUSTMENT	2013	GPS2950
43 59 59.73398	92 16 44.77575	667777.351	161178.219	.013	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 59.73392	92 16 44.77608	667777.328	161178.213	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 59.73385	92 16 44.77599	667777.334	161178.206	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3077457.616	697362.813	1830039.953	15984604.578	.013		ADJUSTMENT	2013	GPS2950
3077457.616	697362.813	1830039.953	15984604.578	.013	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3077457.592	697362.806	1830039.929	15984604.572	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3077457.599	697362.799	1830039.936	15984604.565	.033	C	GPS - STATIC	2013	HCHES



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_B-DO8777-3E-14NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_B-DO8777-2-14NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_B-DO8777-1-14NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Nov 14, 2012
	Nov 14, 2012
	Nov 14, 2012



Mn/DOT Name: 5503 C

NGS Name: 5503 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8778](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	7	106 N	12 W	435954.04	921758.46	2	C	2012	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5503 C 2012

2.6 MILES WEST OF EYOTA, 2.6 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 222.05, 54.1 FEET NORTHEAST OF TRUNK HIGHWAY 14, 87.6 FEET WEST OF COUNTY ROAD 102, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1208.223	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900		
1208.223	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825		
1208.223	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1208.232	.262		1110.172	.197	2011	GPS - OPUS	2021	GPSBM		
1208.232	.262		1110.172	.197	2011	GPS - RTRN	2021	RTRN2021		
1208.223			1110.159	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950		
1208.223	.131		1110.385	.066	1996	GPS - STATIC	2013	HCHES		
1208.223			1110.159	.012	2011	GPS - STATIC	2013	HCHES		
1208.170	.262		1110.241	.197	2007	GPS - RTRN	2012	RTRN2012		

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.064 09 = -97.930 03 = -97.838

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>								
Geodetic Position		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 54.04106	92 17 58.46248	662395.381	160560.759	.131	3	GPS - OPUS	2021	GPSBM
43 59 54.04115	92 17 58.46213	662395.407	160560.768	.131	3	GPS - RTRN	2021	RTRN2021
43 59 54.04124	92 17 58.46215	662395.405	160560.777	.016		ADJUSTMENT	2013	GPS2950
43 59 54.04124	92 17 58.46215	662395.405	160560.777	.016	C	GPS - STATIC	2013	HCHES
<u>NAD83(2007)</u>								
Geodetic Position		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 54.04084	92 17 58.46350	662395.307	160560.736	.131	3	GPS - RTRN	2012	RTRN2012
<u>NAD83(1996)</u>								
Geodetic Position		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 54.04109	92 17 58.46233	662395.392	160560.762	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072084.839	696673.783	1824660.824	15983981.943	.131	3	GPS - OPUS	2021	GPSBM
3072084.864	696673.792	1824660.850	15983981.952	.131	3	GPS - RTRN	2021	RTRN2021
3072084.863	696673.801	1824660.848	15983981.961	.016		ADJUSTMENT	2013	GPS2950
3072084.863	696673.801	1824660.848	15983981.961	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072084.765	696673.759	1824660.750	15983981.920	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072084.850	696673.786	1824660.835	15983981.946	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_C-DO8778-3NE-14NOV2012.jpg	NE	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_C-DO8778-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_C-DO8778-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 D

NGS Name: 5503 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8779](#)

[Get Map](#)

NGS Quad / Sta Num : 44092232/

USGS Quad: CHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	13 W	440009.84	922016.78	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 38 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: 5503 D 2012

5.0 MILES WEST OF EYOTA, 4.6 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 220.05, 52.6 FEET SOUTH TRUNK HIGHWAY 14, 55.2 FEET EAST OF THE ENTRANCE TO THE HARLEY-DAVIDSON CYCLE SHOP, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1113.954	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1113.954	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1113.954	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1113.954			1015.821	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1113.954	.131		1016.045	.066	1996	GPS - STATIC	2013	HCHES
1113.954			1015.821	.012	2011	GPS - STATIC	2013	HCHES
1113.869	.262		1015.851	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.140 09 = -98.015 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 09.83709	92 20 16.78251	652273.073	162087.024	.016		ADJUSTMENT	2013	GPS2950
44 00 09.83709	92 20 16.78251	652273.073	162087.024	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 09.83632	92 20 16.78245	652273.078	162086.946	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 09.83684	92 20 16.78262	652273.065	162086.998	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3061944.032	698064.987	1814541.181	15985497.359	.016		ADJUSTMENT	2013	GPS2950
3061944.032	698064.987	1814541.181	15985497.359	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3061944.038	698064.909	1814541.186	15985497.281	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3061944.024	698064.961	1814541.173	15985497.334	.033	C	GPS - STATIC	2013	HCHES



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_D-DO8779-3S-14NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_D-DO8779-2-14NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_D-DO8779-1-14NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Nov 14, 2012
	Nov 14, 2012
	Nov 14, 2012



Mn/DOT Name: 5503 E

NGS Name: 5503 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8780](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	10	106 N	13 W	440022.73	922131.50	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** 5503 E 2012

1.0 MILE WEST OF CHESTER, 0.7 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 19/COUNTY ROAD 119 IN CHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 218.95, 36.8 FEET EAST OF 60TH AVENUE SOUTHEAST, 76.8 FEET NORTH OF TRUNK HIGHWAY 14, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1099.942	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1099.942	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1099.945	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1099.814	.262		1001.622	.197	2011	GPS - OPUS	2021	GPSBM
1099.985	.262		1001.793	.197	2011	GPS - RTRN	2021	RTRN2021
1099.945			1001.757	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1099.945	.131		1001.983	.066	1996	GPS - STATIC	2013	HCHES
1099.945			1001.757	.012	2011	GPS - STATIC	2013	HCHES
1099.880	.262		1001.806	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.202 09 = -98.074 03 = -97.962

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.73018	92 21 31.50144	646802.734	163354.997	.131	3	GPS - OPUS	2021	GPSBM
44 00 22.72944	92 21 31.50019	646802.826	163354.923	.131	3	GPS - RTRN	2021	RTRN2021
44 00 22.73007	92 21 31.50086	646802.777	163354.987	.016		ADJUSTMENT	2013	GPS2950
44 00 22.73007	92 21 31.50086	646802.777	163354.987	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.73041	92 21 31.50167	646802.717	163355.021	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.72984	92 21 31.50097	646802.769	163354.963	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3056457.803	699259.908	1809071.851	15986759.279	.131	3	GPS - OPUS	2021	GPSBM
3056457.896	699259.834	1809071.943	15986759.205	.131	3	GPS - RTRN	2021	RTRN2021
3056457.845	699259.897	1809071.894	15986759.268	.016		ADJUSTMENT	2013	GPS2950
3056457.845	699259.897	1809071.894	15986759.268	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3056457.785	699259.931	1809071.834	15986759.302	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3056457.838	699259.874	1809071.886	15986759.245	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_E-DO8780-3E-14NOV2012.jpg	E	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_E-DO8780-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_E-DO8780-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 F

NGS Name: 5503 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8781](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	106 N	13 W	440044.22	922508.58	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 35 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5503 F 2012

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 (30TH AVENUE SOUTHEAST) IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 215.85, 121.2 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 32.3 FEET EAST OF NORTHBOUND COUNTY ROAD 22, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1062.652	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1062.652	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1062.655	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1062.655			964.283	.014	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1062.655	.131		964.506	.066	1996	GPS - STATIC	2013	HCHES
1062.655			964.283	.014	2011	GPS - STATIC	2013	HCHES
1062.560	.262		964.260	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.389 12B = -98.399 09 = -98.297 03 = -98.149

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 44.21748	92 25 08.58291	630923.154	165429.365	.016		ADJUSTMENT	2013	GPS2950
44 00 44.21748	92 25 08.58291	630923.154	165429.365	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 44.21797	92 25 08.58409	630923.067	165429.414	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 44.21728	92 25 08.58313	630923.138	165429.345	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040553.498	701122.572	1793196.886	15988816.726	.016		ADJUSTMENT	2013	GPS2950
3040553.498	701122.572	1793196.886	15988816.726	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040553.411	701122.619	1793196.799	15988816.775	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040553.483	701122.551	1793196.870	15988816.706	.033	C	GPS - STATIC	2013	HCHES



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_F-DO8781-3E-14NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_F-DO8781-2-14NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_F-DO8781-1-14NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Nov 14, 2012
	Nov 14, 2012
	Nov 14, 2012



Mn/DOT Name: 5503 G

NGS Name: 5503 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9090](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	6	106 N	13 W	440034.77	922616.84	2	3	2012	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 13 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5503 G 2012

IN ROCHESTER, 1.25 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 (SOUTH BROADWAY) IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 214.85, 29.0 FEET SOUTHEAST OF EASTBOUND TRUNK HIGHWAY 14, 123.4 FEET NORTHEAST OF 17TH AVENUE SOUTHEAST/EASTGATE DRIVE SOUTHEAST, 43.6 FEET NORTHWEST OF THE SOUTH FRONTAGE ROAD EAST, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1015.106	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1015.106	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1015.106	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1015.057	.262		916.688	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.464 09 = -98.369 03 = -98.208

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 00 34.76666	92 26 16.83745	625940.480	164442.801	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
<u>X</u> <u>Y</u>						
3035584.855	700069.898	1788217.333	15987825.548	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_G-DO9090-3SW-11NOV2012.jpg	SW	Nov 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_G-DO9090-2-11NOV2012.jpg		Nov 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_G-DO9090-1-11NOV2012.jpg		Nov 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 H

NGS Name: 5503 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2833](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	11	106 N	12 W	435929.79	921345.18	2	C	2013	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5503 H 2013

IN EYOTA, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE NORTH) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 225.7, 77.2 FEET NORTHEAST OF TRUNK HIGHWAY 14, 81.4 FEET NORTHWEST OF COUNTY ROAD 7 (CENTER AVENUE NORTH), 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1235.322	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1235.329	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1235.299			1137.255	.011	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1235.312	.131		1137.498	.066	1996	GPS - STATIC	2014 HOLMS
1235.299			1137.255	.011	2011	GPS - STATIC	2014 HOLMS
1235.244	.262		1137.216	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.031 09 = -97.910 03 = -97.821

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 59 29.78612	92 13 45.17510	680930.869	158251.078	.013		ADJUSTMENT
43 59 29.78612	92 13 45.17510	680930.869	158251.078	.013	C	GPS - STATIC
43 59 29.78529	92 13 45.17634	680930.779	158250.993	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 59 29.78590	92 13 45.17519	680930.863	158251.056	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3090647.768	694611.437	1843191.053	15981691.894	.013		ADJUSTMENT
3090647.768	694611.437	1843191.053	15981691.894	.013	C	GPS - STATIC
3090647.679	694611.351	1843190.964	15981691.809	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3090647.762	694611.415	1843191.047	15981691.872	.033	C	GPS - STATIC

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_H-DP2833-3NE-01MAY2013.jpg	NE	May 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_H-DP2833-2-01MAY2013.jpg		May 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_H-DP2833-1-01MAY2013.jpg		May 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 J

NGS Name: 5503 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7568](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	13	106 N	12 W	435906.72	921239.70	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5503 J 2013

1.0 MILE SOUTHEAST OF EYOTA, 1.0 MILE SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE NORTH) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 226.7, 31.0 FEET SOUTH OF TRUNK HIGHWAY 14, 5.2 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1213.393	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1213.393	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1213.472	.262		1115.411	.197	2011	GPS - OPUS	2021 GPSBM
1213.377	.262		1115.316	.197	2011	GPS - OPUS	2021 GPSBM
1213.436	.262		1115.375	.197	2011	GPS - RTRN	2021 RTRN2021
1213.354	.262		1115.309	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.048 09 = -97.930 03 = -97.838

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 06.72007	92 12 39.69965	685737.556	155955.780	.131	3	GPS - OPUS	2021	GPSBM
43 59 06.71989	92 12 39.69922	685737.587	155955.762	.131	3	GPS - OPUS	2021	GPSBM
43 59 06.71978	92 12 39.69894	685737.608	155955.751	.131	3	GPS - RTRN	2021	RTRN2021
43 59 06.72030	92 12 39.69946	685737.569	155955.803	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3095484.183	692380.604	1847998.109	15979402.363	.131	3	GPS - OPUS	2021	GPSBM
3095484.215	692380.587	1847998.141	15979402.346	.131	3	GPS - OPUS	2021	GPSBM
3095484.236	692380.576	1847998.161	15979402.334	.131	3	GPS - RTRN	2021	RTRN2021
3095484.196	692380.628	1847998.123	15979402.387	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_J-DP7568-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_J-DP7568-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_J-DP7568-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 K

NGS Name: 5503 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7566](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	18	106 N	11 W	435843.01	921045.47	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5503 K 2013

2.6 MILES SOUTHEAST OF EYOTA, 2.65 MILES SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE NORTH) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 228.3, 58.2 FEET NORTH OF TRUNK HIGHWAY 14, 40.9 FEET WEST OF COUNTY ROAD 132, 15.4 FEET SOUTH OF A FIELD ENTRANCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1184.906	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1184.906	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1184.886	.262		1086.799	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.087 09 = -97.979 03 = -97.874

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 43.01035	92 10 45.47087	694110.800	153627.952	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3103886.967	690164.797	1856370.337	15977083.891	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_K-DP7566-3N-24APR2013.jpg	N	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_K-DP7566-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_K-DP7566-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 L

NGS Name: 5503 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7565](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	17	106 N	11 W	435849.18	920943.74	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5503 L 2013

1.6 MILES NORTHWEST OF DOVER, 1.15 MILES NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 229.25, 47.7 FEET NORTH OF TRUNK HIGHWAY 14, 23.5 FEET EAST OF A FIELD ENTRANCE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj				Year	Reference		
1167.954	.016	2/1						VERTICAL ADJUSTMENT		2017	00000900		
1167.954	.016	2/1						VERTICAL CONTROL SURVEY		2014	VSTCH		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj				Year	Reference		
1167.937	.262			1069.824	.197	2011		GPS - RTRN		2013	RTRN2013		

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.113 09 = -98.012 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Geodetic Position			Olmsted County			Determination Method		Project Info	
Latitude	Longitude			X	Y		Acc	Order		Year	Reference		
43 58 49.17751	92 09 43.74437			698618.674	154293.278		.131	3	GPS - RTRN	2013	RTRN2013		

State Plane and UTM Coordinates (Feet)

NAD83(2011)				MN State Plane - South Zone			UTM - Zone 15			Determination Method		Project Info	
X	Y			X	Y		Acc	Order		Year	Reference		
3108385.172	690890.103			1860875.749	15977753.484		.131	3	GPS - RTRN	2013	RTRN2013		

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_L-DP7565-3N-24APR2013.jpg	N	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_L-DP7565-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_L-DP7565-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 M

NGS Name: 5503 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7564](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	16	106 N	11 W	435844.96	920827.14	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** 5503 M 2013

0.75 MILE NORTHWEST OF DOVER, 0.1 MILE NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 230.3, 68.8 FEET SOUTH OF TRUNK HIGHWAY 14, 35.5 FEET EAST OF A FIELD ENTRANCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1146.481	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1146.484	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1146.445	.262		1048.285	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.176 12B = -98.159 09 = -98.058 03 = -97.939

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 58 44.95695	92 08 27.14220	704223.853	153917.867	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3113994.362	690589.496	1866479.090	15977383.855	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_M-DP7564-3S-25APR2013.jpg	S	Apr 25, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_M-DP7564-2-25APR2013.jpg		Apr 25, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_M-DP7564-1-25APR2013.jpg		Apr 25, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 N

NGS Name: 5503 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7563](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	23	106 N	11 W	435814.96	920700.42	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1997	2013	GOOD	Horz=NO Vert=NO	YES	55039	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (1997)

Stamping: 5503 N 1997

0.85 MILE EAST-SOUTHEAST OF DOVER, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 14 BRIDGE NUMBER 55039 OVER THE WHITEWATER RIVER, 1.25 MILES EAST-SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 231.65, 25.7 FEET SOUTH OF TRUNK HIGHWAY 14.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1141.212	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1141.212	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1141.116	.262		1042.915	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.218 12B = -98.202 09 = -98.103 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 58 14.96423	92 07 00.41674	710594.795	150941.348	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3120403.873	687698.466	1872850.521	15974414.900	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_N-DP7563-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_N-DP7563-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_N-DP7563-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5503 P

NGS Name: 5503 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7561](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	24	106 N	11 W	435814.12	920545.43	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5503 P 2013

1.8 MILES EAST-SOUTHEAST OF DOVER, 2.25 MILES EAST-SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 232.65, 29.1 FEET SOUTH OF TRUNK HIGHWAY 14, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1119.489	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1119.489	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1119.417	.262		1021.163	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.264 12B = -98.258 09 = -98.156 03 = -98.025

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
43 58 14.12499	92 05 45.42872	716079.619	150910.250	.131	3	GPS - RTRN 2013 RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
3125888.146	687740.535	1878333.242	15974389.318	.131	3	GPS - RTRN 2013 RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_P-DP7561-3S-25APR2013.jpg	S	Apr 25, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_P-DP7561-2-25APR2013.jpg		Apr 25, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5503_P-DP7561-1-25APR2013.jpg		Apr 25, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 A

NGS Name: 5504 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6980](#)
NGS Quad / Sta Num : 43092414/
USGS Quad: ROCK DELL

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	19	105 N	15 W	435330.07	923930.98	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5504 A 2005

8.5 MILES NORTHWEST OF STEWARTVILLE, 8.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.5 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 212.70, 89.7 FEET WEST OF 110TH AVENUE SOUTHWEST EXTENDED, 70.5 FEET SOUTH OF TRUNK HIGHWAY 30, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1259.932	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1259.889	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1259.932			1161.563	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1259.889	.131		1161.779	.066	1996	GPS - STATIC	2014	HOLMS
1259.932			1161.563	.017	2011	GPS - STATIC	2014	HOLMS
1259.879	.262		1161.579	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.343 12B = -98.363 09 = -98.300 03 = -98.041

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 30.07439	92 39 30.97516	568034.325	121176.984	.020		ADJUSTMENT	2014	GPS3018
43 53 30.07439	92 39 30.97516	568034.325	121176.984	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 30.07418	92 39 30.97578	568034.280	121176.962	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 30.07408	92 39 30.97548	568034.302	121176.952	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2978263.739	656041.911	1730379.921	15944520.419	.020		ADJUSTMENT	2014	GPS3018
2978263.739	656041.911	1730379.921	15944520.419	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2978263.694	656041.889	1730379.876	15944520.398	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2978263.717	656041.879	1730379.898	15944520.388	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_A-DK6980-3SE-25MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_A-DK6980-2-25MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_A-DK6980-1-25MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SE	May 25, 2010
	May 25, 2010
	May 25, 2010



Mn/DOT Name: 5504 B

NGS Name: 5504 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6981](#)
NGS Quad / Sta Num : 43092414/
USGS Quad: ROCK DELL

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	17	105 N	15 W	435330.60	923818.80	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5504 B 2005

7.5 MILES NORTHWEST OF STEWARTVILLE, 7.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63, 2.5 MILES NORTH OF STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 213.70, 74.4 FEET NORTH OF TRUNK HIGHWAY 30, 63.4 FEET WEST OF COUNTY ROAD 3 SOUTHWEST, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1307.865	.016	2/1				VERTICAL ADJUSTMENT			2009	00000425-33		
1307.825	.016	2/1				VERTICAL CONTROL SURVEY			2007	VALOY		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1307.862	.262		1209.456	.197	2011	GPS - OPUS			2021	GPSBM		
1307.694	.262		1209.289	.197	2011	GPS - OPUS			2021	GPSBM		
1307.904	.262		1209.499	.197	2011	GPS - RTRN			2021	RTRN2021		

Geoid Separations(ft): GEOID18 = -98.402 12B = -98.425 09 = -98.359 03 = -98.107

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Acc		Order		Determination Method		Project Info	
Latitude	Longitude	X	Y							Year	Reference		
43 53 30.50876	92 38 18.49787	573341.813	121238.227	.131	3	GPS - OPUS				2021	GPSBM		
43 53 30.50884	92 38 18.49916	573341.718	121238.235	.131	3	GPS - OPUS				2021	GPSBM		
43 53 30.50905	92 38 18.49811	573341.795	121238.256	.131	3	GPS - RTRN				2021	RTRN2021		

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Acc		Order		Determination Method		Project Info	
X	Y	X	Y							Year	Reference		
2983569.545	656173.629	1735684.989	15944586.948	.131	3	GPS - OPUS				2021	GPSBM		
2983569.451	656173.636	1735684.894	15944586.956	.131	3	GPS - OPUS				2021	GPSBM		
2983569.527	656173.658	1735684.971	15944586.978	.131	3	GPS - RTRN				2021	RTRN2021		

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_B-DK6981-3N-25MAY2010.jpg	N	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_B-DK6981-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_B-DK6981-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 C

NGS Name: 5504 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6982](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	16	105 N	15 W	435331.20	923706.80	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5504 C 2005

6.5 MILES NORTHWEST OF STEWARTVILLE, 6.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.5 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 214.75, 63.6 FEET NORTH OF TRUNK HIGHWAY 30, 58.2 FEET WEST OF 90TH AVENUE SOUTHWEST, 2.2 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1236.461	.016	2/1				VERTICAL ADJUSTMENT	2009 00000425-33
1236.425	.016	2/1				VERTICAL CONTROL SURVEY	2007 VALOY

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.468 09 = -98.405 03 = -98.153

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_C-DK6982-3NW-25MAY2010.jpg	NW	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_C-DK6982-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_C-DK6982-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 D

NGS Name: 5504 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6983](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	15	105 N	15 W	435331.46	923556.12	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2024	GOOD	Horz=YES Vert=YES	YES		PROJECTS 1 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5504 D 2005

5.5 MILES NORTHWEST OF STEWARTVILLE, 5.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.5 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 215.75, 153.5 FEET WEST OF 80TH AVENUE SOUTHWEST, 60.8 FEET NORTH OF TRUNK HIGHWAY 30, 8.5 FEET SOUTH-SOUTHWEST OF A BURIED CABLE PEDESTAL, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1227.973	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1227.940	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1227.973			1129.483	.015	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1227.973	.131		1129.729	.066	1996	GPS - STATIC	2024	HTH63
1227.973			1129.483	.015	2011	GPS - STATIC	2024	HTH63
1227.973			1129.483	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1227.940	.131		1129.729	.066	1996	GPS - STATIC	2014	HOLMS
1227.973			1129.483	.019	2011	GPS - STATIC	2014	HOLMS
1227.885	.262		1129.456	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.491 09 = -98.425 03 = -98.179

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 31.46329	92 35 56.11869	583768.077	121372.559	.010		ADJUSTMENT	2024	GPS3721
43 53 31.46329	92 35 56.11869	583768.077	121372.559	.010	C	GPS - STATIC	2024	HTH63
43 53 31.46329	92 35 56.11869	583768.077	121372.559	.023		ADJUSTMENT	2014	GPS3018
43 53 31.46329	92 35 56.11869	583768.077	121372.559	.023	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 31.46262	92 35 56.11953	583768.015	121372.492	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 31.46294	92 35 56.11881	583768.068	121372.524	.033	C	GPS - STATIC	2024	HTH63
43 53 31.46294	92 35 56.11881	583768.068	121372.524	.033	C	GPS - STATIC	2014	HOLMS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2993992.318	656446.439	1746106.504	15944731.652	.010		ADJUSTMENT	2024	GPS3721
2993992.318	656446.439	1746106.504	15944731.652	.010	C	GPS - STATIC	2024	HTH63
2993992.318	656446.439	1746106.504	15944731.652	.023		ADJUSTMENT	2014	GPS3018
2993992.318	656446.439	1746106.504	15944731.652	.023	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2993992.258	656446.370	1746106.442	15944731.584	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2993992.310	656446.403	1746106.495	15944731.616	.033	C	GPS - STATIC	2024	HTH63
2993992.310	656446.403	1746106.495	15944731.616	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_D-DK6983-3N-25MAY2010.jpg	N	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_D-DK6983-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_D-DK6983-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 E

NGS Name: 5504 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6984](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	24	105 N	15 W	435330.10	923441.11	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5504 E 2005

4.5 MILES NORTHWEST OF STEWARTVILLE, 4.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.5 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 216.80, 82.0 FEET EAST OF COUNTY ROAD 115, 64.6 FEET SOUTH OF TRUNK HIGHWAY 30, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1271.185	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33	
1271.159	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1271.185			1172.704	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721	
1271.185	.131		1172.914	.066	1996	GPS - STATIC	2024	HTH63	
1271.185			1172.704	.019	2011	GPS - STATIC	2024	HTH63	
1271.303	.262		1172.842	.197	2011	GPS - OPUS	2021	GPSBM	
1271.090	.262		1172.629	.197	2011	GPS - OPUS	2021	GPSBM	
1271.195	.262		1172.734	.197	2011	GPS - RTRN	2021	RTRN2021	

Geoid Separations(ft): GEOID18 = -98.461 12B = -98.481 09 = -98.422 03 = -98.182

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 53 30.09581	92 34 41.10528	589261.955	121255.943	.010		ADJUSTMENT	2024	GPS3721
43 53 30.09581	92 34 41.10528	589261.955	121255.943	.010	C	GPS - STATIC	2024	HTH63
43 53 30.09599	92 34 41.10596	589261.905	121255.961	.131	3	GPS - OPUS	2021	GPSBM
43 53 30.09613	92 34 41.10539	589261.947	121255.975	.131	3	GPS - OPUS	2021	GPSBM
43 53 30.09517	92 34 41.10570	589261.925	121255.878	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(1996)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 53 30.09566	92 34 41.10550	589261.939	121255.927	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
2999486.847	656402.837	1751598.078	15944620.578	.010		ADJUSTMENT	2024	GPS3721
2999486.847	656402.837	1751598.078	15944620.578	.010	C	GPS - STATIC	2024	HTH63
2999486.797	656402.855	1751598.028	15944620.596	.131	3	GPS - OPUS	2021	GPSBM
2999486.838	656402.870	1751598.069	15944620.610	.131	3	GPS - OPUS	2021	GPSBM
2999486.817	656402.772	1751598.047	15944620.513	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
2999486.831	656402.822	1751598.061	15944620.562	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_E-DK6984-3SE-25MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_E-DK6984-2-25MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_E-DK6984-1-25MAY2010.jpg

<u>Dir</u>	<u>Date</u>
SE	May 25, 2010
	May 25, 2010
	May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 F

NGS Name: 5504 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6985](#)

[Get Map](#)

NGS Quad / Sta Num : 43092411/

USGS Quad: SALEM CORNERS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	13	105 N	15 W	435330.74	923330.78	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type

ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2005)

Stamping: 5504 F 2005

3.5 MILES NORTHWEST OF STEWARTVILLE, 6.15 MILES WEST AND SOUTH ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 4.25 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 217.80, 55.5 FEET WEST OF 60TH AVENUE SOUTHWEST, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1270.893	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1270.893	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1270.893	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1270.893	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1270.870	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1270.896	.262		1172.458	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.458 09 = -98.399 03 = -98.166

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 30.74326	92 33 30.78043	594411.660	121343.260	.131	3	GPS - RTRN	2023	RTRN2023

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3004634.548	656558.575	1756745.433	15944713.002	.131	3	GPS - RTRN	2023	RTRN2023

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_F-DK6985-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_F-DK6985-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_F-DK6985-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 G

NGS Name: 5504 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK7052](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	19	105 N	14 W	435329.50	923219.90	2		2005	2012	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	SURVEY DISK	MNDT

Description: (2005)

Stamping: 5504 G 2005

2.5 MILES NORTHWEST OF STEWARTVILLE, 2.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 218.80, 76.0 FEET SOUTH OF TRUNK HIGHWAY 30, 55.5 FEET WEST OF 50TH AVENUE SOUTHWEST, 1.0 FOOT WEST OF A WITNESS POST.

Station Notes

FOUND THE CAP LOOSE, 9/11/2012, THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1282.327	.016	2/1					VERTICAL ADJUSTMENT	2009	00000425-33
1282.310	.016	2/1					VERTICAL CONTROL SURVEY	2007	VALOY

Geoid Separations(ft): GEOID18 = -98.399 12B = -98.415 09 = -98.356 03 = -98.133

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
<u>Location:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G-DK7052-3SE-25MAY2010.jpg	SE	May 25, 2010
<u>Monument:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G-DK7052-2-25MAY2010.jpg		May 25, 2010
<u>Disk:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G-DK7052-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 G RESET

NGS Name: 5504 G RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2834](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	19	105 N	14 W	435329.44	923219.86	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: 5504 G RESET 2012

2.5 MILES NORTHWEST OF STEWARTVILLE, 5.15 MILES WEST AND SOUTH ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 4.25 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 30 MILEPOINT 218.80, 76.0 FEET SOUTH OF TRUNK HIGHWAY 30, 55.5 FEET WEST OF 50TH AVENUE SOUTHWEST, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj	Determination Method	Year Reference
1282.094	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1282.094	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1282.094	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj	Determination Method	Year Reference
1282.094			1183.662	.013	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1282.094	.131		1183.915	.066	1996	GPS - STATIC	2024 HTH63
1282.094			1183.662	.013	2011	GPS - STATIC	2024 HTH63
1282.140	.262		1183.744	.197	2011	GPS - RTRN	2023 RTRN2023
1282.077			1183.662	.017	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1282.084	.131		1183.915	.066	1996	GPS - STATIC	2014 HOLMS
1282.077			1183.662	.017	2011	GPS - STATIC	2014 HOLMS
1282.015	.262		1183.659	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.399 12B = -98.415 09 = -98.356 03 = -98.133

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info		
Geodetic Position		X	Y	Acc	Order	Determination Method
Latitude	Longitude					
43 53 29.43525	92 32 19.86263	599605.658	121233.979	.007		ADJUSTMENT
43 53 29.43525	92 32 19.86263	599605.658	121233.979	.007	C	GPS - STATIC
43 53 29.43583	92 32 19.86241	599605.674	121234.037	.131	3	GPS - RTRN
43 53 29.43525	92 32 19.86263	599605.658	121233.979	.020		ADJUSTMENT
43 53 29.43525	92 32 19.86263	599605.658	121233.979	.020	C	GPS - STATIC

NAD83(2007)		Olmsted County		Project Info		
Geodetic Position		X	Y	Acc	Order	Determination Method
Latitude	Longitude					
43 53 29.43460	92 32 19.86256	599605.664	121233.913	.131	3	GPS - RTRN

NAD83(1996)		Olmsted County		Project Info		
Geodetic Position		X	Y	Acc	Order	Determination Method
Latitude	Longitude					
43 53 29.43489	92 32 19.86269	599605.654	121233.942	.033	C	GPS - STATIC
43 53 29.43489	92 32 19.86269	599605.654	121233.942	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3009829.149	656518.346	1761937.265	15944608.955	.007		ADJUSTMENT	2024	GPS3721
3009829.149	656518.346	1761937.265	15944608.955	.007	C	GPS - STATIC	2024	HTH63
3009829.163	656518.405	1761937.281	15944609.013	.131	3	GPS - RTRN	2023	RTRN2023
3009829.149	656518.346	1761937.265	15944608.955	.020		ADJUSTMENT	2014	GPS3018
3009829.149	656518.346	1761937.265	15944608.955	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3009829.155	656518.280	1761937.270	15944608.889	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3009829.145	656518.309	1761937.261	15944608.918	.033	C	GPS - STATIC	2024	HTH63
3009829.145	656518.309	1761937.261	15944608.918	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G_RESET-DP2834-3S-18APR2023.jpg	S	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G_RESET-DP2834-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_G_RESET-DP2834-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 H

NGS Name: 5504 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6986](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	16	105 N	14 W	435331.13	923106.11	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 7 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2023)

Stamping: 5504 H 2005

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE WEST ALONG 90TH STREET SOUTHWEST (OLD TRUNK HIGHWAY 30) FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 8 (THE JUNCTION IS NEAR THE SOUTHWEST CORNER OF ROCHESTER INTERNATIONAL AIRPORT), 71.5 FEET NORTH OF 90TH STREET SOUTHWEST, 70.0 FEET EAST OF AN ENTRANCE TO A TOWER SITE AND A FIELD ENTRANCE, 57.0 FEET EAST OF THE SOUTHEAST CORNER OF A FENCE POST, 18.0 FEET WEST OF A POWER POLE WITH A TRANSFORMER, 2.7 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj	Determination Method	Year Reference
1301.661	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1301.661	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1301.661	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH
1301.661	.016	2/1				VERTICAL ADJUSTMENT	2009 00000425-33
1301.654	.016	2/1				VERTICAL CONTROL SURVEY	2007 VALOY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj	Determination Method	Year Reference
1301.661			1203.288	.019	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1301.661	.131		1203.502	.066	1996	GPS - STATIC	2024 HTH63
1301.661			1203.288	.019	2011	GPS - STATIC	2024 HTH63
1301.713	.262		1203.374	.197	2011	GPS - RTRN	2023 RTRN2023
1301.740	.262		1203.403	.197	2011	GPS - OPUS	2021 GPSBM
1301.680	.262		1203.344	.197	2011	GPS - RTRN	2021 RTRN2021
1301.589	.262		1203.233	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.336 12B = -98.356 09 = -98.300 03 = -98.084

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Olmsted County			Project Info	
Geodetic Position							
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference
43 53 31.13335	92 31 06.11066	605005.796	121431.349	.010		ADJUSTMENT	2024 GPS3721
43 53 31.13335	92 31 06.11066	605005.796	121431.349	.010	C	GPS - STATIC	2024 HTH63
43 53 31.13257	92 31 06.11108	605005.765	121431.270	.131	3	GPS - RTRN	2023 RTRN2023
43 53 31.13333	92 31 06.11105	605005.767	121431.347	.131	3	GPS - OPUS	2021 GPSBM
43 53 31.13382	92 31 06.10985	605005.855	121431.397	.131	3	GPS - RTRN	2021 RTRN2021
43 53 31.13251	92 31 06.11069	605005.794	121431.264	.131	3	GPS - RTRN	2016 RTRN2016

NAD83(1996)			Olmsted County			Project Info	
Geodetic Position							
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference
43 53 31.13319	92 31 06.11088	605005.779	121431.333	.033	C	GPS - STATIC	2024 HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015225.777	656787.470	1767334.848	15944811.629	.010		ADJUSTMENT	2024	GPS3721
3015225.777	656787.470	1767334.848	15944811.629	.010	C	GPS - STATIC	2024	HTH63
3015225.748	656787.390	1767334.817	15944811.550	.131	3	GPS - RTRN	2023	RTRN2023
3015225.749	656787.467	1767334.819	15944811.627	.131	3	GPS - OPUS	2021	GPSBM
3015225.836	656787.518	1767334.907	15944811.677	.131	3	GPS - RTRN	2021	RTRN2021
3015225.777	656787.385	1767334.846	15944811.544	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015225.762	656787.453	1767334.831	15944811.613	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_H-DK6986-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_H-DK6986-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_H-DK6986-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 J

NGS Name: 5504 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6987](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	105 N	14 W	435329.47	922953.45	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	SURVEY DISK	MNDT

Description: (2023)

Stamping: 5504 J 2005

2.5 MILES NORTH-NORTHWEST OF STEWARTVILLE, 1.5 MILES WEST ALONG 90TH STREET SOUTHWEST (OLD TRUNK HIGHWAY 30) FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 8 (THE JUNCTION IS NEAR THE SOUTHWEST CORNER OF ROCHESTER INTERNATIONAL AIRPORT), 72.0 FEET SOUTH OF 90TH STREET SOUTHWEST, 17.5 FEET WEST OF A FIELD ENTRANCE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1268.485	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1268.488	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1268.488	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1268.488	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1268.485	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1268.488			1170.172	.018	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1268.488	.131		1170.382	.066	1996	GPS - STATIC	2024	HTH63
1268.488			1170.172	.018	2011	GPS - STATIC	2024	HTH63
1268.452	.262		1170.188	.197	2011	GPS - RTRN	2023	RTRN2023
1268.436	.262		1170.149	.197	2011	GPS - RTRN	2016	RTRN2016
1268.403	.262		1170.116	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.287 09 = -98.228 03 = -98.021

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 53 29.47014	92 29 53.44726	610327.852	121289.278	.010		ADJUSTMENT	2024	GPS3721
43 53 29.47014	92 29 53.44726	610327.852	121289.278	.010	C	GPS - STATIC	2024	HTH63
43 53 29.47009	92 29 53.44658	610327.901	121289.273	.131	3	GPS - RTRN	2023	RTRN2023
43 53 29.46963	92 29 53.44649	610327.908	121289.227	.131	3	GPS - RTRN	2016	RTRN2016
43 53 29.46967	92 29 53.44365	610328.116	121289.232	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 53 29.46998	92 29 53.44748	610327.836	121289.262	.033	C	GPS - STATIC	2024	HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020548.851	656716.182	1772654.731	15944674.929	.010		ADJUSTMENT	2024	GPS3721
3020548.851	656716.182	1772654.731	15944674.929	.010	C	GPS - STATIC	2024	HTH63
3020548.900	656716.177	1772654.780	15944674.924	.131	3	GPS - RTRN	2023	RTRN2023
3020548.908	656716.131	1772654.787	15944674.877	.131	3	GPS - RTRN	2016	RTRN2016
3020549.116	656716.139	1772654.995	15944674.883	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020548.835	656716.165	1772654.715	15944674.912	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_J-DK6987-3S-18APR2023.jpg	S	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_J-DK6987-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_J-DK6987-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 K

NGS Name: 5504 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1749](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	10	105 N	14 W	435500.71	922936.84	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5504 K 2023

IN ROCHESTER, 0.8 MILE WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 30 MILEPOINT 221.7, 51.6 FEET SOUTH OF TRUNK HIGHWAY 30, 161.8 FEET EAST OF BRATAAS DRIVE SOUTHWEST, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order / (Class)	Height	Acc	Adj	Determination Method	Year	Reference
1275.837	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order / (Class)	Height	Acc	Adj	Determination Method	Year	Reference
1275.818			1177.445	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1275.818	.131		1177.658	.066	1996	GPS - STATIC	2024	HTH63
1275.818			1177.445	.019	2011	GPS - STATIC	2024	HTH63
1275.877	.262		1177.514	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.363 03 = -98.110

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 00.70846	92 29 36.84118	611496.536	130534.611	.010		ADJUSTMENT	2024	GPS3721
43 55 00.70846	92 29 36.84118	611496.536	130534.611	.010	C	GPS - STATIC	2024	HTH63
43 55 00.70821	92 29 36.84111	611496.541	130534.586	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 00.70830	92 29 36.84141	611496.519	130534.595	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3021594.408	665975.522	1773813.675	15953917.420	.010		ADJUSTMENT	2024	GPS3721
3021594.408	665975.522	1773813.675	15953917.420	.010	C	GPS - STATIC	2024	HTH63
3021594.413	665975.497	1773813.680	15953917.395	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3021594.391	665975.506	1773813.658	15953917.403	.033	C	GPS - STATIC	2024	HTH63

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_K-DS1749-3S-26APR2023.jpg	S	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_K-DS1749-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_K-DS1749-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 L

NGS Name: 5504 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1750](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	4	105 N	14 W	435522.07	923042.74	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023) Stamping: 5504 L 2023

IN ROCHESTER, 1.8 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 30 MILEPOINT 220.7, 78.7 FEET SOUTHWEST OF TRUNK HIGHWAY 30, 30.2 FEET NORTHEAST OF A CHAIN LINK FENCE, 1.5 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1258.478	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1258.465			1160.008	.018	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1258.452	.131		1160.221	.066	1996	GPS - STATIC	2024	HTH63
1258.465			1160.008	.018	2011	GPS - STATIC	2024	HTH63
1258.488	.262		1160.044	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.448 03 = -98.185

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 22.07380	92 30 42.73808	606662.246	132673.939	.010		ADJUSTMENT	2024	GPS3721
43 55 22.07380	92 30 42.73808	606662.246	132673.939	.010	C	GPS - STATIC	2024	HTH63
43 55 22.07418	92 30 42.73789	606662.259	132673.977	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 22.07364	92 30 42.73830	606662.230	132673.923	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3016732.486	668050.214	1768979.342	15956050.983	.010		ADJUSTMENT	2024	GPS3721
3016732.486	668050.214	1768979.342	15956050.983	.010	C	GPS - STATIC	2024	HTH63
3016732.499	668050.252	1768979.355	15956051.022	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3016732.469	668050.197	1768979.326	15956050.967	.033	C	GPS - STATIC	2024	HTH63

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_L-DS1750-3NE-26APR2023.jpg	NE	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_L-DS1750-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_L-DS1750-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 M

NGS Name: 5504 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1751](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	8	105 N	4 W	435507.53	923141.48	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2023	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5504 M 2023

5.6 MILES SOUTH OF ROCHESTER, 2.85 MILES WEST AND SOUTH ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 30 MILEPOINT 220.30, 49.8 FEET EAST OF TRUNK HIGHWAY 30, 65.4 FEET NORTH OF A FIELD ENTRANCE EXTENDED, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1266.277	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1266.267			1167.780	.018	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1266.247	.131		1167.993	.066	1996	GPS - STATIC	2024 HTH63
1266.267			1167.780	.018	2011	GPS - STATIC	2024 HTH63

Geoid Separations(ft): GEOID18 = -98.477 03 = -98.208

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 07.52692	92 31 41.47620	602369.963	131180.184	.010		ADJUSTMENT	2024	GPS3721
43 55 07.52692	92 31 41.47620	602369.963	131180.184	.010	C	GPS - STATIC	2024	HTH63

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 07.52677	92 31 41.47642	602369.947	131180.169	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3012460.782	666499.648	1764690.421	15954553.582	.010		ADJUSTMENT	2024	GPS3721
3012460.782	666499.648	1764690.421	15954553.582	.010	C	GPS - STATIC	2024	HTH63

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3012460.767	666499.632	1764690.405	15954553.567	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_M-DS1751-3E-26APR2023.jpg	E	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_M-DS1751-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_M-DS1751-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 N

NGS Name: 5504 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1752](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	8	105 N	14 W	435422.90	923141.85	2	C	2023	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 30 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023) Stamping: 5504 N 2023

6.4 MILES SOUTH OF ROCHESTER, 3.7 MILES WEST AND SOUTH ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 30 MILEPOINT 219.55, 46.4 FEET EAST OF TRUNK HIGHWAY 30, 39.7 FEET NORTH OF 80TH STREET SOUTHWEST, 2.7 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1268.469	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1268.446			1170.008	.018	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1268.436	.131		1170.221	.066	1996	GPS - STATIC	2024 HTH63
1268.446			1170.008	.018	2011	GPS - STATIC	2024 HTH63
1268.459	.262		1170.030	.197	2011	GPS - RTRN	2023 RTRN2023

Geoid Separations(ft): GEOID18 = -98.428 03 = -98.166

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 54 22.90395	92 31 41.84518	602364.235	126661.356	.010		ADJUSTMENT
43 54 22.90395	92 31 41.84518	602364.235	126661.356	.010	C	GPS - STATIC
43 54 22.90390	92 31 41.84507	602364.243	126661.351	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 54 22.90379	92 31 41.84540	602364.219	126661.340	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3012515.126	661981.498	1764689.215	15950036.718	.010		ADJUSTMENT
3012515.126	661981.498	1764689.215	15950036.718	.010	C	GPS - STATIC
3012515.134	661981.493	1764689.223	15950036.713	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3012515.110	661981.481	1764689.199	15950036.702	.033	C	GPS - STATIC

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_N-DS1752-3E-26APR2023.jpg	E	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_N-DS1752-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_N-DS1752-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5504 P

NGS Name: 5504 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1753](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	17	105 N	14 W	435331.32	923141.20	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023) Stamping: 5504 P 2023

7.5 MILES SOUTH OF ROCHESTER, 4.7 MILES WEST AND SOUTH ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 30 MILEPOINT 219.25, 121.6 FEET EAST OF TRUNK HIGHWAY 30, 70.8 FEET NORTH OF 90TH STREET SOUTHWEST, 6.1 FEET EAST-SOUTHEAST OF A RIGHT-OF-WAY POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference			
1279.522	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference			
1279.495			1181.116	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721			
1279.486	.131		1181.330	.066	1996	GPS - STATIC	2024	HTH63			
1279.495			1181.116	.019	2011	GPS - STATIC	2024	HTH63			
1279.545	.262		1181.175	.197	2011	GPS - RTRN	2023	RTRN2023			

Geoid Separations(ft): GEOID18 = -98.369 03 = -98.110

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 31.31583	92 31 41.20349	602435.829	121437.567	.010		ADJUSTMENT	2024	GPS3721
43 53 31.31583	92 31 41.20349	602435.829	121437.567	.010	C	GPS - STATIC	2024	HTH63
43 53 31.31567	92 31 41.20356	602435.824	121437.551	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 31.31567	92 31 41.20370	602435.813	121437.551	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3012656.149	656759.522	1764765.995	15944815.280	.010		ADJUSTMENT	2024	GPS3721
3012656.149	656759.522	1764765.995	15944815.280	.010	C	GPS - STATIC	2024	HTH63
3012656.144	656759.506	1764765.990	15944815.264	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3012656.134	656759.506	1764765.980	15944815.264	.033	C	GPS - STATIC	2024	HTH63

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_P-DS1753-3N-26APR2023.jpg	N	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_P-DS1753-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5504_P-DS1753-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 A

NGS Name: 5505 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	105 N	14 W	435119.00	922834.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5505 A 1957

IN STEWARTVILLE, 0.6 MILE EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, 70.0 FEET SOUTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 30+36.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1230.631	.033	3				VERTICAL CONTROL SURVEY	1957 CS5505

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.081 09 = -98.008 03 = -97.831

* No Horizontal Positions in the Database *



Mn/DOT Name: 5505 B

NGS Name: 5505 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7532](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	36	105 N	14 W	435120.69	922629.40	2	3	1956	2013	GOOD	Horz=YES Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5505 B 1228.79 1956

2.3 MILES EAST OF STEWARTVILLE, 2.35 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 226.25, 70.0 FEET NORTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 124+00, 800.0 FEET WEST OF A COUNTY ROAD 20 CROSSING, 2.7 FEET SOUTHWEST OF A WITNESS POST WITH A RIGHT-OF-WAY SIGN.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>							<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1228.866	.016	2/1	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	VERTICAL ADJUSTMENT	2017	00000900
1228.866	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

<u>NGVD29</u>							<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1228.790	.033	3	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	VERTICAL CONTROL SURVEY	1957	CS5505

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>							<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1228.790	.262		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.946 12B = -97.966 09 = -97.900 03 = -97.736

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	2013	RTRN2013
43 51 20.69368	92 26 29.40200	625345.473	108329.962	.131	3	GPS - RTRN		

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	2013	RTRN2013
3035736.406	643958.684	1787678.743	15931736.153	.131	3	GPS - RTRN		

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_B-DP7532-3N-18MAY2010.jpg	N	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_B-DP7532-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_B-DP7532-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 C

NGS Name: 5505 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7534](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	105 N	13 W	435120.20	922409.24	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1956	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5505 C 1956 1285.28

4.3 MILES EAST OF STEWARTVILLE, 4.3 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 228.2, 70.0 FEET NORTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 226+73, 210.0 FEET EAST OF 37TH AVENUE SOUTHEAST, 12.0 FEET WEST OF A POWER POLE NUMBER CB9/22, 0.4 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1285.371	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1285.375	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1285.280	.033	3					VERTICAL CONTROL SURVEY	1957	CS5505

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1285.316	.262			1187.448	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.844 12B = -97.867 09 = -97.792 03 = -97.638

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position				X	Y	Acc	Order	Determination Method	Year
Latitude	Longitude								Reference
43 51 20.20010	92 24 09.23961			635616.171	108341.583	.131	3	GPS - RTRN	2013
									RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year
X	Y								Reference
3046005.320	644106.952			1797945.023	15931757.944	.131	3	GPS - RTRN	2013
									RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_C-DP7534-3N-26MAY2010.jpg	N	May 26, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_C-DP7534-2-26MAY2010.jpg		May 26, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_C-DP7534-1-26MAY2010.jpg		May 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 D

NGS Name: 5505 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7536](#)

[Get Map](#)

NGS Quad / Sta Num : 43092142/

USGS Quad: WASHINGTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	105 N	13 W	435145.50	922157.99	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1956	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5505 D 1956 1287.18

6.1 MILES EAST OF STEWARTVILLE, 6.2 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 230.2, 70.0 FEET SOUTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 330+22, 1500.0 FEET WEST OF THE JUNCTION OF OLD TRUNK HIGHWAY 30 (COUNTY ROAD 140), 20.0 FEET EAST OF A POWER LINE CROSSING, 11.0 FEET EAST OF A POWER POLE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1287.258	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1287.261	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH
NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1287.179	.033	3				VERTICAL CONTROL SURVEY	1957 CS5505

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1287.186	.262		1189.351	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -97.808 12B = -97.834 09 = -97.749 03 = -97.602

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
43 51 45.49593	92 21 57.98761	645216.543	110965.174	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method
X Y		X Y				
3055569.247	646857.896	1807538.713	15934389.924	.131	3	GPS - RTRN

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_D-DP7536-3S-26MAY2010.jpg	S	May 26, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_D-DP7536-2-26MAY2010.jpg		May 26, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_D-DP7536-1-26MAY2010.jpg		May 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 E

NGS Name: 5505 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	25	105 N	13 W	435146.00	921943.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2007	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2010) Stamping: 5505 E 1957

7.9 MILES EAST OF STEWARTVILLE, 8.1 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, 7.5 MILES WEST OF THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 AT CHATFIELD, 125.0 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF AN ABANDONED SCHOOL, 75.0 FEET NORTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 479+19, AT THE NORTHWEST CORNER OF THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 19.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1334.650	.033	3				VERTICAL CONTROL SURVEY	1957	CS5505

Geoid Separations(ft): GEOID18 = -97.841 12B = -97.861 09 = -97.779 03 = -97.634

* No Horizontal Positions in the Database *



Mn/DOT Name: 5505 F

NGS Name: 5505 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	32	105 N	13 W	435144.00	921728.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2010) Stamping: 5505 F 1957

5.2 MILES NORTHWEST OF CHATFIELD, 5.6 MILES WEST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 1425.0 FEET WEST OF A TOWNSHIP ROAD SOUTH, 75.0 FEET SOUTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 582+77.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1267.429	.033	3				VERTICAL CONTROL SURVEY	1957 CS5505

Geoid Separations(ft): GEOID18 = -97.943 12B = -97.949 09 = -97.871 03 = -97.739

* No Horizontal Positions in the Database *



Mn/DOT Name: 5505 G

NGS Name: 5505 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	28	105 N	12 W	435224.70	921539.83		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1956	2013	GOOD	Horz=NO Vert=NO	YES	9009	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE WING WALL	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5505 G 1956 1006.87

AT CUMMINGSVILLE, IN THE SOUTHEAST CORNER OF THE EAST WING WALL OF TRUNK HIGHWAY 30 BRIDGE NUMBER 9009 OVER THE ROOT RIVER, 22.0 FEET SOUTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 672+00, 300.0 FEET WEST OF COUNTY ROAD 7, 2.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1006.871	.033	3				VERTICAL CONTROL SURVEY	1957	CS5505	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1006.507	.262		908.456	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.054 12B = -98.051 09 = -97.943 03 = -97.838

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 52 24.69596	92 15 39.83349	672890.751	115137.233	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3083183.455	651397.809	1835197.238	15938587.617	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_G-3E-26MAY2010.jpg	E	May 26, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_G-2-26MAY2010.jpg		May 26, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_G-1-26MAY2010.jpg		May 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 H

NGS Name: 5505 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	35	105 N	12 W	435131.00	921351.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2010) Stamping: 5505 H 1957

2.3 MILES NORTHWEST OF CHATFIELD, 2.0 MILES WEST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 2650.0 FEET WEST OF A TOWNSHIP ROAD SOUTH, 70.0 FEET SOUTH OF TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 30 STATION 771+18.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.189	.033	3				VERTICAL CONTROL SURVEY	1957 CS5505

Geoid Separations(ft): GEOID18 = -98.156 12B = -98.153 09 = -98.058 03 = -97.943

* No Horizontal Positions in the Database *



Mn/DOT Name: 5505 J

NGS Name: 5505 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1540](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	31	105 N	11 W	435104.15	921140.68	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1956	2013	GOOD	Horz=NO Vert=NO	YES	9008	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2011)

Stamping: 5505 J 1956

IN CHATFIELD, 0.1 MILE WEST ALONG TRUNK HIGHWAY 30 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 30 MILEPOINT 239.7, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 30 BRIDGE NUMBER 9008 OVER MILL CREEK, 18.7 FEET SOUTH OF TRUNK HIGHWAY 30.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
979.801	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
979.801	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
979.801	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
979.801	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
979.798	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
979.765	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
979.654	.262		881.379	.197	2011	GPS - RTRN	2013	RTRN2013
979.663	.262		881.481	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.271 12B = -98.274 09 = -98.182 03 = -98.048

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 04.15202	92 11 40.68136	690480.493	107127.636	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 04.15202	92 11 40.68353	690480.334	107127.634	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3100877.120	643623.888	1852787.700	15930598.624	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3100876.961	643623.884	1852787.540	15930598.622	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_J-OO1540-3W-09JUN2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_J-OO1540-2-09JUN2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_J-OO1540-1-09JUN2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Jun 9, 2010
	Jun 9, 2010
	Jun 9, 2010



Mn/DOT Name: 5505 J 1

NGS Name: 5505 J 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001539](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	31	105 N	11 W	435055.00	921142.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2007	DESTROYED	Horz=NO Vert=NO	NO	NONE		MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5505 J 1 1979

IN CHATFIELD, 0.4 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 (MAIN STREET) AND TRUNK HIGHWAY 30 EAST/TRUNK HIGHWAY 74, THEN 0.15 MILE WEST ON DIVISION STREET, IN THE SOUTHEAST CORNER OF THE DIVISION STREET BRIDGE OVER MILL CREEK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
974.365	.016	2/1				VERTICAL ADJUSTMENT	2008	00000535
974.365	.016	2/1				VERTICAL CONTROL SURVEY	1996	VCHAT
974.365	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
974.332	.016	2/1				VERTICAL CONTROL SURVEY	1991	VCHAT
974.332	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.277 12B = -98.281 09 = -98.192 03 = -98.054

* No Horizontal Positions in the Database *



Mn/DOT Name: 5505 K

NGS Name: 5505 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5530](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	36	105 N	12 W	435111.34	921230.08	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: 5505 K 2011

1.2 MILES WEST-NORTHWEST OF CHATFIELD, 0.8 MILE WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 239.0, 60.0 FEET SOUTH OF TRUNK HIGHWAY 30, 21.7 FEET WEST OF A FIELD ENTRANCE, 20.6 FEET SOUTHEAST OF MILEPOST 239, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1027.209	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
1027.209	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1027.209	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1027.209	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1027.209	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1027.249	.262		929.014	.197	2011	GPS - RTRN	2023	RTRN2023
1027.196			928.975	.014	2011	HORIZONTAL ADJUSTMENT	2015	GPS3073
1027.209	.131		929.234	.066	1996	GPS - STATIC	2015	HFILL
1027.196			928.958	.014	2011	GPS - STATIC	2015	HFILL
			928.975	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1027.042	.262		928.807	.197	2011	GPS - RTRN	2013	RTRN2013
1027.209			928.971	.011	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1027.196			928.971	.011	2011	GPS - STATIC	2013	HPRED
1027.196	.131		929.234	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.238 09 = -98.140 03 = -98.015

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 11.34403	92 12 30.08292	686854.136	107824.508	.131	3	GPS - RTRN	2023	RTRN2023
43 51 11.34416	92 12 30.08307	686854.125	107824.521	.013		ADJUSTMENT	2015	GPS3073
43 51 11.34384	92 12 30.08296	686854.133	107824.489	.013	C	GPS - STATIC	2015	HFILL
43 51 11.34416	92 12 30.08307	686854.125	107824.521	.020		ADJUSTMENT	2014	GPS2902-B
43 51 11.34327	92 12 30.08299	686854.131	107824.431	.131	3	GPS - RTRN	2013	RTRN2013
43 51 11.34412	92 12 30.08305	686854.126	107824.517	.013		ADJUSTMENT	2013	GPS2902
43 51 11.34412	92 12 30.08305	686854.126	107824.517	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 11.34393	92 12 30.08335	686854.104	107824.498	.033	C	GPS - STATIC	2015	HFILL
43 51 11.34393	92 12 30.08335	686854.104	107824.498	.033	C	GPS - STATIC	2013	HPRED



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3097242.048	644272.315	1849162.126	15931291.649	.131	3	GPS - RTRN	2023	RTRN2023
3097242.037	644272.328	1849162.115	15931291.662	.013		ADJUSTMENT	2015	GPS3073
3097242.045	644272.296	1849162.123	15931291.629	.013	C	GPS - STATIC	2015	HFILL
3097242.037	644272.328	1849162.115	15931291.662	.020		ADJUSTMENT	2014	GPS2902-B
3097242.045	644272.238	1849162.122	15931291.572	.131	3	GPS - RTRN	2013	RTRN2013
3097242.038	644272.324	1849162.116	15931291.658	.013		ADJUSTMENT	2013	GPS2902
3097242.038	644272.324	1849162.116	15931291.658	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3097242.017	644272.305	1849162.095	15931291.638	.033	C	GPS - STATIC	2015	HFILL
3097242.017	644272.305	1849162.095	15931291.638	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_K-DO5530-3S-12APR2023.jpg	S	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_K-DO5530-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_K-DO5530-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 L

NGS Name: 5505 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7531](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	105 N	14 W	435119.44	922738.79	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5505 L 2013

1.5 MILES EAST OF STEWARTVILLE, 1.35 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 225.25, 61.4 FEET SOUTH OF TRUNK HIGHWAY 30, 14.4 FEET EAST OF A FIELD ENTRANCE, 3.6 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1193.639	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1193.639	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1193.502	.262		1095.493	.197	2011	GPS - OPUS	2021	GPSBM	
1193.482	.262		1095.474	.197	2011	GPS - OPUS	2021	GPSBM	
1193.643	.262		1095.634	.197	2011	GPS - RTRN	2021	RTRN2021	
1193.564	.262		1095.536	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.008 12B = -98.031 09 = -97.959 03 = -97.789

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 51 19.44410	92 27 38.78777	620261.926	108174.726	.131	3	GPS - OPUS	2021	GPSBM
43 51 19.44446	92 27 38.78791	620261.915	108174.762	.131	3	GPS - OPUS	2021	GPSBM
43 51 19.44493	92 27 38.78686	620261.992	108174.810	.131	3	GPS - RTRN	2021	RTRN2021
43 51 19.44394	92 27 38.78715	620261.971	108174.710	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3030655.730	643735.852	1782597.545	15931575.941	.131	3	GPS - OPUS	2021	GPSBM
3030655.719	643735.888	1782597.535	15931575.978	.131	3	GPS - OPUS	2021	GPSBM
3030655.795	643735.937	1782597.611	15931576.026	.131	3	GPS - RTRN	2021	RTRN2021
3030655.776	643735.837	1782597.591	15931575.925	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_L-DP7531-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_L-DP7531-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_L-DP7531-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 M

NGS Name: 5505 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7535](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	33	105 N	13 W	435119.21	922258.21	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5505 M 2013

5.0 MILES EAST OF STEWARTVILLE, 4.95 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 229.2, 156.8 FEET SOUTHEAST OF TRUNK HIGHWAY 30, 27.4 FEET SOUTH OF 115TH STREET SOUTHEAST, 20.3 FEET EAST OF A FIELD ENTRANCE, 4.1 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1302.071	.016	2/1				VERTICAL ADJUSTMENT			2017	00000900		
1302.074	.016	2/1				VERTICAL CONTROL SURVEY			2014	VSTCH		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1302.074	.262		1204.266	.197	2011	GPS - OPUS			2021	GPSBM		
1302.100	.262		1204.292	.197	2011	GPS - OPUS			2021	GPSBM		
1302.100	.262		1204.289	.197	2011	GPS - RTRN			2021	RTRN2021		
1302.100	.262		1204.263	.197	2011	GPS - RTRN			2013	RTRN2013		

Geoid Separations(ft): GEOID18 = -97.808 12B = -97.838 09 = -97.756 03 = -97.605

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		X		Y		Acc	Order	Determination Method	Project Info	
Latitude	Longitude												Year	Reference
43 51 19.20992	92 22 58.20895	640821.585	108274.384	.131	3	GPS - OPUS			2021	GPSBM				
43 51 19.20949	92 22 58.20913	640821.572	108274.341	.131	3	GPS - OPUS			2021	GPSBM				
43 51 19.20971	92 22 58.20821	640821.640	108274.363	.131	3	GPS - RTRN			2021	RTRN2021				
43 51 19.20883	92 22 58.20924	640821.565	108274.274	.131	3	GPS - RTRN			2013	RTRN2013				

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		X		Y		Acc	Order	Determination Method	Project Info	
													Year	Reference
3051210.804	644109.038	1803148.284	15931695.927	.131	3	GPS - OPUS			2021	GPSBM				
3051210.792	644108.994	1803148.272	15931695.883	.131	3	GPS - OPUS			2021	GPSBM				
3051210.859	644109.018	1803148.339	15931695.906	.131	3	GPS - RTRN			2021	RTRN2021				
3051210.785	644108.927	1803148.264	15931695.817	.131	3	GPS - RTRN			2013	RTRN2013				

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_M-DP7535-3S-16APR2013.jpg	S	Apr 16, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_M-DP7535-2-16APR2013.jpg		Apr 16, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_M-DP7535-1-16APR2013.jpg		Apr 16, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 N

NGS Name: 5505 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7538](#)

[Get Map](#)

NGS Quad / Sta Num : 43092142/

USGS Quad: WASHINGTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	25	105 N	13 W	435145.77	921916.09	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5505 N 2013

8.0 MILES EAST OF STEWARTVILLE, 8.3 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 232.5, 61.1 FEET NORTH OF TRUNK HIGHWAY 30, 32.0 FEET WEST OF A FIELD ENTRANCE, 16.7 FEET WEST-SOUTHWEST OF A CABLE PEDESTAL, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1331.536	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1331.543	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1331.523	.262		1233.666	.197	2011	GPS - OPUS	2021	GPSBM
1331.592	.262		1233.734	.197	2011	GPS - OPUS	2021	GPSBM
1331.556	.262		1233.698	.197	2011	GPS - RTRN	2021	RTRN2021
1331.513	.262		1233.639	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.857 12B = -97.874 09 = -97.792 03 = -97.651

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 45.76889	92 19 16.08960	657077.962	111075.238	.131	3	GPS - OPUS	2021	GPSBM
43 51 45.76928	92 19 16.08967	657077.957	111075.278	.131	3	GPS - OPUS	2021	GPSBM
43 51 45.76892	92 19 16.08943	657077.975	111075.241	.131	3	GPS - RTRN	2021	RTRN2021
43 51 45.76839	92 19 16.08895	657078.010	111075.188	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3067427.307	647125.857	1819395.030	15934511.677	.131	3	GPS - OPUS	2021	GPSBM
3067427.301	647125.897	1819395.024	15934511.716	.131	3	GPS - OPUS	2021	GPSBM
3067427.320	647125.861	1819395.042	15934511.680	.131	3	GPS - RTRN	2021	RTRN2021
3067427.356	647125.808	1819395.077	15934511.627	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_N-DP7538-3N-16APR2013.jpg	N	Apr 16, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_N-DP7538-2-16APR2013.jpg		Apr 16, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_N-DP7538-1-16APR2013.jpg		Apr 16, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 P

NGS Name: 5505 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7539](#)

[Get Map](#)

NGS Quad / Sta Num : 43092142/

USGS Quad: WASHINGTON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	31	105 N	12 W	435144.37	921806.70	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5505 P 2013

7.0 MILES WEST OF CHATFIELD, 6.8 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 233.4, 64.7 FEET SOUTH OF TRUNK HIGHWAY 30, 28.3 FEET EAST OF ENTRANCE NUMBER 8814, 9.5 FEET NORTHEAST OF CABLE PEDESTAL AA4 2, 8.1 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1309.820	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1309.827	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1309.705	.262		1211.795	.197	2011	GPS - OPUS	2021 GPSBM
1309.755	.262		1211.845	.197	2011	GPS - OPUS	2021 GPSBM
1309.860	.262		1211.950	.197	2011	GPS - RTRN	2021 RTRN2021
1309.758	.262		1211.838	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -97.910 12B = -97.920 09 = -97.841 03 = -97.706

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 44.36744	92 18 06.70457	662162.563	110970.630	.131	3	GPS - OPUS	2021	GPSBM
43 51 44.36748	92 18 06.70471	662162.553	110970.634	.131	3	GPS - OPUS	2021	GPSBM
43 51 44.36662	92 18 06.70364	662162.632	110970.547	.131	3	GPS - RTRN	2021	RTRN2021
43 51 44.36676	92 18 06.70282	662162.691	110970.562	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3072512.489	647088.976	1824477.610	15934412.137	.131	3	GPS - OPUS	2021	GPSBM
3072512.478	647088.980	1824477.600	15934412.141	.131	3	GPS - OPUS	2021	GPSBM
3072512.559	647088.894	1824477.679	15934412.055	.131	3	GPS - RTRN	2021	RTRN2021
3072512.618	647088.910	1824477.739	15934412.069	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_P-DP7539-3S-16APR2013.jpg	S	Apr 16, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_P-DP7539-2-16APR2013.jpg		Apr 16, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_P-DP7539-1-16APR2013.jpg		Apr 16, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 Q

NGS Name: 5505 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7540](#) [Get Map](#)
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	29	105 N	12 W	435149.42	921658.22	2	3	2013	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5505 Q 2013

5.0 MILES WEST OF CHATFIELD, 5.35 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 234.45, 72.7 FEET SOUTHEAST OF TRUNK HIGHWAY 30, 187.2 FEET NORTHEAST OF A FIELD ENTRANCE, 3.9 FEET NORTHWEST OF A RIGHT-OF-WAY POST, 3.9 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1274.059	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1274.066	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1274.226	.262		1176.251	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -97.972 12B = -97.976 09 = -97.890 03 = -97.769

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 51 49.41677	92 16 58.22316	667175.995	111519.916	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
<u>X</u> <u>Y</u>						
3077517.804	647704.947	1829488.417	15934966.147	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_Q-DP7540-3SE-24APR2013.jpg	SE	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_Q-DP7540-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_Q-DP7540-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 R

NGS Name: 5505 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7542](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	105 N	12 W	435209.24	921438.50	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 38 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5505 R 2013

3.0 MILES WEST OF CHATFIELD, 3.05 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 236.7, 52.5 FEET SOUTHWEST OF TRUNK HIGHWAY 30, 17.3 FEET NORTHWEST OF A FIELD ENTRANCE, 24.8 FEET NORTHEAST OF A FENCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1014.483	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1014.486	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1014.447	.262			916.340	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.107 09 = -97.998 03 = -97.890

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 52 09.24256	92 14 38.50292	677396.103	113608.583	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3087708.447	649929.430	1839702.250	15937064.045	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_R-DP7542-3SE-24APR2013.jpg	SE	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_R-DP7542-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_R-DP7542-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5505 S

NGS Name: 5505 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7543](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
NW	35	105 N	12 W	435138.62	921359.24	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5505 S 2013

2.0 MILES WEST OF CHATFIELD, 2.2 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 237.55, 57.5 FEET NORTHEAST OF TRUNK HIGHWAY 30, 15.6 FEET SOUTHEAST OF A FIELD ENTRANCE, 6.0 FEET SOUTHWEST OF A POWER POLE, 5.2 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1019.745	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1019.749	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1019.614	.262			921.475	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.143 12B = -98.143 09 = -98.048 03 = -97.933

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
43 51 38.62018	92 13 59.23763			680298.270	110531.383	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3090651.151	646891.394			1842606.265	15933990.967	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_S-DP7543-3SE-24APR2013.jpg	SE	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_S-DP7543-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5505_S-DP7543-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 A

NGS Name: 5506 A

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DN1711 NGS Quad / Sta Num : 43092114/ USGS Quad: EYOTA	Get Map
NW	10	106 N	12 W	435957.19	921458.14	2	C		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2015	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5506 A 1968

1.0 MILE WEST OF EYOTA, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 14 MILEPOINT 224.60, 83.4 FEET WEST OF TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 14 STATION 38+43, 61.5 FEET NORTH OF TRUNK HIGHWAY 14, 12.0 FEET NORTH-NORTHWEST OF A POWER POLE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1285.778	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1285.788	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1285.788	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1285.788	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1285.775	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1285.772	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1285.572	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1285.775			1187.744	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1285.788	.131		1187.983	.066	1996	GPS - STATIC	2013	HCHES
1285.775			1187.740	.007	2011	GPS - STATIC	2013	HCHES
1285.732	.262		1187.836	.197	2007	GPS - RTRN	2012	RTRN2012
			1187.744	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1285.759	.131		1187.839	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1285.759	.131		1187.839	.066	2007	GPS - STATIC	2011	HFRON
1285.759	.131		1187.967	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.897 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.19346	92 14 58.13517	675574.528	160982.623	.007		ADJUSTMENT	2013	GPS2950
43 59 57.19341	92 14 58.13511	675574.533	160982.618	.007	C	GPS - STATIC	2013	HCHES
43 59 57.19346	92 14 58.13517	675574.528	160982.623	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.19302	92 14 58.13587	675574.478	160982.578	.131	3	GPS - RTRN	2012	RTRN2012
43 59 57.19353	92 14 58.13626	675574.449	160982.629	.033	C	ADJUSTMENT	2011	GPS2814
43 59 57.19353	92 14 58.13626	675574.449	160982.629	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.19333	92 14 58.13538	675574.513	160982.610	.033	C	GPS - STATIC	2013	HCHES
43 59 57.19333	92 14 58.13538	675574.513	160982.610	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085255.993	697271.123	1837834.136	15984416.929	.007		ADJUSTMENT	2013	GPS2950
3085255.998	697271.118	1837834.140	15984416.924	.007	C	GPS - STATIC	2013	HCHES
3085255.993	697271.123	1837834.136	15984416.929	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085255.943	697271.077	1837834.085	15984416.884	.131	3	GPS - RTRN	2012	RTRN2012
3085255.913	697271.128	1837834.056	15984416.935	.033	C	ADJUSTMENT	2011	GPS2814
3085255.913	697271.128	1837834.056	15984416.935	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085255.978	697271.109	1837834.120	15984416.916	.033	C	GPS - STATIC	2013	HCHES
3085255.978	697271.109	1837834.120	15984416.916	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_A-DN1711-3N-31MAR2010.jpg	N	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_A-DN1711-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_A-DN1711-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 C

NGS Name: 5506 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1712](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	106 N	12 W	440112.90	921455.59	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5506 C 1968

2.5 MILES NORTHWEST OF EYOTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 42 STATION 115+00, 247.0 FEET SOUTH OF COUNTY ROAD 9, 74.8 FEET EAST OF TRUNK HIGHWAY 42, 0.7 FOOT NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1317.848	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1317.848	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1317.845	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1317.711	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1317.753	.262		1219.722	.197	2011	GPS - OPUS	2021	GPSBM
1317.914	.262		1219.879	.197	2011	GPS - RTRN	2021	RTRN2021
			1219.801	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1317.845	.131		1219.899	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1317.845	.131		1219.899	.066	2007	GPS - STATIC	2011	HFRON
1317.845	.131		1220.027	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.025 09 = -97.900 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 12.90140	92 14 55.58986	675698.494	168650.572	.131	3	GPS - OPUS	2021	GPSBM
44 01 12.90080	92 14 55.58812	675698.622	168650.513	.131	3	GPS - RTRN	2021	RTRN2021
44 01 12.90107	92 14 55.58917	675698.545	168650.539	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 12.90117	92 14 55.59021	675698.469	168650.549	.033	C	ADJUSTMENT	2011	GPS2814
44 01 12.90117	92 14 55.59021	675698.469	168650.549	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 12.90091	92 14 55.58939	675698.529	168650.523	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085277.775	704939.330	1837950.302	15992081.878	.131	3	GPS - OPUS	2021	GPSBM
3085277.904	704939.272	1837950.429	15992081.819	.131	3	GPS - RTRN	2021	RTRN2021
3085277.826	704939.298	1837950.353	15992081.845	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085277.750	704939.306	1837950.277	15992081.855	.033	C	ADJUSTMENT	2011	GPS2814
3085277.750	704939.306	1837950.277	15992081.855	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085277.811	704939.281	1837950.337	15992081.829	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_C-DN1712-3E-31MAR2010.jpg	E	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_C-DN1712-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_C-DN1712-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 D

NGS Name: 5506 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1713](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	107 N	12 W	440204.95	921458.56	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5506 D 1968

3.4 MILES NORTHWEST OF EYOTA, 2.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 73.7 FEET WEST OF TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 42 STATION 167+71, 66.0 FEET SOUTH OF SILVER CREEK ROAD NORTHEAST, 21.0 FEET SOUTHWEST OF A POWER POLE NUMBER 407 DB 17, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1273.879	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1273.879	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1273.879	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1273.721	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1273.862	.262		1175.815	.197	2011	GPS - OPUS	2021	GPSBM
1273.931	.262		1175.883	.197	2011	GPS - RTRN	2021	RTRN2021
			1175.831	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1273.882	.131		1175.929	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1273.882	.131		1175.929	.066	2007	GPS - STATIC	2011	HFRON
1273.882	.131		1176.061	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.038 09 = -97.913 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.94977	92 14 58.55813	675438.963	173919.429	.131	3	GPS - OPUS	2021	GPSBM
44 02 04.94935	92 14 58.55770	675438.995	173919.387	.131	3	GPS - RTRN	2021	RTRN2021
44 02 04.94934	92 14 58.55766	675438.998	173919.386	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.94944	92 14 58.55870	675438.922	173919.395	.033	C	ADJUSTMENT	2011	GPS2814
44 02 04.94944	92 14 58.55870	675438.922	173919.395	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 04.94918	92 14 58.55788	675438.982	173919.369	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3084948.095	710203.757	1837685.537	15997348.324	.131	3	GPS - OPUS	2021	GPSBM
3084948.127	710203.715	1837685.569	15997348.282	.131	3	GPS - RTRN	2021	RTRN2021
3084948.130	710203.714	1837685.572	15997348.281	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3084948.054	710203.723	1837685.496	15997348.290	.033	C	ADJUSTMENT	2011	GPS2814
3084948.054	710203.723	1837685.496	15997348.290	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3084948.115	710203.698	1837685.556	15997348.264	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_D-DN1713-3SW-01APR2010.jpg	SW	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_D-DN1713-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_D-DN1713-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 E

NGS Name: 5506 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1714](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	22	107 N	12 W	440340.94	921459.14	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5506 E 1968

5.1 MILES NORTHWEST OF EYOTA, 4.3 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 42 STATION 265+00, 1000.0 FEET SOUTH OF COUNTY ROAD 2 WEST, 74.5 FEET WEST OF TRUNK HIGHWAY 42, 0.7 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1260.975	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1260.975	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1260.972	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1260.890	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1260.946	.262		1162.862	.197	2011	GPS - OPUS	2021	GPSBM
1261.051	.262		1162.964	.197	2011	GPS - RTRN	2021	RTRN2021
			1162.865	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1260.955	.131		1162.993	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1260.955	.131		1162.993	.066	2007	GPS - STATIC	2011	HFRON
1260.988	.131		1163.147	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.084 12B = -98.084 09 = -97.949 03 = -97.861

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.93639	92 14 59.14273	675317.650	183639.084	.131	3	GPS - OPUS	2021	GPSBM
44 03 40.93664	92 14 59.14238	675317.676	183639.109	.131	3	GPS - RTRN	2021	RTRN2021
44 03 40.93643	92 14 59.14226	675317.685	183639.088	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.93650	92 14 59.14304	675317.628	183639.095	.033	C	ADJUSTMENT	2011	GPS2814
44 03 40.93650	92 14 59.14304	675317.628	183639.095	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.93617	92 14 59.14230	675317.682	183639.062	.033	C	GPS - STATIC	2010	HFRON



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3084697.310	719919.974	1837554.390	16007063.890	.131	3	GPS - OPUS	2021	GPSBM
3084697.335	719919.999	1837554.415	16007063.916	.131	3	GPS - RTRN	2021	RTRN2021
3084697.344	719919.978	1837554.424	16007063.895	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3084697.287	719919.984	1837554.367	16007063.901	.033	C	ADJUSTMENT	2011	GPS2814
3084697.287	719919.984	1837554.367	16007063.901	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3084697.341	719919.952	1837554.421	16007063.868	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_E-DN1714-3W-01APR2010.jpg	W	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_E-DN1714-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_E-DN1714-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 F

NGS Name: 5506 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5967](#) [Get Map](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	107 N	12 W	440428.00	921456.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2010	GOOD	Horz=NO Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1968) **Stamping:** 5506 F 1968

6.0 MILES NORTH OF EYOTA, 3.8 MILES SOUTH OF ELGIN, 5.2 MILES NORTH ON TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14, 73.0 FEET EAST OF TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 42 STATION 313+48, AT THE EDGE OF AN EVERGREEN GROVE, 1175.0 FEET NORTH OF A TOWNSHIP ROAD EAST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.940	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1236.940	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1236.940	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.871	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.110 09 = -97.976 03 = -97.880

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_F-DN5967-3E-01APR2010.jpg	E	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_F-DN5967-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_F-DN5967-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 G

NGS Name: 5506 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1715](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	10	107 N	12 W	440518.82	921438.99	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1968	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5506 G 1968

7.0 MILES NORTH OF EYOTA, 6.2 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 70.0 FEET EAST OF TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 42 STATION 367+00, 2300.0 FEET NORTH OF COUNTY ROAD 2 EAST, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1224.791	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1224.791	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1224.791	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1225.119	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1126.615	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1224.801	.131		1126.746	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1224.801	.131		1126.746	.066	2007	GPS - STATIC	2011	HFRON
1224.801	.131		1126.901	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.146 09 = -98.012 03 = -97.913

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 18.82490	92 14 38.99208	676708.241	193563.672	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 18.82495	92 14 38.99280	676708.189	193563.677	.033	C	ADJUSTMENT	2011	GPS2814
44 05 18.82495	92 14 38.99280	676708.189	193563.677	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 18.82462	92 14 38.99210	676708.240	193563.644	.033	C	GPS - STATIC	2010	HFRON



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085955.406	729861.189	1838934.277	16016985.849	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085955.354	729861.193	1838934.224	16016985.853	.033	C	ADJUSTMENT	2011	GPS2814
3085955.354	729861.193	1838934.224	16016985.853	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085955.406	729861.161	1838934.276	16016985.821	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_G-DN1715-3E-01APR2010.jpg	E	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_G-DN1715-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_G-DN1715-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 H

NGS Name: 5506 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	107 N	12 W	440555.00	921439.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2008) **Stamping:** 5506 H 1968

7.7 MILES NORTH OF EYOTA, 6.9 MILES NORTH ON TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 61.0 FEET EAST OF TRUNK HIGHWAY 42, AT TRUNK HIGHWAY 42 STATION 403+77, 48.0 FEET SOUTH OF A 40.0 INCH DIAMETER OAK TREE, 0.6 MILE SOUTH OF THE NORTH OLMSTED COUNTY LINE, 1.5 FEET NORTH OF A WITNESS POST.

Station Notes

4-01-2010 THE DISK WAS TURNED IN TO THE GEODETICS UNIT.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1224.030	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.169 09 = -98.041 03 = -97.936

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_H-3S-01APR2010.jpg	S	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_H-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_H-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 I

NGS Name: 5506 I

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5968](#) [Get Map](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	107 N	12 W	440623.00	921441.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2010	GOOD	Horz=NO Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2008)

Stamping: 5506 I 1968

8.2 MILES NORTH OF EYOTA, 1.7 MILES SOUTH OF ELGIN, 7.5 MILES NORTH ON TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN ELGIN, AT TRUNK HIGHWAY 42 STATION 432+58, 380.0 FEET SOUTH OF THE NORTH OLMSTED COUNTY LINE, 72.0 FEET WEST OF TRUNK HIGHWAY 42, 41.0 FEET NORTHWEST OF A METAL CULVERT, 0.5 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1140.811	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1140.811	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1140.808	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1140.769	.033	3				VERTICAL CONTROL SURVEY	1968	CS5506

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.192 09 = -98.061 03 = -97.956

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_I-DN5968-3W-01APR2010.jpg	W	Apr 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_I-DN5968-2-01APR2010.jpg		Apr 1, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_I-DN5968-1-01APR2010.jpg		Apr 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5506 J

NGS Name: 5506 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1716](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	14	106 N	12 W	435922.72	921419.91	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	DESTROYED	Horz=NO Vert=NO	YES			BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) **Stamping:** 5506 J 2010

IN EYOTA, 0.95 MILE SOUTHEAST ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 73.2 FEET EAST OF TRUNK HIGHWAY 42, 47.4 FEET NORTH OF 2ND STREET NORTHWEST, 29.2 FEET SOUTHEAST OF A POWER POLE WITH GUY WIRES, 30.3 FEET SOUTHEAST OF CABLE BOX LP-1287, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1249.158	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1249.151	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1249.151	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
			1151.139	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1249.144	.131		1151.235	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1249.144	.131		1151.235	.066	2007	GPS - STATIC	2011	HFRON
1249.144	.131		1151.359	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.021 09 = -97.907 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 22.72142	92 14 19.91471	678397.044	157514.663	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 22.72150	92 14 19.91584	678396.961	157514.670	.033	C	ADJUSTMENT	2011	GPS2814
43 59 22.72150	92 14 19.91584	678396.961	157514.670	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 22.72131	92 14 19.91493	678397.028	157514.652	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3088124.208	693841.391	1840658.998	15980953.225	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3088124.126	693841.397	1840658.916	15980953.233	.033	C	ADJUSTMENT	2011	GPS2814
3088124.126	693841.397	1840658.916	15980953.233	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3088124.193	693841.380	1840658.982	15980953.214	.033	C	GPS - STATIC	2010	HFRON



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_J-DN1716-3E-20MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_J-DN1716-2-20MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_J-DN1716-1-20MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	May 20, 2010
	May 20, 2010
	May 20, 2010



Mn/DOT Name: 5506 K

NGS Name: 5506 K

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	23	106 N	12 W	435828.61	921419.95	2	C

NGS ACRN: [DN1717](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: 5506 K 2010

IN EYOTA, 1.95 MILES SOUTH-SOUTHEAST ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 47.9 FEET EAST OF TRUNK HIGHWAY 42, 46.5 FEET SOUTH OF A FIELD ENTRANCE, 11.2 FEET NORTHWEST OF A POWER POLE, 1.7 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1290.588	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1290.578	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1290.578	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1290.529	.262		1192.507	.197	2011	GPS - RTRN	2016	RTRN2016
1290.486	.262		1192.580	.197	2007	GPS - RTRN	2012	RTRN2012
			1192.583	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1290.581	.131		1192.675	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1290.581	.131		1192.675	.066	2007	GPS - STATIC	2011	HFRON
1290.581	.131		1192.799	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.021 09 = -97.910 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 58 28.60965	92 14 19.94930	678439.552	152035.132	.131	3	GPS - RTRN	2016	RTRN2016
43 58 28.60993	92 14 19.95025	678439.482	152035.160	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 58 28.60955	92 14 19.95102	678439.426	152035.120	.131	3	GPS - RTRN	2012	RTRN2012
43 58 28.61001	92 14 19.95145	678439.394	152035.167	.033	C	ADJUSTMENT	2011	GPS2814
43 58 28.61001	92 14 19.95145	678439.394	152035.167	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 58 28.60983	92 14 19.95050	678439.464	152035.149	.033	C	GPS - STATIC	2010	HFRON



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088239.719	688363.400	1840707.001	15975475.964	.131	3	GPS - RTRN	2016	RTRN2016
3088239.649	688363.427	1840706.931	15975475.991	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088239.594	688363.387	1840706.875	15975475.952	.131	3	GPS - RTRN	2012	RTRN2012
3088239.561	688363.433	1840706.844	15975475.998	.033	C	ADJUSTMENT	2011	GPS2814
3088239.561	688363.433	1840706.844	15975475.998	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088239.631	688363.416	1840706.913	15975475.981	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_K-DN1717-3E-09AUG2016.jpg	E	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_K-DN1717-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5506_K-DN1717-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 A

NGS Name: 5507 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0139](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	106 N	14 W	440025.00	922855.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO	55011		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	BENCH MARK DISK	MNDT

Description: (2002)

Stamping: 5507-A 1970

IN ROCHESTER, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 14 BRIDGE NUMBER 55011 OVER TRUNK HIGHWAY 52, 1.0 MILE WEST OF THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1033.505	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1033.426	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1033.426	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.586 09 = -98.507 03 = -98.317

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 AB

NGS Name: 5507 AB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000178](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	27	106 N	13 W	435724.43	922238.62	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5507 AB 1970

4.0 MILES SOUTHEAST OF ROCHESTER, 1.0 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 5.0 MILES SOUTHEAST OF ROCHESTER), AT TRUNK HIGHWAY 52 MILEPOINT 47.55, 480.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 52 STATION 483+73, 400.0 FEET EAST OF COUNTY ROAD 111, 100.0 FEET SOUTH OF THE ENTRANCE RAMP TO SOUTHBOUND TRUNK HIGHWAY 52, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1105.825	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1105.825	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1105.825	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1105.825	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1105.782	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1105.782	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1105.782	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1105.782	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1105.700	.262		1007.514	.197	2011	GPS - RTRN	2016	RTRN2016
1105.818	.262		1007.718	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.185 09 = -98.097 03 = -97.953

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 24.42578	92 22 38.62096	642015.058	145266.534	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 24.42626	92 22 38.62496	642014.766	145266.581	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051911.741	681110.927	1804304.396	15968673.606	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051911.448	681110.970	1804304.104	15968673.652	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AB-OO0178-3S-09AUG2016.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AB-OO0178-2-09AUG2016.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AB-OO0178-1-09AUG2016.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Aug 9, 2016
	Aug 9, 2016
	Aug 9, 2016



Mn/DOT Name: 5507 AC

NGS Name: 5507 AC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000177](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	27	106 N	13 W	435719.63	922207.18	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5507 AC 1970

4.4 MILES SOUTHEAST OF ROCHESTER, 0.6 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 5.0 MILES SOUTHEAST OF ROCHESTER), AT TRUNK HIGHWAY 52 MILEPOINT 47.1, AT A DOUBLE POLE POWER LINE CROSSING, BETWEEN 2 POLES, 105.0 FEET NORTHEAST OF WESTBOUND TRUNK HIGHWAY 52 AT STATION 508+26, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1097.344	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1097.344	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1097.344	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1097.344	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1097.301	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1097.301	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1097.301	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1097.285	.262		999.125	.197	2011	GPS - RTRN	2016	RTRN2016
1097.216	.262		999.148	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.166 12B = -98.159 09 = -98.071 03 = -97.933

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.63106	92 22 07.18023	644318.192	144796.165	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.63110	92 22 07.18018	644318.196	144796.169	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3054220.736	680671.294	1806607.031	15968205.745	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3054220.739	680671.298	1806607.035	15968205.749	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AC-OO0177-3NE-09AUG2016.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AC-OO0177-2-09AUG2016.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AC-OO0177-1-09AUG2016.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NE	Aug 9, 2016
	Aug 9, 2016
	Aug 9, 2016



Mn/DOT Name: 5507 AD

NGS Name: 5507 AD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0176](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	27	106 N	13 W	435707.00	922133.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 2 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5507-AD 1970

4.9 MILES SOUTHEAST OF ROCHESTER, 0.1 MILE NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 IN ROCHESTER, 126.0 FEET WEST OF TRUNK HIGHWAY 52 AT STATION 533+00, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

7-21-2010 FOUND THE REMAINS OF THE STATION WITH THE REBAR BENT OVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1117.711	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1117.668	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1117.668	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.140 12B = -98.130 09 = -98.041 03 = -97.910

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AD-OO0176-2-21JUL2010.jpg		Jul 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AD-OO0176-1-21JUL2010.jpg		Jul 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 AE

NGS Name: 5507 AE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM6899](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	106 N	14 W	435952.00	922904.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2002	2010	DESTROYED	Horz=NO Vert=NO	NO			MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - MEDIUM	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5507 AE 2002

1.2 MILES SOUTHWEST OF ROCHESTER, 0.6 MILE SOUTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 EAST IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 53.70, 42.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 1.4 FEET SOUTHEAST OF AN OVERHEAD SIGN UPRIGHT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1016.045	.016	2/1				VERTICAL ADJUSTMENT	2011 00000690
1016.045	.016	2/1				VERTICAL CONTROL SURVEY	2002 VROC2

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1015.963	.016	2/1				VERTICAL CONTROL SURVEY	2002 VROC2

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.589 09 = -98.514 03 = -98.313

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 AF

NGS Name: 5507 AF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7529](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	10	106 N	14 W	435943.41	922904.34	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2013	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	HORIZONTAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5507 AF 2004

IN ROCHESTER, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55058 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 1.7 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 52 MILEPOINT 53.55.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1021.291	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1021.294	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1021.209	.262		922.626	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.586 09 = -98.510 03 = -98.313

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 59 43.40934	92 29 04.34010	613725.613	159174.490	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3023442.262	694640.075	1776013.027	15982547.166	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AF-DP7529-3N-03APR2013.jpg	N	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AF-DP7529-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AF-DP7529-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 AG

NGS Name: 5507 AG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7528](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	10	106 N	14 W	435940.90	922902.89	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2003	2013	GOOD	Horz=NO Vert=NO	YES	55053	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5507 AG 2003

IN ROCHESTER, IN THE RAIL IN THE SOUTHEAST CORNER OF COUNTY ROAD 125 (MAYOWOOD ROAD SOUTHWEST) BRIDGE NUMBER 55053 OVER TRUNK HIGHWAY 52, 0.5 MILE EAST ALONG 16TH STREET SOUTHWEST FROM THE JUNCTION OF 16TH STREET SOUTHWEST AND TRUNK HIGHWAY 52 TO TRUNK HIGHWAY 52 MILEPOINT 53.5, THEN 0.6 MILE SOUTHWEST ON COUNTY ROAD 125.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1058.462	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1058.469	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1058.403	.262		959.821	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.582 09 = -98.510 03 = -98.310

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 59 40.90420	92 29 02.88691	613833.178	158921.363	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3023553.173	694388.425	1776120.800	15982294.258	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AG-DP7528-3SW-28JUL2010.jpg	SW	Jul 28, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AG-DP7528-2-28JUL2010.jpg		Jul 28, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AG-DP7528-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 AH

NGS Name: 5507 AH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8068](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	20	106 N	13 W	435825.10	922507.26	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5507 AH 2012

3.0 MILES SOUTHEAST OF ROCHESTER, 3.0 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 49.80, 1.0 MILE WEST OF COUNTY ROAD 11, 150.2 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 52, 2.7 FEET SOUTH OF A FENCE LINE, 2.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1162.553	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1162.553	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1162.557	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1162.557			1064.210	.017	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1162.557	.131		1064.466	.066	1996	GPS - STATIC	2014 HOLMS
1162.557			1064.210	.017	2011	GPS - STATIC	2014 HOLMS

Geoid Separations(ft): GEOID18 = -98.346 12B = -98.356 09 = -98.264 03 = -98.100

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 25.09669	92 25 07.25639	631105.171	151341.942	.020		ADJUSTMENT	2014	GPS3018
43 58 25.09669	92 25 07.25639	631105.171	151341.942	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 25.09652	92 25 07.25656	631105.159	151341.924	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3040922.915	687040.092	1793393.029	15974735.480	.020		ADJUSTMENT	2014	GPS3018
3040922.915	687040.092	1793393.029	15974735.480	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3040922.903	687040.074	1793393.017	15974735.463	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AH-DO8068-3N-12APR2012.jpg	N	Apr 12, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AH-DO8068-2-12APR2012.jpg		Apr 12, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AH-DO8068-1-12APR2012.jpg		Apr 12, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 AJ

NGS Name: 5507 AJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7527](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	106 N	14 W	435905.05	922836.81	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5507 AJ 2013

IN ROCHESTER, 0.95 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 52.75, 35.7 FEET NORTHEAST OF THE NORTHBOUND TRUNK HIGHWAY 52 FOG LINE, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1144.007	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1144.007	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1144.033	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1144.007			1045.506	.021	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1144.007	.131		1045.716	.066	1996	GPS - STATIC	2024 HTH63
1144.007			1045.506	.021	2011	GPS - STATIC	2024 HTH63
1143.951	.262		1045.405	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.530 12B = -98.546 09 = -98.477 03 = -98.277

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 59 05.04819	92 28 36.81455	615758.549	155300.488	.010		ADJUSTMENT	2024	GPS3721
43 59 05.04819	92 28 36.81455	615758.549	155300.488	.010	C	GPS - STATIC	2024	HTH63
43 59 05.04722	92 28 36.81479	615758.532	155300.389	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 59 05.04803	92 28 36.81477	615758.533	155300.471	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025526.352	690793.799	1778048.992	15978676.883	.010		ADJUSTMENT	2024	GPS3721
3025526.352	690793.799	1778048.992	15978676.883	.010	C	GPS - STATIC	2024	HTH63
3025526.337	690793.700	1778048.975	15978676.784	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025526.337	690793.782	1778048.976	15978676.866	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AJ-DP7527-3NE-15MAY2023.jpg	NE	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AJ-DP7527-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AJ-DP7527-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 AK

NGS Name: 5507 AK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2835](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	10	106 N	14 W	435948.52	922904.62	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 34 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5507 AK 2013

IN ROCHESTER, 1.85 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 53.65, 25.6 FEET EAST OF THE NORTHBOUND TRUNK HIGHWAY 52 FOG LINE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1016.579	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1016.602	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1016.606	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1016.602			918.020	.011	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1016.602	.131		918.289	.066	1996	GPS - STATIC	2024	HTH63
1016.602			918.020	.011	2011	GPS - STATIC	2024	HTH63
1016.569			918.020	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1016.586	.131		918.289	.066	1996	GPS - STATIC	2014	HOLMS
1016.569			918.020	.013	2011	GPS - STATIC	2014	HOLMS
1016.517	.262		917.931	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.586 09 = -98.514 03 = -98.313

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 48.52199	92 29 04.61857	613702.544	159692.116	.007		ADJUSTMENT	2024	GPS3721
43 59 48.52199	92 29 04.61857	613702.544	159692.116	.007	C	GPS - STATIC	2024	HTH63
43 59 48.52199	92 29 04.61857	613702.544	159692.116	.020		ADJUSTMENT	2014	GPS3018
43 59 48.52199	92 29 04.61857	613702.544	159692.116	.020	C	GPS - STATIC	2014	HOLMS
43 59 48.52179	92 29 04.61751	613702.621	159692.096	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 48.52175	92 29 04.61875	613702.530	159692.092	.033	C	GPS - STATIC	2024	HTH63
43 59 48.52175	92 29 04.61875	613702.530	159692.092	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3023412.313	695157.302	1775989.445	15983064.546	.007		ADJUSTMENT	2024	GPS3721
3023412.313	695157.302	1775989.445	15983064.546	.007	C	GPS - STATIC	2024	HTH63
3023412.313	695157.302	1775989.445	15983064.546	.020		ADJUSTMENT	2014	GPS3018
3023412.313	695157.302	1775989.445	15983064.546	.020	C	GPS - STATIC	2014	HOLMS
3023412.391	695157.283	1775989.522	15983064.527	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3023412.300	695157.277	1775989.432	15983064.522	.033	C	GPS - STATIC	2024	HTH63
3023412.300	695157.277	1775989.432	15983064.522	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AK-DP2835-3E-15MAY2023.jpg	E	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AK-DP2835-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_AK-DP2835-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 B

NGS Name: 5507 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0138](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	10	106 N	14 W	440004.70	922859.87	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2013	GOOD	Horz=NO Vert=YES	YES	55018	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2002)

Stamping: 5507 B 1970

IN ROCHESTER, IN THE SOUTHEAST CORNER OF 16TH STREET SOUTHWEST BRIDGE NUMBER 55018 OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 53.91.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1037.593	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1037.593	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1037.593	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1037.593	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1037.557	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1037.593	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC2
1037.593	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1037.511	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC2
1037.511	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1037.511	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1037.511	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1037.498	.262		938.912	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.589 09 = -98.510 03 = -98.317

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 04.69984	92 28 59.87343	614040.814	161332.188	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3023728.713	696801.578	1776325.914	15984704.253	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_B-PP0138-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_B-PP0138-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_B-PP0138-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BA

NGS Name: 5507 BA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001560](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	35	106 N	13 W	435651.81	922111.95	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2016)

Stamping: 5507 BA 1979

7.7 MILES SOUTHEAST OF ROCHESTER, 0.35 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 5.0 MILES SOUTHEAST OF ROCHESTER), AT TRUNK HIGHWAY 52 MILEPOINT 46.2, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 CULVERT AT BADGER RUN CREEK, 46.8 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 1.2 FEET NORTHWEST OF THE SOUTHEAST END OF A HEADWALL, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1114.033	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1114.033	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1114.033	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1114.020	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1113.977	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1114.073	.262		1015.963	.197	2011	GPS - RTRN	2016	RTRN2016
1114.053	.262		1016.031	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.110 09 = -98.021 03 = -97.890

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 51.80975	92 21 11.94988	648377.656	142006.109	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 51.81040	92 21 11.95156	648377.532	142006.174	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3058316.636	677935.757	1810667.585	15965420.930	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3058316.512	677935.820	1810667.462	15965420.995	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BA-OO1560-3SW-30JUN2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BA-OO1560-2-30JUN2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BA-OO1560-1-30JUN2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SW	Jun 30, 2010
	Jun 30, 2010
	Jun 30, 2010



Mn/DOT Name: 5507 BB

NGS Name: 5507 BB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1559](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	35	106 N	13 W	435630.59	922100.61	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2011)

Stamping: 5507 BB 1979

IN MARION, 0.1 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 54TH STREET SOUTHEAST IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 45.75, IN THE SOUTHEAST CORNER OF A BOX CULVERT AT BADGER RUN CREEK, 21.0 FEET EAST OF TRUNK HIGHWAY 52, 2.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1131.832	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1131.832	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1131.832	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1131.825	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1131.783	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1131.730	.262		1033.643	.197	2011	GPS - RTRN	2016	RTRN2016
1131.822	.262		1033.820	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.097 12B = -98.087 09 = -98.002 03 = -97.877

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.59196	92 21 00.60972	649222.079	139863.210	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.59166	92 21 00.61068	649222.009	139863.180	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3059189.441	675804.468	1811513.800	15963279.776	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3059189.371	675804.436	1811513.730	15963279.745	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BB-OO1559-3NE-30JUN2010.jpg	NE	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BB-OO1559-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BB-OO1559-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BC

NGS Name: 5507 BC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001558](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	106 N	13 W	435610.52	922019.98	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
COPPER CLAD ROD (NO SLEEVE) (DEPTH 24 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2010) **Stamping:** 5507 BC 1979

0.5 MILE SOUTHEAST OF MARION, 0.85 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 54TH STREET SOUTHEAST IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 44.95, 208.5 FEET NORTH OF TRUNK HIGHWAY 52, 55.0 FEET WEST OF 70TH AVENUE SOUTHEAST, IN THE NORTHEAST CORNER OF MAINTENANCE SITE NUMBER 91231, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1219.161	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1219.161	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1219.161	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1219.135	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1219.089	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1219.122	.262		1121.071	.197	2011	GPS - RTRN	2016	RTRN2016
			1121.084	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1219.161			1121.084	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1219.158			1121.084	.007	2011	GPS - STATIC	2013	HPRED
1219.158	.131		1121.343	.066	1996	GPS - STATIC	2013	HPRED
1219.168	.262		1121.195	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.064 12B = -98.051 09 = -97.972 03 = -97.851

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 10.52179	92 20 19.98047	652209.110	137851.469	.131	3	GPS - RTRN	2016	RTRN2016
43 56 10.52152	92 20 19.98057	652209.103	137851.441	.013		ADJUSTMENT	2014	GPS2902-B
43 56 10.52156	92 20 19.98054	652209.105	137851.445	.010		ADJUSTMENT	2013	GPS2902
43 56 10.52156	92 20 19.98054	652209.105	137851.445	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 10.52221	92 20 19.98011	652209.137	137851.511	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 10.52121	92 20 19.98056	652209.104	137851.410	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3062202.744	673832.837	1814501.592	15961271.864	.131	3	GPS - RTRN	2016	RTRN2016
3062202.737	673832.809	1814501.586	15961271.837	.013		ADJUSTMENT	2014	GPS2902-B
3062202.739	673832.813	1814501.588	15961271.841	.010		ADJUSTMENT	2013	GPS2902
3062202.739	673832.813	1814501.588	15961271.841	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3062202.769	673832.880	1814501.618	15961271.907	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3062202.738	673832.778	1814501.587	15961271.805	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BC-OO1558-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BC-OO1558-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BC-OO1558-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BD

NGS Name: 5507 BD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [QQ1557](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	36	106 N	13 W	435605.00	921938.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	BENCH MARK DISK	MNDT

Description: (1995)

Stamping: 5507 BD 1979

6.15 MILES SOUTHWEST OF EYOTA, 1.4 MILES SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, IN THE NORTHEAST CORNER OF A TRUNK HIGHWAY 52 BOX CULVERT AT KINNEY CREEK, 32.0 FEET NORTH OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 44.4.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1217.163	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1217.120	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.038 09 = -97.949 03 = -97.834

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 BE

NGS Name: 5507 BE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1556](#)

[Get Map](#)

NGS Quad / Sta Num : 43092141/

USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	6	105 N	12 W	435603.20	921855.09	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5507 BE 1979

5.65 MILES SOUTHWEST OF EYOTA, 2.0 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 43.8, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 52 BOX CULVERT, 21.0 FEET SOUTH OF TRUNK HIGHWAY 52, 5.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1238.921	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1238.921	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1238.925	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED
1238.908	.016	2/2				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1238.866	.016	2				VERTICAL CONTROL SURVEY	1980 L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1238.816	.262		1140.884	.197	2007	GPS - RTRN	2011 RTRN2011

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.028 09 = -97.933 03 = -97.818

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 56 03.19934	92 18 55.09448	658426.092	137154.385	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3068427.947	673218.650	1820716.678	15960581.285	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BE-OO1556-3SE-30JUN2010.jpg	SE	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BE-OO1556-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BE-OO1556-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BF

NGS Name: 5507 BF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1555](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	105 N	12 W	435603.02	921818.21	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1997	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5507 BF 1979

5.3 MILES SOUTHWEST OF EYOTA, 2.5 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 43.25, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 52 BOX CULVERT, 22.5 FEET SOUTH OF TRUNK HIGHWAY 52, 8.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1249.007	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1249.007	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1249.010	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1249.007	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.964	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.846	.262		1150.926	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.025 09 = -97.923 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 03.01544	92 18 18.21020	661125.344	137155.613	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3071126.722	673255.823	1823414.808	15960585.209	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BF-OO1555-3SE-30JUN2010.jpg	SE	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BF-OO1555-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BF-OO1555-1-28SEP2011.jpg		Sep 28, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BG

NGS Name: 5507 BG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1554](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	5	105 N	12 W	435551.67	921734.45	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5507 BG 1979

5.1 MILES SOUTHWEST OF EYOTA, 3.2 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 42.55, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT, 22.8 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 7.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1282.186	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1282.186	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1282.189	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1282.192	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1282.146	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1282.091	.262		1184.177	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.021 09 = -97.910 03 = -97.798

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 51.66875	92 17 34.45161	664336.195	136030.603	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3074352.010	672173.767	1826625.454	15959463.872	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BG-OO1554-3S-30JUN2010.jpg	S	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BG-OO1554-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BG-OO1554-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BH

NGS Name: 5507 BH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001553](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	5	105 N	12 W	435525.03	921655.46	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
COPPER CLAD ROD (NO SLEEVE) (DEPTH 10 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2011) Stamping: 5507 BH 1979

5.2 MILES SOUTHWEST OF EYOTA, 3.9 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 41.75, 89.1 FEET NORTHWEST OF A POWER POLE NUMBER 16572, 49.5 FEET NORTHEAST OF TRUNK HIGHWAY 52, 10.0 FEET SOUTHEAST OF A FIELD ENTRANCE 1.0 FOOT SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1280.365	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1280.365	.016	2/1					VERTICAL ADJUSTMENT	2015	00000851
1280.365	.016	2/1					VERTICAL CONTROL SURVEY	2012	VPRED
1280.358	.016	2/1					VERTICAL ADJUSTMENT	2009	00000425-35
1280.358	.016	2/1					VERTICAL CONTROL SURVEY	2007	VOLMS
1280.358	.016	2/2					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1280.312	.016	2					VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1280.398	.262			1182.386	.197	2011	GPS - OPUS	2021	GPSBM
1280.388	.262			1182.376	.197	2011	GPS - RTRN	2021	RTRN2021
				1182.360	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1280.365				1182.357	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1280.378				1182.357	.008	2011	GPS - STATIC	2013	HPRED
1280.378	.131			1182.603	.066	1996	GPS - STATIC	2013	HPRED
1280.250	.262			1182.350	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.015 09 = -97.900 03 = -97.792

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 25.03132	92 16 55.45596	667210.719	133355.007	.131	3	GPS - OPUS	2021	GPSBM
43 55 25.03056	92 16 55.45573	667210.736	133354.930	.131	3	GPS - RTRN	2021	RTRN2021
43 55 25.03097	92 16 55.45576	667210.734	133354.971	.016		ADJUSTMENT	2014	GPS2902-B
43 55 25.03094	92 16 55.45569	667210.739	133354.969	.010		ADJUSTMENT	2013	GPS2902
43 55 25.03094	92 16 55.45569	667210.739	133354.969	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 25.03096	92 16 55.45595	667210.720	133354.970	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 25.03085	92 16 55.45593	667210.722	133354.959	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3077261.683	669536.910	1829501.460	15956792.248	.131	3	GPS - OPUS	2021	GPSBM
3077261.702	669536.833	1829501.477	15956792.171	.131	3	GPS - RTRN	2021	RTRN2021
3077261.699	669536.875	1829501.475	15956792.213	.016		ADJUSTMENT	2014	GPS2902-B
3077261.704	669536.872	1829501.480	15956792.210	.010		ADJUSTMENT	2013	GPS2902
3077261.704	669536.872	1829501.480	15956792.210	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3077261.685	669536.874	1829501.461	15956792.212	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3077261.686	669536.863	1829501.462	15956792.201	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BH-OO1553-3NE-30JUN2010.jpg	NE	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BH-OO1553-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BH-OO1553-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BJ

NGS Name: 5507 BJ

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	105 N	12 W	435449.64	921610.26	2	3

NGS ACRN: [OO1552](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5507 BJ 1979

5.5 MILES SOUTHWEST OF EYOTA, 4.85 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT, 22.5 FEET SOUTHWEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 40.9, 6.0 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1262.038	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1262.038	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1262.038	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1262.038	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-35
1262.041	.016	2/1				VERTICAL CONTROL SURVEY	2007	VOLMS
1262.100	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1262.058	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1261.976	.262		1164.069	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.025 09 = -97.907 03 = -97.802

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 54 49.64174	92 16 10.25894	670546.842	129797.091	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3080644.638	666024.031	1832839.753	15953239.120	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BJ-OO1552-3S-30JUN2010.jpg	S	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BJ-OO1552-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BJ-OO1552-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BK

NGS Name: 5507 BK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1551](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	9	105 N	12 W	435429.47	921537.73	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (1979)

Stamping: 5507 BK 1979

5.75 MILES SOUTHWEST OF EYOTA, 5.45 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT TRUNK HIGHWAY 52 MILEPOINT 40.3, IN THE SOUTHEAST END OF THE NORTHEAST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT AT A DEEP RAVINE, 35.3 FEET NORTHEAST OF TRUNK HIGHWAY 52. ACCESS FROM 10911 DRIVEWAY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1204.151	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1204.151	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1204.151	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1204.151	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-35
1204.154	.016	2/1				VERTICAL CONTROL SURVEY	2007	VOLMS
1204.177	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1204.135	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1204.148	.262		1106.228	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.038 09 = -97.923 03 = -97.815

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 29.46959	92 15 37.73312	672944.072	127773.236	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083068.429	664032.449	1835238.012	15951218.480	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BK-OO1551-3S-30JUN2010.jpg	S	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BK-OO1551-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BK-OO1551-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BL

NGS Name: 5507 BL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1550](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	15	105 N	12 W	435406.84	921456.69	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5507 BL 1979

4.95 MILES NORTHWEST OF CHATFIELD, 4.6 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 39.5, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT AT A SMALL CREEK, 22.0 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 8.0 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1122.668	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1122.668	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1122.668	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED
1122.708	.016	2/2				VERTICAL ADJUSTMENT	1991 00000025

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1122.668	.016	2				VERTICAL CONTROL SURVEY	1980 L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1122.626	.262		1024.676	.197	2007	GPS - RTRN	2011 RTRN2011

Geoid Separations(ft): GEOID18 = -98.054 12B = -98.061 09 = -97.949 03 = -97.838

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 54 06.83634	92 14 56.69125	675967.279	125505.470	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3086121.347	661805.337	1838262.233	15948954.647	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BL-OO1550-3SW-28SEP2011.jpg	SW	Sep 28, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BL-OO1550-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BL-OO1550-1-28SEP2011.jpg		Sep 28, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BM

NGS Name: 5507 BM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1548](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	14	105 N	12 W	435357.00	921415.00	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2010	GOOD	Horz=NO Vert=YES	YES	CO RD	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2016) **Stamping:** 5507 BM 1979

4.5 MILES NORTHWEST OF CHATFIELD, 4.1 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD TO TRUNK HIGHWAY 52 MILEPOINT 38.95, THEN 0.05 MILE NORTH ON COUNTY ROAD 7, IN THE SOUTHWEST CORNER OF A DOUBLE BOX CULVERT, 25.3 FEET WEST OF COUNTY ROAD 7.

Station Notes

THE MARK IS UNUSABLE DUE TO A GUARDRAIL POST COVERING HALF OF THE DISK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1069.670	.016	2/2					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1069.634	.016	2					VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1069.624	.262			971.652	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.087 09 = -97.976 03 = -97.857

Lat/Lon and County Coordinates (Feet)

NAD83(2007)				Olmsted County				Project Info	
Geodetic Position				X	Y	Acc	Order	Determination Method	Year
Latitude	Longitude								Reference
43 53 56.67465	92 14 15.60802			678983.747	124501.040	.131	3	GPS - RTRN	2011 RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year
X	Y								Reference
3089150.699	660841.266			1841278.466	15947953.622	.131	3	GPS - RTRN	2011 RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BM-OO1548-3SW-30JUN2010.jpg	SW	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BM-OO1548-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BM-OO1548-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BN

NGS Name: 5507 BN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1547](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	105 N	12 W	435338.00	921349.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	BENCH MARK DISK	MNDT

Description: (1979) **Stamping:** 5507 BN 1979

4.0 MILES NORTHWEST OF CHATFIELD, 3.65 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT AT A SMALL CREEK, 24.5 FEET SOUTHWEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 38.5.

Station Notes

THE BOX CULVERT WAS REPLACED BY A ROUND CULVERT.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>						<u>Project Info</u>		
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			
1044.273	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>						<u>Project Info</u>		
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			
1044.237	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.100 12B = -98.107 09 = -97.995 03 = -97.877

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BN-OO1547-2-30JUN2010.jpg		Jun 30, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BP

NGS Name: 5507 BP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001546](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	23	105 N	12 W	435309.00	921334.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2010	DESTROYED	Horz=NO Vert=NO	NO	4710		SEE DESCRIPTION

Monument Type

BRIDGE ABUTMENT

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (1979)

Stamping: 5507 BP

3.3 MILES NORTHWEST OF CHATFIELD, 3.0 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE NORTHEAST END OF THE SOUTHEAST ABUTMENT OF TRUNK HIGHWAY 52 BRIDGE NUMBER 4710 OVER MILL CREEK, 16.6 FEET NORTHEAST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 37.85.

Station Notes

THE BRIDGE WAS REPLACED IN 1982 BY BRIDGE 55028.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1027.564	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1027.531	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.126 09 = -98.012 03 = -97.900

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 BQ

NGS Name: 5507 BQ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1545](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	23	105 N	12 W	435251.00	921315.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	BENCH MARK DISK	MNDT

Description: (1979) Stamping: 5507 BQ 1979

2.9 MILES NORTHWEST OF CHATFIELD, 2.55 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT, 23.3 FEET SOUTHWEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 37.4.

Station Notes

THE BOX CULVERT WAS REPLACED BY A ROUND CULVERT.

Leveling-Derived Orthometric Heights (Feet)

						<u>Project Info</u>	
<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		
1024.516	.016	2/2				1991	00000025
<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Year</u>	<u>Reference</u>
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		
1024.483	.016	2				1980	L24679

Geoid Separations(ft): GEOID18 = -98.140 12B = -98.140 09 = -98.031 03 = -97.920

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BQ-OO1545-2-30JUN2010.jpg		Jun 30, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BR

NGS Name: 5507 BR

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	25	105 N	12 W	435228.00	921242.00	2	

NGS ACRN: [OO1544](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2007	DESTROYED	Horz=NO Vert=NO	YES	4606		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5507 BR

2.25 MILES NORTHWEST OF CHATFIELD, 1.95 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE NORTHEAST CORNER OF THE SOUTHEAST ABUTMENT OF BRIDGE NUMBER 4606, 16.3 FEET NORTHEAST OF TRUNK HIGHWAY 52 AT MILEPOINT 36.8.

Station Notes

BRIDGE 4606 WAS REPLACED BY DOUBLE BOX CULVERTS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1015.418	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1015.388	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.169 09 = -98.064 03 = -97.953

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BR-OO1544-3E-21AUG2007.jpg	E	Aug 21, 2007
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BS

NGS Name: 5507 BS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1543](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	25	105 N	12 W	435215.60	921225.23	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2016)

Stamping: 5507 BS 1979

2.0 MILES NORTHWEST OF CHATFIELD, 1.6 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A CULVERT, 22.2 FEET SOUTHWEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 36.4, 16.0 FEET SOUTH OF ENGINEER STATION NUMBER 102+32.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1022.714	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1022.714	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1022.714	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1022.708	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1022.678	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1022.636	.262		924.549	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.189 09 = -98.084 03 = -97.969

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 15.59839	92 12 25.22911	687153.816	114334.006	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3097454.923	650784.767	1849455.273	15937798.802	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BS-OO1543-3S-21AUG2007.jpg	S	Aug 21, 2007
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BS-OO1543-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BS-OO1543-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BT

NGS Name: 5507 BT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001542](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	30	105 N	11 W	435152.00	921154.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2007	DESTROYED	Horz=NO Vert=NO	NO	4605		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1979)

Stamping: 5507 BT 1979

1.4 MILES NORTHWEST OF CHATFIELD, 1.0 MILE NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE SOUTHWEST END OF THE SOUTHEAST ABUTMENT OF TRUNK HIGHWAY 52 BRIDGE NUMBER 4605 OVER A SMALL CREEK, 16.0 FEET SOUTHWEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 35.8.

Station Notes

FOUND THE TRIPLE BOX CULVERTS IN 8-21-2007.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
997.009	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
996.980	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.231 09 = -98.126 03 = -98.005

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 BU

NGS Name: 5507 BU

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1541](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	31	105 N	11 W	435118.81	921135.31	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2013	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	VERTICAL CONTROL DISK	MNDT

Description: (2016) **Stamping:** 5507 BU 1979

IN CHATFIELD, 0.3 MILE NORTH ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, IN THE SOUTHEAST END OF THE NORTHEAST HEADWALL OF A BOX CULVERT, 26.5 FEET NORTHEAST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 35.1, 1.8 FEET NORTHWEST OF A WITNESS POST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
984.516	.016	2/1						VERTICAL ADJUSTMENT	2017	00000900
984.516	.016	2/1						VERTICAL ADJUSTMENT	2015	00000851
984.516	.016	2/1						VERTICAL CONTROL SURVEY	2014	VSTCH
984.516	.016	2/1						VERTICAL CONTROL SURVEY	2012	VPRED
984.529	.016	2/2						VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
984.496	.016	2						VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
984.427	.262			886.255	.197	2007		GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.261 12B = -98.264 09 = -98.172 03 = -98.041

Lat/Lon and County Coordinates (Feet)

NAD83(2007)				Olmsted County			Determination Method		Project Info	
Geodetic Position				X	Y		Acc	Order		
Latitude	Longitude									
43 51 18.81201	92 11 35.30997			690861.080	108615.562		.131	3	GPS - RTRN	2011 RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)				UTM - Zone 15			Determination Method		Project Info	
MN State Plane - South Zone				X	Y		Acc	Order		
X	Y									
3101237.812	645116.651			1853166.669	15932086.323		.131	3	GPS - RTRN	2011 RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BU-OO1541-3N-30JUN2010.jpg	N	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BU-OO1541-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BU-OO1541-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BV

NGS Name: 5507 BV

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5531](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	31	105 N	11 W	435101.92	921134.51	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 37 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** 5507 BV 2011

IN CHATFIELD, AT THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 34.80, 132.6 FEET SOUTH OF TRUNK HIGHWAY 30, 77.5 FEET WEST OF TRUNK HIGHWAY 52, 8.5 FEET EAST OF A RIGHT-OF-WAY POST, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
982.774	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
982.774	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
982.774	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
982.774	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
982.774	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
982.708	.262		884.434	.197	2011	GPS - RTRN	2024	RTRN2024
982.836	.262		884.562	.197	2011	GPS - RTRN	2023	RTRN2023
			884.480	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
982.774			884.480	.011	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
982.774			884.480	.011	2011	GPS - STATIC	2013	HPRED
982.774	.131		884.739	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.274 12B = -98.281 09 = -98.189 03 = -98.054

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 01.91616	92 11 34.51344	690934.460	106905.194	.131	3	GPS - RTRN	2024	RTRN2024
43 51 01.91592	92 11 34.51244	690934.533	106905.170	.131	3	GPS - RTRN	2023	RTRN2023
43 51 01.91591	92 11 34.51331	690934.470	106905.168	.023		ADJUSTMENT	2014	GPS2902-B
43 51 01.91588	92 11 34.51331	690934.470	106905.165	.013		ADJUSTMENT	2013	GPS2902
43 51 01.91588	92 11 34.51331	690934.470	106905.165	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 01.91566	92 11 34.51359	690934.449	106905.143	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3101333.979	643407.532	1853241.701	15930376.718	.131	3	GPS - RTRN	2024	RTRN2024
3101334.053	643407.509	1853241.774	15930376.694	.131	3	GPS - RTRN	2023	RTRN2023
3101333.989	643407.507	1853241.711	15930376.692	.023		ADJUSTMENT	2014	GPS2902-B
3101333.989	643407.504	1853241.711	15930376.689	.013		ADJUSTMENT	2013	GPS2902
3101333.989	643407.504	1853241.711	15930376.689	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3101333.969	643407.481	1853241.690	15930376.667	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BV-DO5531-3W-29AUG2024.jpg	W	Aug 29, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BV-DO5531-2-29AUG2024.jpg		Aug 29, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BV-DO5531-1-29AUG2024.jpg		Aug 29, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BW

NGS Name: 5507 BW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5532](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	25	105 N	12 W	435235.10	921251.89	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 34 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: 5507 BW 2011

2.25 MILES NORTHWEST OF CHATFIELD, 2.15 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 52 MILEPOINT 36.9, 57.7 FEET NORTHEAST OF TRUNK HIGHWAY 52, 35.2 FEET NORTHWEST OF DRIVEWAY NUMBER 13203, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1017.213	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1017.213	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1017.213	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1017.193	.262		919.037	.197	2011	GPS - OPUS	2021 GPSBM
1017.222	.262		919.063	.197	2011	GPS - RTRN	2021 RTRN2021
			919.024	.016	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1017.213			919.020	.010	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1017.222			919.020	.010	2011	GPS - STATIC	2013 HPRED
1017.222	.131		919.280	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.159 09 = -98.054 03 = -97.939

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 35.09720	92 12 51.88651	685184.219	116291.756	.131	3	GPS - OPUS	2021	GPSBM
43 52 35.09680	92 12 51.88699	685184.184	116291.715	.131	3	GPS - RTRN	2021	RTRN2021
43 52 35.09750	92 12 51.88594	685184.261	116291.786	.020		ADJUSTMENT	2014	GPS2902-B
43 52 35.09744	92 12 51.88588	685184.265	116291.780	.013		ADJUSTMENT	2013	GPS2902
43 52 35.09744	92 12 51.88588	685184.265	116291.780	.013	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 35.09729	92 12 51.88622	685184.240	116291.765	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3095459.552	652715.951	1847484.542	15939753.814	.131	3	GPS - OPUS	2021	GPSBM
3095459.518	652715.909	1847484.507	15939753.773	.131	3	GPS - RTRN	2021	RTRN2021
3095459.593	652715.982	1847484.584	15939753.845	.020		ADJUSTMENT	2014	GPS2902-B
3095459.597	652715.976	1847484.588	15939753.839	.013		ADJUSTMENT	2013	GPS2902
3095459.597	652715.976	1847484.588	15939753.839	.013	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3095459.573	652715.960	1847484.563	15939753.824	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BW-DO5532-3NE-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BW-DO5532-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BW-DO5532-1-09APR2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NE	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012



Mn/DOT Name: 5507 BX

NGS Name: 5507 BX

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5533](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	23	105 N	12 W	435309.16	921330.70	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: 5507 BX 2011

3.4 MILES NORTHWEST OF CHATFIELD, 3.0 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 37.7, 113.3 FEET EAST OF TRUNK HIGHWAY 52, 31.8 FEET NORTHWEST OF COUNTY ROAD 137, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1028.837	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1028.837	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1028.837	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1028.846	.262		930.723	.197	2011	GPS - OPUS	2021 GPSBM
1028.882	.262		930.763	.197	2011	GPS - RTRN	2021 RTRN2021
			930.684	.014	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1028.837			930.684	.009	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1028.837			930.684	.009	2011	GPS - STATIC	2013 HPRED
1028.837	.131		930.936	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.126 09 = -98.015 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 09.16022	92 13 30.69689	682312.505	119716.993	.131	3	GPS - OPUS	2021	GPSBM
43 53 09.16023	92 13 30.69608	682312.565	119716.994	.131	3	GPS - RTRN	2021	RTRN2021
43 53 09.16047	92 13 30.69620	682312.556	119717.018	.020		ADJUSTMENT	2014	GPS2902-B
43 53 09.16037	92 13 30.69610	682312.563	119717.009	.013		ADJUSTMENT	2013	GPS2902
43 53 09.16037	92 13 30.69610	682312.563	119717.009	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 09.16034	92 13 30.69645	682312.538	119717.005	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3092542.659	656102.361	1844610.609	15943174.821	.131	3	GPS - OPUS	2021	GPSBM
3092542.718	656102.363	1844610.668	15943174.822	.131	3	GPS - RTRN	2021	RTRN2021
3092542.709	656102.387	1844610.659	15943174.847	.020		ADJUSTMENT	2014	GPS2902-B
3092542.716	656102.377	1844610.666	15943174.837	.013		ADJUSTMENT	2013	GPS2902
3092542.716	656102.377	1844610.666	15943174.837	.013	C	GPS - STATIC	2013	HPRED

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3092542.691	656102.373	1844610.641	15943174.833	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BX-DO5533-3SE-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BX-DO5533-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BX-DO5533-1-09APR2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SE	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012



Mn/DOT Name: 5507 BY

NGS Name: 5507 BY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5534](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	15	105 N	12 W	435418.82	921515.03	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 5507 BY 2011

5.5 MILES SOUTHEAST OF MARION, 6.55 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 52 MILEPOINT 39.95, 48.8 FEET NORTHEAST OF TRUNK HIGHWAY 52, 113.0 FEET SOUTHEAST OF EXTENDED COUNTY ROAD 7, 13.0 FEET NORTHWEST OF A FIELD ENTRANCE, 1.6 FEET SOUTHWEST OF A RIGHT-OF-WAY POST, 1.6 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1149.269	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1149.269	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1149.266	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			1051.199	.011	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1149.266			1051.199	.008	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1149.276			1051.199	.008	2011	GPS - STATIC	2013 HPRED
1149.276	.131		1051.445	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.051 09 = -97.936 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 18.82129	92 15 15.02667	674615.062	126708.261	.016		ADJUSTMENT	2014 GPS2902-B	
43 54 18.82116	92 15 15.02654	674615.072	126708.248	.010		ADJUSTMENT	2013 GPS2902	
43 54 18.82116	92 15 15.02654	674615.072	126708.248	.010	C	GPS - STATIC	2013 HPRED	

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 18.82120	92 15 15.02690	674615.045	126708.252	.033	C	GPS - STATIC	2013 HPRED	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year Reference	
3084753.329	662989.913	1836909.375	15950155.603	.016		ADJUSTMENT	2014 GPS2902-B	
3084753.339	662989.900	1836909.385	15950155.589	.010		ADJUSTMENT	2013 GPS2902	
3084753.339	662989.900	1836909.385	15950155.589	.010	C	GPS - STATIC	2013 HPRED	

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year Reference	
3084753.312	662989.903	1836909.358	15950155.593	.033	C	GPS - STATIC	2013 HPRED	



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BY-DO5534-3NE-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BY-DO5534-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BY-DO5534-1-09APR2012.jpg

<u>Dir</u>	<u>Date</u>
NE	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 BZ

NGS Name: 5507 BZ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5535](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	9	105 N	12 W	435450.60	921611.70	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 5507 BZ 2011

4.4 MILES SOUTHEAST OF MARION, 5.55 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 52 MILEPOINT 40.95, 46.2 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 12.3 FEET NORTHWEST OF A FIELD ENTRANCE, 4.8 FEET NORTHEAST OF A FENCE LINE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1262.750	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1262.750	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851	
1262.753	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
			1164.722	.014	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B	
1262.753			1164.722	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902	
1262.760			1164.722	.009	2011	GPS - STATIC	2013	HPRED	
1262.760	.131		1164.968	.066	1996	GPS - STATIC	2013	HPRED	

Geoid Separations(ft): GEOID18 = -98.018 12B = -98.021 09 = -97.907 03 = -97.798

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 54 50.60262	92 16 11.69532	670440.932	129893.567	.020		ADJUSTMENT	2014	GPS2902-B
43 54 50.60257	92 16 11.69523	670440.938	129893.562	.010		ADJUSTMENT	2013	GPS2902
43 54 50.60257	92 16 11.69523	670440.938	129893.562	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 54 50.60251	92 16 11.69550	670440.919	129893.556	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3080537.461	666119.080	1832733.790	15953335.451	.020		ADJUSTMENT	2014	GPS2902-B
3080537.467	666119.075	1832733.797	15953335.446	.010		ADJUSTMENT	2013	GPS2902
3080537.467	666119.075	1832733.797	15953335.446	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3080537.448	666119.069	1832733.777	15953335.440	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BZ-DO5535-3SW-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BZ-DO5535-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_BZ-DO5535-1-09APR2012.jpg

<u>Dir</u>	<u>Date</u>
SW	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 C

NGS Name: 5507 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0212](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	106 N	14 W	435942.40	922904.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	55001	FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5507 C 1970

IN ROCHESTER, 0.6 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE 16TH STREET BRIDGE OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 53.50, IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55001 OVER THE ZUMBRO RIVER.

Station Notes

BRIDGE 55001 WAS REPLACED BY BRIDGE 55058 IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.088	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1022.088	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC2
1022.088	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.006	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC2
1022.006	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1022.006	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.586 09 = -98.510 03 = -98.310

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 CA

NGS Name: 5507 CA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO5536](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	6	105 N	12 W	435602.80	921813.41	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 8 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 5507 CA 2011

2.5 MILES SOUTHEAST OF MARION, 3.3 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 52 MILEPOINT 43.25, 43.9 FEET SOUTH OF TRUNK HIGHWAY 52, 34.7 FEET WEST OF A FIELD ENTRANCE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1249.660	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1249.660	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1249.663	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1151.612	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1249.663			1151.612	.010	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1249.669			1151.612	.010	2011	GPS - STATIC	2013	HPRED
1249.669	.131		1151.861	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.025 09 = -97.920 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 02.80231	92 18 13.41397	661476.482	137136.636	.016		ADJUSTMENT	2014	GPS2902-B
43 56 02.80231	92 18 13.41392	661476.486	137136.636	.010		ADJUSTMENT	2013	GPS2902
43 56 02.80231	92 18 13.41392	661476.486	137136.636	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 02.80219	92 18 13.41411	661476.472	137136.624	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3071478.054	673241.527	1823765.820	15960566.592	.016		ADJUSTMENT	2014	GPS2902-B
3071478.057	673241.527	1823765.824	15960566.592	.010		ADJUSTMENT	2013	GPS2902
3071478.057	673241.527	1823765.824	15960566.592	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3071478.044	673241.514	1823765.810	15960566.579	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CA-DO5536-3S-09APR2012.jpg	S	Apr 9, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CA-DO5536-2-09APR2012.jpg		Apr 9, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CA-DO5536-1-09APR2012.jpg		Apr 9, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 CB

NGS Name: 5507 CB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5537](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	1	105 N	13 W	435603.43	921928.50	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 9 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** 5507 CB 2011

1.5 MILES SOUTHEAST OF MARION, 2.25 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT TRUNK HIGHWAY 52 MILEPOINT 44.25, 47.2 FEET SOUTH OF TRUNK HIGHWAY 52, 105.1 FEET EAST OF A FIELD ENTRANCE, 2.1 FEET NORTH OF A RIGHT-OF-WAY POST, 2.1 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1236.320	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1236.320	.016	2/1					VERTICAL ADJUSTMENT	2015	00000851
1236.323	.016	2/1					VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1236.267	.262			1138.233	.197	2011	GPS - RTRN	2016	RTRN2016
				1138.262	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1236.323				1138.262	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1236.316				1138.262	.008	2011	GPS - STATIC	2013	HPRED
1236.316	.131			1138.518	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.035 09 = -97.946 03 = -97.828

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 56 03.43448	92 19 28.49618	655981.653	137160.509	.131	3	GPS - RTRN	2016	RTRN2016
43 56 03.43530	92 19 28.49695	655981.596	137160.592	.016		ADJUSTMENT	2014	GPS2902-B
43 56 03.43533	92 19 28.49691	655981.599	137160.595	.010		ADJUSTMENT	2013	GPS2902
43 56 03.43533	92 19 28.49691	655981.599	137160.595	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 56 03.43509	92 19 28.49700	655981.593	137160.570	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3065983.843	673192.224	1818273.251	15960584.964	.131	3	GPS - RTRN	2016	RTRN2016
3065983.785	673192.306	1818273.194	15960585.047	.016		ADJUSTMENT	2014	GPS2902-B
3065983.788	673192.309	1818273.197	15960585.050	.010		ADJUSTMENT	2013	GPS2902
3065983.788	673192.309	1818273.197	15960585.050	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3065983.781	673192.285	1818273.190	15960585.026	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CB-DO5537-3S-09AUG2016.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CB-DO5537-2-09AUG2016.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CB-DO5537-1-09AUG2016.jpg

<u>Dir</u>	<u>Date</u>
S	Aug 9, 2016
	Aug 9, 2016
	Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 CC

NGS Name: 5507 CC

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	35	106 N	13 W	435644.10	922103.03	2	C

NGS ACRN: [DQ5538](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 32 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: 5507 CC 2011

IN MARION, 0.55 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT TRUNK HIGHWAY 52 MILEPOINT 46.0, 56.5 FEET EAST OF TRUNK HIGHWAY 52, 138.1 FEET SOUTH OF MARION COURT SOUTHEAST, 61.4 FEET SOUTHWEST OF A POWER POLE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1121.277	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1121.277	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1121.274	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1121.258	.262		1023.148	.197	2011	GPS - OPUS	2021 GPSBM
1121.271	.262		1023.161	.197	2011	GPS - RTRN	2021 RTRN2021
1121.202	.262		1023.105	.197	2011	GPS - RTRN	2016 RTRN2016
			1023.141	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1121.274			1023.141	.007	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1121.290			1023.141	.007	2011	GPS - STATIC	2013 HPRED
1121.290	.131		1023.400	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.097 09 = -98.012 03 = -97.884

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 56 44.10456	92 21 03.03174	649035.475	141230.323	.131	3	GPS - OPUS
43 56 44.10436	92 21 03.03096	649035.532	141230.303	.131	3	GPS - RTRN
43 56 44.10443	92 21 03.03003	649035.600	141230.311	.131	3	GPS - RTRN
43 56 44.10449	92 21 03.03141	649035.499	141230.316	.013		ADJUSTMENT
43 56 44.10452	92 21 03.03140	649035.499	141230.320	.010		ADJUSTMENT
43 56 44.10452	92 21 03.03140	649035.499	141230.320	.010	C	GPS - STATIC

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 56 44.10416	92 21 03.03139	649035.500	141230.283	.033	C	GPS - STATIC



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3058984.669	677168.862	1811325.905	15964646.129	.131	3	GPS - OPUS	2021	GPSBM
3058984.727	677168.843	1811325.962	15964646.109	.131	3	GPS - RTRN	2021	RTRN2021
3058984.794	677168.851	1811326.030	15964646.116	.131	3	GPS - RTRN	2016	RTRN2016
3058984.693	677168.855	1811325.929	15964646.122	.013		ADJUSTMENT	2014	GPS2902-B
3058984.694	677168.858	1811325.930	15964646.125	.010		ADJUSTMENT	2013	GPS2902
3058984.694	677168.858	1811325.930	15964646.125	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3058984.695	677168.822	1811325.931	15964646.088	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CC-DO5538-3E-09AUG2016.jpg	E	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CC-DO5538-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_CC-DO5538-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 D

NGS Name: 5507 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0211](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	106 N	14 W	435941.00	922901.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	55004		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5507 D 1970

IN ROCHESTER, 1.0 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 EAST AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 53.43, IN THE SOUTHEAST CORNER OF TOWNSHIP ROAD BRIDGE NUMBER 55004 OVER TRUNK HIGHWAY 52.

Station Notes

BRIDGE 55004 WAS REPLACED BY BRIDGE 55053 IN 2003.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1052.816	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1052.734	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1052.734	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.582 09 = -98.507 03 = -98.310

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 E

NGS Name: 5507 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	10	106 N	14 W	435934.00	922857.00			1970	2013	DESTROYED	Horz=NO Vert=NO	NO			STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2002)

Stamping: 5507 E 1970

2.04 MILES SOUTHWEST OF ROCHESTER, 1.2 MILES SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 EAST AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 53.30, 0.13 MILE SOUTH OF TOWNSHIP ROAD BRIDGE NUMBER 55004 OVER TRUNK HIGHWAY 52, 198.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 156+72, 38.0 FEET SOUTH OF A POWER POLE, 38.0 FEET WEST OF WOODCREST LANE SOUTHWEST, 18.0 FEET SOUTHWEST OF A GUY POLE, 2.0 FEET EAST OF A FENCE, 0.5 FOOT EAST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.560 12B = -98.576 09 = -98.504 03 = -98.304



Mn/DOT Name: 5507 F

NGS Name: 5507 F

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	14 W	435920.00	922849.00	2	

NGS ACRN: [OO0210](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2013	DESTROYED	Horz=NO Vert=NO	NO			STEEL ROD IMBED IN MON

Monument Type
UNKNOWN

Disk Type
SURVEY DISK

Mon. Agency
MNDT

Description: (2016)

Stamping: 5507-F 1970

IN ROCHESTER, 1.4 MILES SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF COUNTY ROAD 8 AND TRUNK HIGHWAY 52, 107.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, AT STATION 169+60, 6.0 FEET SOUTHWEST OF A POWER POLE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1110.910	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1110.828	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1110.828	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.563 09 = -98.494 03 = -98.290

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 G

NGS Name: 5507 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0209](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	14	106 N	14 W	435902.15	922832.22	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=NO Vert=YES	YES		PROJECTS 3 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5507 G 1970

IN ROCHESTER, 0.92 MILE NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 52.63, 75.0 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52 STENCIL 2515, 4.0 FEET SOUTHWEST OF A RIGHT-OF-WAY FENCE, 1.0 FOOT SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1139.883	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1139.883	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1139.912	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1139.912	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1139.912	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1139.912	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1139.827	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1139.827	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1139.827	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1139.827	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj		Year	Reference
1139.761	.262		1041.218	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.543 09 = -98.474 03 = -98.271

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 02.15012	92 28 32.21643	616096.319	155008.810	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3025867.941	690506.666	1778386.910	15978385.671	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_G-OO0209-3NE-15MAY2023.jpg	NE	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_G-OO0209-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_G-OO0209-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 H

NGS Name: 5507 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0208](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	14	106 N	14 W	435842.00	922804.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (2002) **Stamping:** 5507 H 1970

IN ROCHESTER, 0.36 MILE NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF SOUTHBOUND TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 52.15, IN THE MEDIAN OF TRUNK HIGHWAY 52 BETWEEN THE NORTHBOUND AND SOUTHBOUND LANES, IN THE TOP NORTH CORNER OF THE SOUTH WING WALL OF A LARGE CONCRETE DITCH BLOCK.

Station Notes

4-07-2010 FOUND THAT THE DITCH BLOCK HAS BEEN REMOVED. THE DITCH HAD BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.149	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1085.149	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1085.149	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.070	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1085.070	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1085.070	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.500 12B = -98.520 09 = -98.445 03 = -98.245

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 J

NGS Name: 5507 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0207](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	14	106 N	14 W	435838.61	922803.71	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=NO Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5507 J 1970

IN ROCHESTER, 0.2 MILE NORTHWEST OF THE JUNCTION OF TRUNK HIGHWAY 52 AND SOUTHBOUND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 52 MILEPOINT 52.03, 100.0 FEET SOUTH OF TRUNK HIGHWAY 52 AT STATION 228+00, 35.0 FEET SOUTH OF A ROAD, 109.0 FEET NORTHWEST OF A POWER POLE WITH 2 YELLOW ANCHORS, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1081.012	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1081.044	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1080.989	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1080.989	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1080.989	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1080.989	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1081.021	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1080.910	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1
1080.946	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1080.946	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1080.946	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1080.972	.262		982.452	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.497 12B = -98.517 09 = -98.441 03 = -98.241

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 38.61370	92 28 03.70653	618193.875	152636.650	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3027996.673	688162.822	1780485.952	15976016.644	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_J-OO0207-3S-15MAY2023.jpg	S	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_J-OO0207-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_J-OO0207-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 K

NGS Name: 5507 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM6898](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	106 N	14 W	435834.64	922743.82	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2013	GOOD	Horz=NO Vert=YES	YES	55010	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2002)

Stamping: 5507 K 1977

IN ROCHESTER, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55010 OVER TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 52 MILEPOINT 51.83.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1069.033	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1069.014	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1069.069	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1069.004	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1069.010	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1069.004	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1069.004	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1069.004	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1068.925	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC1

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1068.971	.262		970.467	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.484 12B = -98.504 09 = -98.422 03 = -98.225

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 34.64368	92 27 43.82257	619650.120	152242.593	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029457.902	687788.202	1781941.968	15975624.221	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_K-DM6898-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_K-DM6898-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_K-DM6898-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 L

NGS Name: 5507 L

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	106 N	14 W	435824.00	922706.00		

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	DESTROYED	Horz=NO Vert=NO	YES	55022		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (2002) Stamping: 5507 L 1977

3.0 MILES SOUTH-SOUTHEAST OF ROCHESTER, 0.5 MILE EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55022 OVER WILLOW CREEK.

Station Notes

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1078.331	.033	3				VERTICAL CONTROL SURVEY	1977	CS5507

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.468 09 = -98.382 03 = -98.192

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_L-1-13OCT2010.jpg		Oct 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 M

NGS Name: 5507 M

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	106 N	14 W	435828.00	922705.00	2	

NGS ACRN: [OO0191](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5507-M 1970

2.4 MILES NORTHWEST FROM MARION, 0.5 MILE EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN MARION, 400.0 FEET WEST OF THE CHICAGO AND NORTHWESTERN RAILROAD TRACK, 200.0 FEET EAST OF WILLOW CREEK, NEAR THE NORTH RIGHT-OF-WAY OF TRUNK HIGHWAY 52, 2.0 FEET NORTH OF A STEEL WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1033.344	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1033.275	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1033.275	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.471 09 = -98.382 03 = -98.195

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 N

NGS Name: 5507 N

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	106 N	14 W	435828.00	922700.00		

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	DESTROYED	Horz=NO Vert=NO	NO	55008		SEE DESCRIPTION

Monument Type

BRIDGE ABUTMENT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1977)

Stamping: 5507 N 1977

3.0 MILES SOUTH-SOUTHEAST OF ROCHESTER, 0.7 MILE EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 52 BRIDGE NUMBER 55008 OVER A RAILROAD.

Station Notes

THE BRIDGE WAS REMOVED.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1085.401	.033	3				VERTICAL CONTROL SURVEY	1977 CS5507

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.464 09 = -98.379 03 = -98.192

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 P

NGS Name: 5507 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0190](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	24	106 N	13 W	435825.00	922633.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5507-P 1970

0.7 MILE EAST OF ROCHESTER, 1.0 MILE EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, 0.3 MILE WEST OF COUNTY ROAD 1, 182.0 FEET SOUTH OF WESTBOUND TRUNK HIGHWAY 52 AT STATION 295+25, 3.0 FEET NORTHEAST OF A TEE-FENCE CORNER, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1077.055	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1076.996	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1076.996	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.422 12B = -98.438 09 = -98.350 03 = -98.169

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 Q

NGS Name: 5507 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0189](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	24	106 N	14 W	435821.30	922620.10	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5507 Q 1970

1.0 MILE EAST OF ROCHESTER, 1.3 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, 402.0 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 52, AT STATION 305+94, 100.0 FEET WEST OF COUNTY ROAD 1, 2.0 FEET SOUTH OF THE SOUTHEAST CORNER OF A FENCE AROUND A NATURAL GAS PUMPING STATION, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1064.319	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1064.319	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1064.319	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1064.342	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1064.279	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1064.279	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1064.279	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1064.279	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1064.332	.262		965.927	.197	2011	GPS - OPUS	2021	GPSBM
1064.335	.262		965.930	.197	2011	GPS - OPUS	2021	GPSBM
1064.329	.262		965.920	.197	2011	GPS - RTRN	2021	RTRN2021

Geoid Separations(ft): GEOID18 = -98.409 12B = -98.422 09 = -98.336 03 = -98.156

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 21.28469	92 26 20.15653	625776.206	150924.384	.131	3	GPS - OPUS	2021	GPSBM
43 58 21.28490	92 26 20.15632	625776.222	150924.405	.131	3	GPS - OPUS	2021	GPSBM
43 58 21.28447	92 26 20.15632	625776.222	150924.361	.131	3	GPS - RTRN	2021	RTRN2021

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3035600.444	686551.711	1788066.757	15974312.740	.131	3	GPS - OPUS	2021	GPSBM
3035600.459	686551.733	1788066.772	15974312.762	.131	3	GPS - OPUS	2021	GPSBM
3035600.460	686551.689	1788066.772	15974312.718	.131	3	GPS - RTRN	2021	RTRN2021

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Q-OO0189-3W-13JUL2010.jpg	W	Jul 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Q-OO0189-2-13JUL2010.jpg		Jul 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Q-OO0189-1-13JUL2010.jpg		Jul 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 R

NGS Name: 5507 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	24	106 N	14 W	435824.00	922618.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	1999	DESTROYED	Horz=NO Vert=NO	NO	55006		SEE DESCRIPTION

Monument Type

BRIDGE ABUTMENT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1977)

Stamping: 5507 R 1977

3.0 MILES SOUTHEAST OF ROCHESTER, 1.2 MILES EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55006 OVER COUNTY ROAD 1.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1074.142	.033	3				VERTICAL CONTROL SURVEY	1977 CS5507

Geoid Separations(ft): GEOID18 = -98.409 12B = -98.422 09 = -98.336 03 = -98.156

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 S

NGS Name: 5507 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0188](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	19	106 N	13 W	435815.50	922508.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2012	GOOD	Horz=YES Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5507 S 1970

2.0 MILES EAST OF ROCHESTER, 2.3 MILES EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, 1.0 MILE EAST OF COUNTY ROAD 1, ABOUT 750.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 52, 6.0 FEET WEST OF A FENCE CORNER, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1195.460	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1195.411	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1195.411	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1195.411	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1195.411	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.350 09 = -98.261 03 = -98.094

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_S-OO0188-3S-21JUL2010.jpg	S	Jul 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_S-OO0188-2-21JUL2010.jpg		Jul 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_S-OO0188-1-21JUL2010.jpg		Jul 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 S 1

NGS Name: 5507 S 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0187](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	20	106 N	13 W	435800.00	922509.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	NO	CO RD		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2010) **Stamping:** 5507-S1 1972

1.7 MILES SOUTHWEST OF ROCHESTER, 4.0 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 19 IN MARION, THEN 0.3 MILE SOUTH ON A PRIVATE DRIVE AND COUNTY ROAD 101, 0.6 MILE NORTH ON COUNTY ROAD 1 AND COUNTY ROAD 101, IN THE SOUTHEAST CORNER OF A COUNTY ROAD 101 CONCRETE BOX CULVERT AT A SMALL CREEK.

Station Notes

7-13-2010 THE COUNTY ROAD HAS BEEN REBUILT, THE BOX CULVERT WAS REPLACED BY A CIRCULAR CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1174.236	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1174.187	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1174.187	.016	2				VERTICAL CONTROL SURVEY	1972	L22786

Geoid Separations(ft): GEOID18 = -98.327 12B = -98.336 09 = -98.251 03 = -98.084

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 T

NGS Name: 5507 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0186](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	20	106 N	13 W	435818.00	922432.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1976)

Stamping: 5507-T 1970

2.7 MILES EAST OF ROCHESTER, 2.7 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.228	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.182	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1066.182	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1066.025	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.140						LEVELING	1972	HORZ

Geoid Separations(ft): GEOID18 = -98.313 12B = -98.320 09 = -98.228 03 = -98.067

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 T 1

NGS Name: 5507 T 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0185](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	20	106 N	13 W	435803.10	922428.50	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2019	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5507 T 1 1972

2.7 MILES EAST OF ROCHESTER, 3.5 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 19 IN MARION, 1.5 MILES EAST OF THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 1, 0.25 MILE SOUTH OF TRUNK HIGHWAY 52, 300.0 FEET WEST OF A DRIVE SOUTH TO A FARM, 200.0 FEET EAST OF A TOWNSHIP ROAD NORTH, IN THE SOUTHWEST CORNER OF A CONCRETE CULVERT UNDER COUNTY ROAD 101 AT A SMALL CREEK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1079.338	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1079.289	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1079.289	.016	2				VERTICAL CONTROL SURVEY	1972	L22786

Geoid Separations(ft): GEOID18 = -98.300 12B = -98.307 09 = -98.215 03 = -98.054

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_T_1-OO0185-3SE-13JUL2010.jpg	SE	Jul 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_T_1-OO0185-2-13JUL2010.jpg		Jul 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_T_1-OO0185-1-13JUL2010.jpg		Jul 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 U

NGS Name: 5507 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0184](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	20	106 N	13 W	435813.40	922413.60	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 7 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5507 U 1970

3.0 MILES EAST OF ROCHESTER, 3.0 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, 1.3 MILES WEST OF COUNTY ROAD 11, AT TRUNK HIGHWAY 52 MILEPOINT 49, ABOUT 180.0 FEET SOUTHWEST OF EASTBOUND TRUNK HIGHWAY 52, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1058.738	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1058.738	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1058.738	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1058.738	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1058.689	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1058.689	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1058.689	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1058.689	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.297 12B = -98.304 09 = -98.208 03 = -98.051

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_U-OO0184-3S-21JUL2010.jpg	S	Jul 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_U-OO0184-2-21JUL2010.jpg		Jul 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_U-OO0184-1-21JUL2010.jpg		Jul 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 V

NGS Name: 5507 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8067](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	20	106 N	13 W	435818.10	922430.40	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2012	GOOD	Horz=NO Vert=YES	YES	55026	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5507 V 1977

4.0 MILES SOUTHEAST OF ROCHESTER, 2.7 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, IN THE SOUTHEAST CORNER OF EASTBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55026 OVER 36TH AVENUE SOUTHEAST, AT TRUNK HIGHWAY 52 MILEPOINT 49.30.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1093.115	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1093.115	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1093.118	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1093.059	.033	3				VERTICAL CONTROL SURVEY	1977	CS5507

Geoid Separations(ft): GEOID18 = -98.313 12B = -98.320 09 = -98.225 03 = -98.067

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_V-DO8067-3W-13JUL2010.jpg	W	Jul 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_V-DO8067-2-13JUL2010.jpg		Jul 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_V-DO8067-1-13JUL2010.jpg		Jul 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 W

NGS Name: 5507 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0183](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	21	106 N	13 W	435803.00	922340.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1976)

Stamping: 5507-W 1970

3.46 MILES EAST OF ROCHESTER, 3.46 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.084	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.039	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1057.039	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1056.802	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.019						LEVELING	1972	HORZ

Geoid Separations(ft): GEOID18 = -98.264 12B = -98.268 09 = -98.172 03 = -98.018

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 X

NGS Name: 5507 X

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0182](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	28	106 N	13 W	435745.07	922313.02	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5507 X 1970

3.8 MILES EAST OF ROCHESTER, 4.0 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 48.05, AT TRUNK HIGHWAY 52 STATION 452+90, 125.0 FEET NORTHEAST OF WESTBOUND TRUNK HIGHWAY 52, 2.0 FEET SOUTHWEST OF A FENCE LINE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1086.527	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1086.527	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1086.527	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1086.527	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1086.481	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1086.481	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1086.481	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1086.481	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1086.687	.262		988.548	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.231 09 = -98.140 03 = -97.989

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 45.07111	92 23 13.01996	639485.321	147340.849	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3049354.837	683151.213	1801773.645	15970744.506	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_X-OO0182-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_X-OO0182-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_X-OO0182-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 Y

NGS Name: 5507 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000181](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	28	106 N	13 W	435744.48	922244.60	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5507 Y 1970

5.5 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER TO TRUNK HIGHWAY 52 MILEPOINT 47.6, THEN 0.2 MILE NORTH ON COUNTY ROAD 36 (50TH AVENUE SOUTHEAST), 100.0 FEET SOUTH OF A FARM ENTRANCE WEST, 60.0 FEET WEST OF COUNTY ROAD 36, 1.0 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1077.685	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1077.685	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1077.685	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1077.685	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1077.685	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1077.685	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1077.642	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1077.642	.016	2				VERTICAL CONTROL SURVEY	1972	L22786
1077.642	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1077.642	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1077.747	.262		979.542	.197	2011	GPS - OPUS	2021	GPSBM
1077.682	.262		979.476	.197	2011	GPS - RTRN	2021	RTRN2021
1077.596	.262		979.388	.197	2011	GPS - RTRN	2016	RTRN2016
			979.486	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1077.685			979.486	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1077.688			979.486	.009	2011	GPS - STATIC	2013	HPRED
1077.688	.131		979.745	.066	1996	GPS - STATIC	2013	HPRED
1077.609	.262		979.493	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.205 12B = -98.205 09 = -98.113 03 = -97.969

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 44.48149	92 22 44.59966	641564.473	147294.594	.131	3	GPS - OPUS	2021	GPSBM
43 57 44.48120	92 22 44.59909	641564.515	147294.565	.131	3	GPS - RTRN	2021	RTRN2021
43 57 44.48156	92 22 44.59914	641564.511	147294.601	.131	3	GPS - RTRN	2016	RTRN2016
43 57 44.48115	92 22 44.59938	641564.494	147294.560	.016		ADJUSTMENT	2014	GPS2902-B
43 57 44.48114	92 22 44.59938	641564.494	147294.559	.010		ADJUSTMENT	2013	GPS2902
43 57 44.48114	92 22 44.59938	641564.494	147294.559	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 44.48163	92 22 44.60028	641564.428	147294.608	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 44.48096	92 22 44.59945	641564.489	147294.541	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051434.242	683132.637	1803851.966	15970700.358	.131	3	GPS - OPUS	2021	GPSBM
3051434.284	683132.608	1803852.008	15970700.329	.131	3	GPS - RTRN	2021	RTRN2021
3051434.280	683132.645	1803852.004	15970700.365	.131	3	GPS - RTRN	2016	RTRN2016
3051434.263	683132.603	1803851.987	15970700.324	.016		ADJUSTMENT	2014	GPS2902-B
3051434.263	683132.602	1803851.987	15970700.323	.010		ADJUSTMENT	2013	GPS2902
3051434.263	683132.602	1803851.987	15970700.323	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051434.196	683132.650	1803851.921	15970700.372	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051434.259	683132.584	1803851.982	15970700.304	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y-000181-3E-09AUG2016.jpg	E	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y-000181-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y-000181-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 Y 1

NGS Name: 5507 Y 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	27	106 N	13 W	435739.64	922243.30	2	3

NGS ACRN: [OO0180](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2016	GOOD	Horz=NO Vert=YES	YES	55023	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5507 Y 1 1972

5.5 MILES EAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER TO TRUNK HIGHWAY 52 MILEPOINT 47.6, THEN 0.1 MILE NORTH ALONG COUNTY ROAD 36 (50TH AVENUE SOUTHEAST), 21.3 FEET EAST OF COUNTY ROAD 36, IN THE SOUTHEAST CORNER OF COUNTY ROAD 36 BRIDGE NUMBER 55023 OVER BADGER RUN.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1083.210	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1083.210	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1083.210	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1083.210	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1083.210	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1083.210	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1083.164	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1083.164	.016	2				VERTICAL CONTROL SURVEY	1972	L22786

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1083.151	.262		984.949	.197	2011	GPS - RTRN	2016	RTRN2016
1083.098	.262		984.985	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.202 12B = -98.202 09 = -98.110 03 = -97.966

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 39.63981	92 22 43.30415	641662.430	146804.926	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 39.63953	92 22 43.30450	641662.405	146804.897	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3051538.699	682644.357	1803950.373	15970210.994	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3051538.674	682644.329	1803950.348	15970210.966	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y_1-OO0180-3N-13JUL2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y_1-OO0180-2-13JUL2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Y_1-OO0180-1-13JUL2010.jpg

<u>Dir</u>	<u>Date</u>
N	Jul 13, 2010
	Jul 13, 2010
	Jul 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5507 Y 2

NGS Name: 5507 Y 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000179](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	27	106 N	13 W	435720.00	922244.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	NO	CO RD		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1972)

Stamping: 5507-Y2 1972

4.3 MILES EAST OF ROCHESTER, 4.3 MILES EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, 1.0 MILE NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, THEN 0.3 MILE SOUTH ON COUNTY ROAD 111, 350.0 FEET SOUTH OF A TEE-ROAD WEST (COUNTY ROAD 101), 75.0 FEET SOUTH OF A DRIVE EAST TO A FARM HOUSE, IN THE SOUTHEAST CORNER OF A BOX CULVERT UNDER COUNTY ROAD 111.

Station Notes

7-13-2010 THE BOX CULVERT WAS REPLACED BY A CIRCULAR CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1107.180	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1107.137	.016	2				VERTICAL CONTROL SURVEY	1973	L106 MINN
1107.137	.016	2				VERTICAL CONTROL SURVEY	1972	L22786

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.185 09 = -98.100 03 = -97.953

* No Horizontal Positions in the Database *



Mn/DOT Name: 5507 Z

NGS Name: 5507 Z

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8066](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	27	106 N	13 W	435728.50	922243.12	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2016	GOOD	Horz=NO Vert=YES	YES	55017	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2011)

Stamping: 5507 Z 1977

5.5 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 47.6, 26.5 FEET EAST OF COUNTY ROAD 111/COUNTY ROAD 36, IN THE SOUTHEAST CORNER OF COUNTY ROAD 111/COUNTY ROAD 36 BRIDGE NUMBER 55017 OVER TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1122.934	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1122.934	.016	2/1					VERTICAL ADJUSTMENT	2015	00000851	
1122.937	.016	2/1					VERTICAL CONTROL SURVEY	2012	VPRED	

NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1122.882	.033	3					VERTICAL CONTROL SURVEY	1977	CS5507	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1122.859	.262			1024.667	.197	2011	GPS - RTRN	2016	RTRN2016	
1122.826	.262			1024.719	.197	2007	GPS - RTRN	2011	RTRN2011	

Geoid Separations(ft): GEOID18 = -98.195 12B = -98.192 09 = -98.103 03 = -97.959

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County			Determination Method		Project Info	
Geodetic Position				X	Y		Acc	Order	Year	Reference
Latitude	Longitude									
43 57 28.49659	92 22 43.11955			641683.295	145676.610		.131	3	2016	RTRN2016

NAD83(2007)				Olmsted County			Determination Method		Project Info	
Geodetic Position				X	Y		Acc	Order	Year	Reference
Latitude	Longitude									
43 57 28.49615	92 22 43.11926			641683.316	145676.565		.131	3	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15			Determination Method		Project Info	
MN State Plane - South Zone				X	Y		Acc	Order	Year	Reference
X	Y									
3051574.577	681516.516			1803972.361	15969083.175		.131	3	2016	RTRN2016

NAD83(2007)				UTM - Zone 15			Determination Method		Project Info	
MN State Plane - South Zone				X	Y		Acc	Order	Year	Reference
X	Y									
3051574.599	681516.472			1803972.383	15969083.131		.131	3	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Z-DO8066-3N-13JUL2010.jpg	N	Jul 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Z-DO8066-2-13JUL2010.jpg		Jul 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5507_Z-DO8066-1-13JUL2010.jpg		Jul 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AA

NGS Name: 5508 AA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0320](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	107 N	14 W	440442.00	923025.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: AA 1960

IN ROCHESTER, 3.7 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52, 350.0 FEET SOUTH OF A TOWNSHIP ROAD, 20.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, AT STATION 2147+75, IN THE SOUTH END OF THE EAST HEADWALL OF A TRUNK HIGHWAY 52 BOX CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1008.613	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1008.525	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1008.525	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.566 09 = -98.468 03 = -98.323

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 AB

NGS Name: 5508 AB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM7002](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	107 N	14 W	440235.00	922915.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2002	DESTROYED	Horz=NO Vert=NO	NO	55027	FLUSH	SEE DESCRIPTION

Monument Type

BRIDGE WALKWAY

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5508 AB

NORTHWEST OF ROCHESTER, 1.0 MILE NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, AT TRUNK HIGHWAY 52 MILEPOINT 56.94, 45.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, IN A SIDEWALK AT THE SOUTHEAST CORNER OF 19TH STREET BRIDGE NUMBER 55027 OVER TRUNK HIGHWAY 52, NEXT TO THE RAILING.

Station Notes

NEW BRIDGE 55043 WAS BUILT IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1102.882	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1102.885	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1102.813	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1102.800	.033	3				VERTICAL CONTROL SURVEY	1980	CS5508

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.573 09 = -98.487 03 = -98.327

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 AC

NGS Name: 5508 AC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7920](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440204.60	922911.60	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2010	DESTROYED	Horz=NO Vert=NO	NO	9069		SEE DESCRIPTION

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2002)

Stamping: 5508 AC

IN ROCHESTER, 0.05 MILE NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, AT TRUNK HIGHWAY 52 MILEPOINT 56.15, SET IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 9069 OVER 7TH STREET NORTHWEST AND THE RAILROAD, 60.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52.

Station Notes

NEW BRIDGE 55046 WAS BUILT IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1030.195	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1030.195	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1030.149	.033	3				VERTICAL CONTROL SURVEY	1980	CS5508

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.582 09 = -98.500 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 AD

NGS Name: 5508 AD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9082](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	107 N	14 W	440235.07	922914.60	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2012	GOOD	Horz=NO Vert=YES	YES	55043	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE WALKWAY	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5508 AD 2004

IN ROCHESTER, 0.87 MILE NORTH ALONG TRUNK HIGHWAY 52 FROM NORTH THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, IN THE BRIDGE WALKWAY IN THE SOUTHEAST CORNER OF 19TH STREET SOUTHWEST BRIDGE NUMBER 55043 OVER TRUNK HIGHWAY 52, 5.0 FEET WEST OF THE EXPANSION JOINT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1098.918	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1098.918	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
1098.918	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1098.830	.262		1000.342	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.573 09 = -98.487 03 = -98.327

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 02 35.07185	92 29 14.59753	612885.268	176554.067	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3022370.962	712005.300	1775155.467	15999918.398	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AD-DO9082-3S-14SEP2010.jpg	S	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AD-DO9082-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AD-DO9082-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AE

NGS Name: 5508 AE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM6998](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	27	107 N	14 W	440220.33	922913.48	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2002	2012	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - MEDIUM	SURVEY DISK	MNDT

Description: (2016) Stamping: 5508 AE 2002

IN ROCHESTER, 0.1 MILE EAST ON ELTON HILLS DRIVE NORTHWEST FROM THE JUNCTION OF 19TH STREET NORTHWEST AND TRUNK HIGHWAY 52, THEN 0.17 MILE SOUTH ON ASSISI DRIVE NORTHWEST, THEN 0.2 MILE WEST AND SOUTH ON THE EAST FRONTAGE ROAD, 141.6 FEET NORTH OF 16TH STREET NORTHWEST, 100.6 FEET EAST OF THE EAST FRONTAGE ROAD, 0.8 FOOT SOUTH OF A CONCRETE BASE FOR A BILLBOARD IN THE HILLCREST SHOPPING CENTER PARKING LOT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1078.541	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1078.541	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1078.541	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1078.541	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1078.544	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1078.476	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Geoid Separations(ft): GEOID18 = -98.576 12B = -98.579 09 = -98.494 03 = -98.330

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AE-DM6998-3NE-16AUG2010.jpg	NE	Aug 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AE-DM6998-2-16AUG2010.jpg		Aug 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AE-DM6998-1-16AUG2010.jpg		Aug 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AF

NGS Name: 5508 AF

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	107 N	14 W	440341.17	922950.99	2	

NGS ACRN: DM6999	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1992	2012	GOOD	Horz=NO Vert=NO	YES	55024	FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5508 AF 2002

IN ROCHESTER, IN THE BRIDGE RAILING AT THE SOUTHEAST CORNER OF COUNTY ROAD 22(37TH STREET NORTHWEST) BRIDGE NUMBER 55024 OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 58.35, 21.9 FEET SOUTH OF EASTBOUND COUNTY ROAD 22.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.503	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1085.510	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.428	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.477 03 = -98.330

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AF-DM6999-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AF-DM6999-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AF-DM6999-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AG

NGS Name: 5508 AG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM7000](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	16	107 N	14 W	440354.79	922958.69	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1985	2012	GOOD	Horz=NO Vert=NO	YES	55035	FLUSH	NO MAG MATERIAL

Monument Type
BRIDGE RAILING

Disk Type
VERTICAL CONTROL DISK

Mon. Agency
MNDT

Description: (2010)

Stamping: 5508 AG 2002

IN ROCHESTER, IN THE RAILING AT THE SOUTHEAST CORNER OF 41ST STREET NORTHWEST BRIDGE NUMBER 55035 OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 58.65, 33.7 FEET SOUTH OF 41ST STREET NORTHWEST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1061.041	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1061.048	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1060.966	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1061.100	.262		962.528	.197	2011	GPS - RTRN	2023	RTRN2023
1060.939	.262		962.462	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.477 03 = -98.330

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 54.78606	92 29 58.68556	609624.026	184609.901	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 54.78801	92 29 58.68630	609623.971	184610.099	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3019003.217	720016.256	1771887.456	16007967.440	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3019003.159	720016.453	1771887.400	16007967.637	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AG-DM7000-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AG-DM7000-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AG-DM7000-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AH

NGS Name: 5508 AH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM7001](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	16	107 N	19 W	440446.29	923027.63	2	3	1991	2022	DESTROYED	Horz=NO Vert=NO	YES	55003	FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2012)

Stamping: 5508 AH 2002

IN NORTHWEST ROCHESTER, 3.6 MILES NORTH ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, IN THE BRIDGE RAILING AT THE SOUTHEAST CORNER OF COUNTY ROAD 22(55TH STREET NORTHWEST) BRIDGE NUMBER 55003 OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 59.65, 28.2 FEET SOUTH OF 55TH STREET NORTHWEST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1039.161	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1039.178	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1039.089	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1039.063	.262		940.595	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.566 09 = -98.468 03 = -98.323

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>			<u>Olmsted County</u>			<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
44 04 46.28562	92 30 27.63139		607484.592	189814.504	.131 3	2012	RTRN2012	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>			<u>UTM - Zone 15</u>			<u>Project Info</u>		
<u>MN State Plane - South Zone</u>			<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>				
3016794.993	725191.421		1769743.656	16013167.612	.131 3	2012	RTRN2012	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AH-DM7001-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AH-DM7001-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AH-DM7001-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AJ

NGS Name: 5508 AJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	14 W	440537.83	923040.37		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=NO	YES	55070	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5508 AJ 2003

IN NORTHWEST ROCHESTER, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF 65TH STREET NORTHWEST BRIDGE NUMBER 55070 OVER TRUNK HIGHWAY 52.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1118.521	.262			1020.070	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.553 09 = -98.455 03 = -98.313

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 05 37.82701	92 30 40.37229			606528.838	195029.351	.131	3	GPS - RTRN	2012 RTRN2012

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3015770.092	730392.556			1768783.005	16018379.222	.131	3	GPS - RTRN	2012 RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AJ-3W-29JUN2010.jpg	W	Jun 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AJ-2-29JUN2010.jpg		Jun 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AJ-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AK

NGS Name: 5508 AK

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	107 N	14 W	440628.85	923052.96		3

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2012	GOOD	Horz=NO Vert=NO	YES	55069	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AK 2005

IN THE NORTHWEST EDGE OF ROCHESTER, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 14 (75TH STREET NORTHWEST) BRIDGE NUMBER 55069 OVER TRUNK HIGHWAY 52.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1109.798	.262		1011.353	.197	2007	GPS - RTRN		2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.445 03 = -98.310

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 06 28.85424	92 30 52.96018	605584.950	200192.242	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
3014757.749	735541.892	1767834.261	16023538.906	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AK-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AK-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AK-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AL

NGS Name: 5508 AL

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	29	108 N	14 W	440721.32	923113.14		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2012	GOOD	Horz=NO Vert=NO	YES	55071	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AL 2004

3.0 MILES SOUTH OF ORONOCO, 7.4 MILES NORTH-NORTHWEST OF ROCHESTER, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF 85TH STREET NORTHWEST BRIDGE NUMBER 55071 OVER TRUNK HIGHWAY 52.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1047.616	.262			949.175	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.441 03 = -98.307

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 07 21.31852	92 31 13.14213	604086.827	205498.047	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3013189.386	740826.734	1766331.371	16028840.869	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AL-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AL-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AL-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AM

NGS Name: 5508 AM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	20	108 N	14 W	440839.38	923139.51		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2012	GOOD	Horz=NO Vert=?	YES	55080	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AM 2006

1.5 MILE SOUTH OF ORONOCO, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF COUNTY ROAD 12(100TH STREET NORTHWEST) BRIDGE NUMBER 55080 OVER TRUNK HIGHWAY 52, 1.0 FOOT EAST OF THE EXPANSION JOINT.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1037.669	.262		939.237	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.428 03 = -98.297

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order	Year	Reference
44 08 39.38346	92 31 39.51042	602126.027	213394.371	.131	3	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order	Year	Reference
3011124.010	748695.415	1764363.349	16036731.738	.131	3	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AM-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AM-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AM-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AN

NGS Name: 5508 AN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9071](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	108 N	14 W	440936.74	923225.23	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1985	2012	GOOD	Horz=NO Vert=YES	YES	55031	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2012)

Stamping: 5508 AN 1985

IN ORONOCO, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF THE WEST FRONTAGE ROAD (5TH STREET NORTHWEST) BRIDGE NUMBER 55031 OVER THE SOUTH BRANCH OF THE MIDDLE FORK OF THE ZUMBRO RIVER, 65.0 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
964.913	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
964.913	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
964.913	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
964.814	.262		866.386	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.537 09 = -98.425 03 = -98.284

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 09 36.74024	92 32 25.22859	598765.700	219187.337	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3007687.362	754442.541	1760998.557	16042518.723	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AN-DO9071-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AN-DO9071-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AN-DO9071-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AP

NGS Name: 5508 AP

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	108 N	14 W	440936.64	923223.71		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2007	2012	GOOD	Horz=NO Vert=NO	YES	55077	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5508 AP 2007

IN ORONOCO, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF SOUTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55077 OVER THE SOUTH BRANCH (MIDDLE FORK) OF THE ZUMBRO RIVER.

Station Notes

IF THE COORDINATES AND/OR ELEVATIONS ARE ESTABLISHED OR PUBLISHED ON THIS GEODETIC CONTROL DISK, THEY SHOULD BE USED WITH CAUTION. THE GEODETIC CONTROL DISK IS LOCATED ON AN INTEGRAL ABUTMENT AND/OR A JOINTLESS BRIDGE AND IS SUBJECT TO MOVEMENT BEYOND GEODETIC TOLERANCES.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
968.577	.262			870.152	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.537 09 = -98.425 03 = -98.284

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 09 36.64424	92 32 23.70858	598876.556	219178.121	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3007798.317	754434.801	1761109.374	16042509.625	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AP-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AP-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AP-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AQ

NGS Name: 5508 AQ

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	108 N	14 W	440937.17	923222.72		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2012	GOOD	Horz=NO Vert=NO	YES	55078	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5508 AQ 2006

IN ORONOCO, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55078 OVER THE SOUTH BRANCH (MIDDLE FORK) OF THE ZUMBRO RIVER.

Station Notes

IF THE COORDINATES AND/OR ELEVATIONS ARE ESTABLISHED OR PUBLISHED ON THIS GEODETIC CONTROL DISK, THEY SHOULD BE USED WITH CAUTION. THE GEODETIC CONTROL DISK IS LOCATED ON AN INTEGRAL ABUTMENT AND/OR A JOINTLESS BRIDGE AND IS SUBJECT TO MOVEMENT BEYOND GEODETIC TOLERANCES.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
968.361	.262			869.936	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.537 09 = -98.425 03 = -98.284

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 09 37.16723	92 32 22.71599	598948.675	219231.415	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3007869.714	754489.042	1761181.407	16042562.968	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AQ-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AQ-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AQ-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AR

NGS Name: 5508 AR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9069](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	7	108 N	14 W	440957.31	923246.25	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1985	2012	GOOD	Horz=NO Vert=YES	YES	55033	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2016)

Stamping: 5508 AR 1985

IN ORONOCO, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF WEST FRONTAGE ROAD (5TH STREET NORTHWEST)
BRIDGE NUMBER 55033 OVER THE MIDDLE FORK OF THE ZUMBRO RIVER, 60.0 FEET SOUTHWEST OF SOUTHBOUND
TRUNK HIGHWAY 52, AT THE NORTHWEST END OF SHADY LAKE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
967.948	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
967.948	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
967.948	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
967.862	.262		869.444	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.530 09 = -98.422 03 = -98.277

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 09 57.30560	92 32 46.24711	597224.060	221263.028	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3006118.448	756497.318	1759455.466	16044591.921	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AR-DO9069-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AR-DO9069-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AR-DO9069-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AS

NGS Name: 5508 AS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	7	108 N	14 W	440957.72	923245.25		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2007	2012	GOOD	Horz=NO Vert=?	YES	55065	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5508 AS 2007

IN ORONOCO, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF SOUTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55065 OVER THE MIDDLE FORK OF THE ZUMBRO RIVER, AT TRUNK HIGHWAY 52 MILEPOINT 66.02.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
971.038	.262			872.616	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.530 09 = -98.422 03 = -98.277

Lat/Lon and County Coordinates (Feet)

NAD83(2007)		Olmsted County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year
44 09 57.71984	92 32 45.24648	597296.812	221305.306	.131	3	GPS - RTRN	2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)		UTM - Zone 15				Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year
3006190.623	756540.554	1759528.142	16044634.254	.131	3	GPS - RTRN	2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AS-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AS-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AS-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AT

NGS Name: 5508 AT

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	7	108 N	14 W	440958.24	923244.25		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2012	GOOD	Horz=NO Vert=?	YES	55066	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5508 AT 2006

IN ORONOCO, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55066 OVER THE MIDDLE FORK OF THE ZUMBRO RIVER, AT TRUNK HIGHWAY MILEPOINT 66.02.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
970.950	.262		872.531	.197	2007	GPS - RTRN		2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.530 09 = -98.422 03 = -98.277

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		
44 09 58.24494	92 32 44.25227	597369.045	221358.808	.131	3	GPS - RTRN	2012 RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order		
3006262.130	756595.005	1759600.289	16044687.807	.131	3	GPS - RTRN	2012 RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AT-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AT-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AT-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AU

NGS Name: 5508 AU

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	7	108 N	14 W	441006.46	923252.51		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2012	GOOD	Horz=NO Vert=?	YES	55079	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AU 2006

IN ORONOCO, 0.19 MILE NORTHWEST OF THE MIDDLE FORK OF THE ZUMBRO RIVER, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 55079 OVER TRUNK HIGHWAY 52, BETWEEN COUNTY ROAD 12 (WEST WHITE BRIDGE ROAD NORTHWEST) AND 5TH STREET NORTHWEST (SERVICE ROAD), 20.5 FEET SOUTHWEST OF THE END OF THE BARRIER.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
993.804	.262		895.389	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.527 09 = -98.418 03 = -98.274

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order	Year	Reference
44 10 06.46325	92 32 52.50702	596763.599	222188.368	.131	3	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order	Year	Reference
3005645.783	757416.349	1758994.258	16045516.381	.131	3	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AU-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AU-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AU-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AV

NGS Name: 5508 AV

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440156.02	922919.57		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2003	2012	GOOD	Horz=NO Vert=?	YES	55047	FLUSH	NO MAG MATERIAL

Monument Type
BRIDGE RAILING

Disk Type
SURVEY DISK

Mon. Agency
MNMT

Description: (2012)

Stamping: 5508 AV 2003

IN ROCHESTER, 0.66 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 19TH STREET NORTHWEST, THEN 0.1 MILE SOUTH ALONG THE RAMP TO WESTBOUND TRUNK HIGHWAY 14, IN A BRIDGE RAILING, AT THE SOUTHEAST CORNER OF THE EXIT RAMP FOR BRIDGE NUMBER 55047 OVER THE RAILROAD TRACKS AND 7TH STREET NORTHWEST, 0.1 MILE NORTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.589 09 = -98.507 03 = -98.333

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AV-3S-14SEP2010.jpg	S	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AV-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AV-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AW

NGS Name: 5508 AW

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440155.58	922916.87		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2012	GOOD	Horz=NO Vert=YES	YES	55046	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AW 2005

IN ROCHESTER, 0.1 MILE NORTH ALONG TRUNK HIGHWAY 52 NORTHBOUND FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, IN THE BRIDGE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 55046 OVER 7TH STREET NORTHWEST AND THE RAILROAD, AT TRUNK HIGHWAY 52 MILEPOINT 56.10.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1035.526	.262		937.019	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.507 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 55.58103	92 29 16.86502	612740.425	172554.134	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022279.335	708004.183	1775014.740	15995920.044	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AW-3N-14SEP2010.jpg	N	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AW-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AW-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 AX

NGS Name: 5508 AX

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	107 N	14 W	440155.11	922913.50		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2012	GOOD	Horz=NO Vert=?	YES	55048	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: 5508 AX 2005

IN ROCHESTER, 0.1 MILE NORTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14, 0.17 MILE NORTHWEST ON CIVIC CENTER DRIVE NORTHWEST FROM THE JUNCTION OF CIVIC CENTER DRIVE NORTHWEST AND 16TH AVENUE NORTHWEST, THEN 0.12 MILE NORTH ALONG NORTHBOUND RAMP, IN THE BRIDGE RAILING, IN THE SOUTHEAST CORNER OF BRIDGE NUMBER 55048 OVER 7TH STREET NORTHWEST AND THE RAILROAD TRACKS.

Station Notes

FROM THE JUNCTION OF 2ND STREET SOUTHWEST AND TRUNK HIGHWAY 52, GO NORTH 0.40 MILE ON TRUNK HIGHWAY 52, THEN NORTHEAST ON THE EXIT RAMP TO CIVIC CENTER DRIVE, EAST, MAKE U TURN AT 16TH AVENUE, RETURN TO THE RAMP, THEN NORTH 0.1 MILE ON THE NORTHBOUND ENTRANCE RAMP TO THE MARK.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1033.344	.262			934.841	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.586 09 = -98.504 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 01 55.11102	92 29 13.49943	612986.558	172507.817	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3022526.039	707961.148	1775260.814	15995873.997	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AX-3NW-14SEP2010.jpg	NW	Sep 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AX-2-14SEP2010.jpg		Sep 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_AX-1-14SEP2010.jpg		Sep 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 B

NGS Name: 5508 B

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	108 N	15 W	441130.50	923536.60	2	

NGS ACRN: PP0338	Get Map
NGS Quad / Sta Num : 44092321/	
USGS Quad: ORONOCO	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2012	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5508 B 1959 994

3.3 MILES NORTHWEST OF ORONOCO, 2.7 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 IN ORONOCO, 0.5 MILE SOUTHEAST OF THE NORTH OLMSTED COUNTY LINE, 100.0 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, 80.0 FEET EAST OF MILEPOST 69, 126.0 FEET EAST-SOUTHEAST OF THE EAST END OF A CONCRETE CULVERT, 33.0 FEET NORTHWEST OF A FIBER-OPTIC POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
994.654	.016	2/0						VERTICAL ADJUSTMENT	1991	00000025
<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
994.552	.016	2						VERTICAL CONTROL SURVEY	1973	L137 MINN
994.552	.016	2						VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.461 12B = -98.451 09 = -98.359 03 = -98.199

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_B-PP0338-3N-29JUN2010.jpg	N	Jun 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_B-PP0338-2-29JUN2010.jpg		Jun 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_B-PP0338-1-29JUN2010.jpg		Jun 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BB

NGS Name: 5508 BB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0319](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	107 N	14 W	440428.00	923021.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2009) Stamping: BB 1960

IN ROCHESTER, 0.3 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 22 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1026.579	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1026.491	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1026.491	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.569 09 = -98.474 03 = -98.327

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 BC

NGS Name: 5508 BC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9065](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	1	108 N	15 W	441100.90	923434.50	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2012	GOOD	Horz=NO Vert=YES	NO	55034	FLUSH	NO MAG MATERIAL

Monument Type
BRIDGE RAILING

Disk Type
SURVEY DISK

Mon. Agency
MNDDT

Description: (2011)

Stamping: 5508 BC 2011

2.0 MILES NORTHWEST OF ORONOCO, 1.8 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 EAST (5TH STREET NORTHWEST) IN ORONOCO, IN THE SOUTHEAST CORNER OF COUNTY ROAD BRIDGE NUMBER 55034 OVER TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 68.0, 17.0 FEET SOUTHEAST OF WESTBOUND COUNTY ROAD, 3.0 FEET WEST OF THE END OF THE BRIDGE RAIL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1055.460	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1055.460	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1055.460	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1055.418	.262		957.029	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.484 09 = -98.389 03 = -98.235

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 11 00.87227	92 34 34.13624	589332.936	227666.473	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2998143.852	762794.577	1751561.253	16050984.443	.131	3	GPS - RTRN	2012	RTRN2012



Mn/DOT Name: 5508 BD

NGS Name: 5508 BD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9066](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	1	108 N	15 W	441059.08	923427.38	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 13 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BD 2012

IN PINE ISLAND, 1.7 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 BRIDGE EAST (5TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 67.9, 59.93 FEET SOUTHWEST ON A RAMP TO THE EAST WHITE BRIDGE ROAD, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1068.082	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1068.082	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
1068.085	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1068.029	.262		969.640	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.487 09 = -98.392 03 = -98.235

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 10 59.08309	92 34 27.37883	589826.122	227487.323	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
2998639.316	762622.017	1752054.404	16050805.879	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BD-DO9066-3NW-13NOV2012.jpg	NW	Nov 13, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BD-DO9066-2-13NOV2012.jpg		Nov 13, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BD-DO9066-1-13NOV2012.jpg		Nov 13, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BE

NGS Name: 5508 BE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9067](#)

[Get Map](#)

NGS Quad / Sta Num : 44092321/

USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	12	108 N	15 W	441024.79	923346.51	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2013	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 13 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: 5508 BE 2012

1.0 MILE NORTHWEST OF ORONOCO, 0.8 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 BRIDGE EAST IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 67.0, 86.7 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 65.6 FEET NORTHWEST OF 120TH STREET NORTHWEST, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.556	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1006.556	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1006.556	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.432	.262		908.023	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.510 09 = -98.409 03 = -98.258

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 10 24.79373	92 33 46.50853	592819.384	224027.436	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3001677.937	759202.621	1755049.894	16047350.593	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BE-DO9067-3SW-13NOV2012.jpg	SW	Nov 13, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BE-DO9067-2-13NOV2012.jpg		Nov 13, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BE-DO9067-1-13NOV2012.jpg		Nov 13, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BF

NGS Name: 5508 BF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9072](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	17	108 N	14 W	440918.40	923202.10	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BF 2012

IN ORONOCO, 0.7 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 WEST (100TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 65.05, 113.2 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, 4.7 FEET SOUTHWEST OF A RIGHT-OF-WAY FENCE LINE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
988.243	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
988.243	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
988.246	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Geoid Separations(ft): GEOID18 = -98.540 12B = -98.540 09 = -98.428 03 = -98.287

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BF-DO9072-3NE-13NOV2012.jpg	NE	Nov 13, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BF-DO9072-2-13NOV2012.jpg		Nov 13, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BF-DO9072-1-13NOV2012.jpg		Nov 13, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BG

NGS Name: 5508 BG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9073](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	20	108 N	14 W	440840.06	923144.21	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** 5508 BG 2012

1.0 MILE SOUTH OF ORONOCO, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 64.35, 40.5 FEET NORTH OF 100TH STREET NORTHWEST, 175.2 FEET WEST-SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1027.176	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1027.176	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1027.176	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1026.993	.262		928.561	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.428 03 = -98.297

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 40.05869	92 31 44.21397	601782.718	213461.135	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3010779.882	748757.602	1764020.121	16036798.122	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BG-DO9073-3N-10NOV2012.jpg	N	Nov 10, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BG-DO9073-2-10NOV2012.jpg		Nov 10, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BG-DO9073-1-10NOV2012.jpg		Nov 10, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BH

NGS Name: 5508 BH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9076](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	33	108 N	14 W	440630.04	923047.86	2	C	2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BH 2012

6.0 MILES NORTH-NORTHWEST OF ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 42.95, AT THE NORTH EDGE OF ROCHESTER, 263.4 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 36.0 FEET NORTH OF SOUTHBOUND TRUNK HIGHWAY 63, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1096.858	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1096.858	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1096.858	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1096.858	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1096.858			998.335	.023	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1096.858	.131		998.525	.066	1996	GPS - STATIC	2024	HTH63
1096.858			998.335	.023	2011	GPS - STATIC	2024	HTH63
1096.822	.262		998.276	.197	2011	GPS - RTRN	2023	RTRN2023
1096.730	.262		998.285	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.543 09 = -98.445 03 = -98.307

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 30.03928	92 30 47.86075	605956.446	200314.065	.010		ADJUSTMENT	2024	GPS3721
44 06 30.03928	92 30 47.86075	605956.446	200314.065	.010	C	GPS - STATIC	2024	HTH63
44 06 30.03923	92 30 47.86074	605956.446	200314.060	.131	3	GPS - RTRN	2023	RTRN2023
<u>NAD83(2007)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 30.03784	92 30 47.86061	605956.456	200313.919	.131	3	GPS - RTRN	2012	RTRN2012
<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 30.03910	92 30 47.86098	605956.429	200314.047	.033	C	GPS - STATIC	2024	HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015127.552	735668.629	1768205.471	16023661.054	.010		ADJUSTMENT	2024	GPS3721
3015127.552	735668.629	1768205.471	16023661.054	.010	C	GPS - STATIC	2024	HTH63
3015127.553	735668.624	1768205.471	16023661.049	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015127.565	735668.484	1768205.482	16023660.909	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015127.536	735668.611	1768205.454	16023661.036	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BH-DO9076-3N-19APR2023.jpg	N	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BH-DO9076-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BH-DO9076-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BJ

NGS Name: 5508 BJ

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	14 W	440537.67	923049.41	2	C

NGS ACRN: [DO9077](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: 5508 BJ 2012

IN ROCHESTER, 0.15 MILE WEST ALONG 65TH STREET NORTHWEST FROM THE JUNCTION OF 65TH STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, 41.7 FEET SOUTH OF EASTBOUND 65TH STREET NORTHWEST, 96.1 FEET EAST OF 34TH AVENUE NORTHWEST, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1108.220	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1108.220	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1108.220	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1108.216	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1108.220			1009.667	.023	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1108.220	.131		1009.857	.066	1996	GPS - STATIC	2024	HTH63
1108.220			1009.667	.023	2011	GPS - STATIC	2024	HTH63
1108.203	.262		1009.650	.197	2011	GPS - RTRN	2023	RTRN2023
1108.197	.262		1009.644	.197	2011	GPS - OPUS	2021	GPSBM
1108.095	.262		1009.542	.197	2011	GPS - OPUS	2021	GPSBM
1108.243	.262		1009.690	.197	2011	GPS - RTRN	2021	RTRN2021
1108.138	.262		1009.680	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.553 12B = -98.556 09 = -98.458 03 = -98.317

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 05 37.67306	92 30 49.40580	605869.622	195010.530	.010		ADJUSTMENT	2024	GPS3721
44 05 37.67306	92 30 49.40580	605869.622	195010.530	.010	C	GPS - STATIC	2024	HTH63
44 05 37.67285	92 30 49.40508	605869.674	195010.509	.131	3	GPS - RTRN	2023	RTRN2023
44 05 37.67348	92 30 49.40622	605869.591	195010.572	.131	3	GPS - OPUS	2021	GPSBM
44 05 37.67370	92 30 49.40636	605869.580	195010.595	.131	3	GPS - OPUS	2021	GPSBM
44 05 37.67324	92 30 49.40510	605869.672	195010.548	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 05 37.67322	92 30 49.40686	605869.544	195010.546	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 05 37.67288	92 30 49.40602	605869.606	195010.512	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015111.253	730364.974	1768124.094	16018359.737	.010		ADJUSTMENT	2024	GPS3721
3015111.253	730364.974	1768124.094	16018359.737	.010	C	GPS - STATIC	2024	HTH63
3015111.306	730364.954	1768124.147	16018359.716	.131	3	GPS - RTRN	2023	RTRN2023
3015111.222	730365.016	1768124.063	16018359.779	.131	3	GPS - OPUS	2021	GPSBM
3015111.211	730365.038	1768124.053	16018359.801	.131	3	GPS - OPUS	2021	GPSBM
3015111.304	730364.993	1768124.145	16018359.755	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015111.176	730364.989	1768124.017	16018359.752	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015111.238	730364.956	1768124.078	16018359.718	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BJ-DO9077-3S-19APR2023.jpg	S	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BJ-DO9077-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BJ-DO9077-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BK

NGS Name: 5508 BK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9080](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	21	107 N	14 W	440354.59	922956.86	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BK 2012

IN ROCHESTER, AT THE JUNCTION OF 41ST STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 58.6, 58.7 FEET SOUTH OF 41ST STREET NORTHWEST, 282.4 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 65.6 FEET WEST OF THE EAST FRONTAGE ROAD TO 41ST STREET NORTHWEST, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1051.852	.016	2/1					VERTICAL CONTROL SURVEY	2024	VHAVA
1051.852	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1051.852	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825
1051.852	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1051.927	.262			953.358	.197	2011	GPS - RTRN	2023	RTRN2023
1051.691	.262			953.217	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.477 03 = -98.330

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>				<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 03 54.58678	92 29 56.86080	609757.368	184590.395	.131	3	GPS - RTRN	2023	RTRN2023	

<u>NAD83(2007)</u>		<u>Olmsted County</u>				<u>Project Info</u>			
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 03 54.58760	92 29 56.86195	609757.284	184590.478	.131	3	GPS - RTRN	2012	RTRN2012	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>								
3019136.794	719998.527	1772020.760	16007948.078	.131	3	GPS - RTRN	2023	RTRN2023	

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>								
3019136.708	719998.608	1772020.676	16007948.161	.131	3	GPS - RTRN	2012	RTRN2012	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BK-DO9080-3S-19APR2023.jpg	S	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BK-DO9080-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BK-DO9080-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BL

NGS Name: 5508 BL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9081](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	22	107 N	14 W	440309.42	922937.07	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 27 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** 5508 BL 2012

IN ROCHESTER, 0.7 MILE SOUTH-SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 37TH STREET NORTHWEST IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 57.65, 47.2 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 2.2 FEET NORTHEAST OF A RIGHT-OF-WAY FENCE LINE, 1.5 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1051.018	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1051.018	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1051.018	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1051.015	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1051.018			952.492	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1051.018	.131		952.702	.066	1996	GPS - STATIC	2024	HTH63
1051.018			952.492	.019	2011	GPS - STATIC	2024	HTH63
1051.031	.262		952.459	.197	2011	GPS - RTRN	2023	RTRN2023
1050.884	.262		952.403	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.481 03 = -98.330

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Olmsted County			Project Info		
Geodetic Position			X	Y		Year	Reference	
Latitude	Longitude				Acc Order Determination Method			
44 03 09.41558	92 29 37.06796		611226.070	180023.440	.010 ADJUSTMENT	2024	GPS3721	
44 03 09.41558	92 29 37.06796		611226.070	180023.440	.010 C GPS - STATIC	2024	HTH63	
44 03 09.41546	92 29 37.06675		611226.158	180023.429	.131 3 GPS - RTRN	2023	RTRN2023	

NAD83(2007)			Olmsted County			Project Info		
Geodetic Position			X	Y		Year	Reference	
Latitude	Longitude				Acc Order Determination Method			
44 03 09.41607	92 29 37.06779		611226.082	180023.490	.131 3 GPS - RTRN	2012	RTRN2012	

NAD83(1996)			Olmsted County			Project Info		
Geodetic Position			X	Y		Year	Reference	
Latitude	Longitude				Acc Order Determination Method			
44 03 09.41541	92 29 37.06818		611226.054	180023.423	.033 C GPS - STATIC	2024	HTH63	



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020665.942	715451.962	1773493.465	16003384.590	.010		ADJUSTMENT	2024	GPS3721
3020665.942	715451.962	1773493.465	16003384.590	.010	C	GPS - STATIC	2024	HTH63
3020666.031	715451.952	1773493.554	16003384.578	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020665.954	715452.012	1773493.477	16003384.640	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020665.927	715451.945	1773493.449	16003384.573	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BL-DO9081-3SW-19APR2023.jpg	SW	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BL-DO9081-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BL-DO9081-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BM

NGS Name: 5508 BM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9083](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	107 N	14 W	440233.70	922913.06	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BM 2012

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND 19TH STREET NORTHWEST IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 56.90, 322.6 FEET SOUTH OF 19TH STREET NORTHWEST, 54.1 FEET EAST OF THE OFF RAMP TO 19TH STREET NORTHWEST, 34.3 FEET WEST OF A RIGHT-OF-WAY FENCE LINE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1100.572	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1100.572	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1100.572	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1100.572	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1100.572			1002.022	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1100.572	.131		1002.232	.066	1996	GPS - STATIC	2024	HTH63
1100.572			1002.022	.019	2011	GPS - STATIC	2024	HTH63
1100.516	.262		1002.032	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.573 09 = -98.487 03 = -98.327

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 02 33.69944	92 29 13.05636	612998.567	176415.675	.010		ADJUSTMENT	2024	GPS3721
44 02 33.69944	92 29 13.05636	612998.567	176415.675	.010	C	GPS - STATIC	2024	HTH63

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 02 33.69838	92 29 13.05812	612998.439	176415.567	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 02 33.69928	92 29 13.05658	612998.551	176415.659	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022486.081	711868.441	1775268.857	15999780.181	.010		ADJUSTMENT	2024	GPS3721
3022486.081	711868.441	1775268.857	15999780.181	.010	C	GPS - STATIC	2024	HTH63

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022485.954	711868.331	1775268.729	15999780.073	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022486.065	711868.424	1775268.841	15999780.164	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BM-DO9083-3E-13APR2023.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BM-DO9083-2-13APR2023.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BM-DO9083-1-13APR2023.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Apr 13, 2023
	Apr 13, 2023
	Apr 13, 2023



Mn/DOT Name: 5508 BN

NGS Name: 5508 BN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9084](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	107 N	14 W	440153.82	922918.85	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 35 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5508 BN 2012

IN ROCHESTER, AT THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 56.15, 47.9 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 52, 257.4 FEET NORTH OF THE NORTHEAST CORNER OF THE BRIDGE OVER WESTBOUND TRUNK HIGHWAY 14, 15.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1034.309	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1034.309	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1034.309	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1034.309	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1034.293	.262		935.782	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.589 09 = -98.507 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 53.81560	92 29 18.84599	612596.626	172374.604	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3022137.950	707822.775	1774871.185	15995740.447	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BN-DO9084-3W-13APR2023.jpg	W	Apr 13, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BN-DO9084-2-13APR2023.jpg		Apr 13, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BN-DO9084-1-13APR2023.jpg		Apr 13, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 BP

NGS Name: 5508 BP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1754](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	9	107 N	14 W	440453.22	923034.41	2	C	2022	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 33 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2022) Stamping: 5508 BP 2022

IN ROCHESTER 0.85 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 65TH STREET NORTHWEST IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 59.8, 22.5 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 61.0 FEET NORTHEAST OF THE EXIT RAMP FROM SOUTHBOUND TRUNK HIGHWAY 52 TO COUNTY ROAD 22(55TH STREET NORTHWEST), 74.0 FEET SOUTHEAST OF A LIGHT POLE, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1025.008	.016	2/1				VERTICAL CONTROL SURVEY		2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1025.044			926.478	.027	2011	HORIZONTAL ADJUSTMENT		2024	GPS3721
1025.044	.131		926.671	.066	1996	GPS - STATIC		2024	HTH63
1025.044			926.478	.027	2011	GPS - STATIC		2024	HTH63
1025.031	.262		926.468	.197	2011	GPS - RTRN		2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.563 03 = -98.323

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 04 53.21603	92 30 34.41253	606986.101	190513.876	.013		ADJUSTMENT
44 04 53.21603	92 30 34.41253	606986.101	190513.876	.013	C	GPS - STATIC
44 04 53.21524	92 30 34.41183	606986.152	190513.796	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 04 53.21585	92 30 34.41275	606986.085	190513.857	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3016287.299	725884.031	1769244.669	16013866.172	.013		ADJUSTMENT
3016287.299	725884.031	1769244.669	16013866.172	.013	C	GPS - STATIC
3016287.351	725883.952	1769244.720	16013866.093	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3016287.283	725884.012	1769244.652	16013866.154	.033	C	GPS - STATIC

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BP-DS1754-3SW-19APR2023.jpg	SW	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BP-DS1754-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_BP-DS1754-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 C

NGS Name: 5508 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0337](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	2	108 N	15 W	441118.59	923510.13	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5508 C 1959 1023

2.9 MILES NORTHWEST OF ORONOCO, 1.77 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 (WEST WHITE BRIDGE ROAD NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 68.5, 100.0 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, 2.0 FEET SOUTHWEST OF A FENCE LINE, 0.5 FOOT SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.148	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1024.148	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1024.151	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1024.129	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.030	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1024.030	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1024.030	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.014	.262		925.641	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.474 12B = -98.464 09 = -98.373 03 = -98.215

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 18.59185	92 35 10.12700	586702.987	229450.256	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2995490.748	764543.045	1748930.639	16052764.737	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_C-PP0337-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_C-PP0337-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_C-PP0337-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 D

NGS Name: 5508 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0336](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	2	108 N	15 W	441109.96	923452.56	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

UNKNOWN

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2007)

Stamping: 5508 D 1959

1.5 MILES NORTHWEST OF ORONOCO, 1.5 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE SOUTH JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, IN THE SOUTHEAST CORNER OF A BOX CULVERT, 30.0 FEET NORTHEAST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 68.2, 1.3 FEET NORTHEAST OF A WITNESS POST.

Station Notes

A NEW CULVERT IS IN PLACE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1014.168	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1014.069	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1014.069	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
			915.651	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			915.736	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2364-B
1014.171	.131		915.841	.066	1996	HORIZONTAL ADJUSTMENT	2007	GPS2364
1014.171	.131		915.841	.066	1996	GPS - STATIC	2007	HWABA

Geoid Separations(ft): GEOID18 = -98.481 12B = -98.474 09 = -98.382 03 = -98.225

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 09.95844	92 34 52.55501	587986.962	228581.124	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 09.95876	92 34 52.55606	587986.885	228581.156	.033	C	ADJUSTMENT	2010	GPS2364-B

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 09.95833	92 34 52.55553	587986.924	228581.112	.033	C	ADJUSTMENT	2007	GPS2364
44 11 09.95833	92 34 52.55553	587986.924	228581.112	.033	C	GPS - STATIC	2007	HWABA

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996786.004	763691.154	1750214.936	16051897.308	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996785.927	763691.185	1750214.860	16051897.340	.033	C	ADJUSTMENT	2010	GPS2364-B

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2996785.966	763691.142	1750214.899	16051897.297	.033	C	ADJUSTMENT	2007	GPS2364
2996785.966	763691.142	1750214.899	16051897.297	.033	C	GPS - STATIC	2007	HWABA

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_D-PP0336-3NW-28APR2010.jpg	NW	Apr 28, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_D-PP0336-2-28APR2010.jpg		Apr 28, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_D-PP0336-1-28APR2010.jpg		Apr 28, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 DD

NGS Name: 5508 DD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0317](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	21	107 N	14 W	440355.00	923002.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: DD 1960 1034.72

IN ROCHESTER, 2.6 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, 0.3 MILE NORTH OF 37TH STREET NORTHWEST, 174.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52 AT STATION 2199+00, 36.0 FEET SOUTH OF THE EAST END OF THE SHERATON ROCHESTER HOTEL, 35.0 FEET SOUTH OF A POWER POLE, 2.0 FEET EAST OF A FENCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1034.739	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1034.653	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1034.653	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.477 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 E

NGS Name: 5508 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0335](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	1	108 N	15 W	441100.87	923434.14	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012) **Stamping:** 5508 E 1959 1025

2.3 MILES NORTHWEST OF ORONOCO, 1.8 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, 100.0 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 67.96, 0.8 FOOT SOUTHWEST OF A FENCE, 0.4 FOOT SOUTHWEST OF A WITNESS POST.

Station Notes

QUESTIONABLE FOR SETUP, THE MARK IS INSIDE OF A VERTICAL PLASTIC PIPE, BURIED 4.5 FEET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1025.677	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1025.582	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1025.582	.016	2					VERTICAL CONTROL SURVEY	1973	L137 MINN
1025.582	.016	2					VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.484 09 = -98.389 03 = -98.235

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_E-PP0335-3NE-03AUG2010.jpg	NE	Aug 3, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_E-PP0335-2-03AUG2010.jpg		Aug 3, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_E-PP0335-1-03AUG2010.jpg		Aug 3, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 EE

NGS Name: 5508 EE

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	107 N	14 W	440341.00	922951.00	2	

NGS ACRN: [PP0152](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Mon. Agency</u>
1960	2005	DESTROYED	Horz=NO Vert=NO	YES	9214		SEE DESCRIPTION	MNDT

Monument Type
STRUCTURE (MASSIVE)

Disk Type
SURVEY DISK

Description: (2002)

Stamping: EE 1960 1080.37

IN ROCHESTER, 2.3 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, 62.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52 AT STATION 2215+28, IN THE NORTHEAST CORNER OF 37TH STREET NORTHWEST BRIDGE NUMBER 9214 OVER TRUNK HIGHWAY 52.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1080.405	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1080.319	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1080.319	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.477 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 F

NGS Name: 5508 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0334](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	108 N	15 W	441046.30	923413.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2012	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5508 F 1959 1016

1.9 MILES NORTHWEST OF ORONOCO, 1.3 MILES NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, IN THE SOUTHEAST CORNER OF A BOX CULVERT, 55.5 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 67.55, 1.0 FOOT NORTHWEST OF A WITNESS POST.

Station Notes

A NEW CULVERT IS IN PLACE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1016.481	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1016.389	.016	2				VERTICAL CONTROL SURVEY	1972	L22792
1016.389	.016	2				VERTICAL CONTROL SURVEY	1972	L137 MINN

Geoid Separations(ft): GEOID18 = -98.500 12B = -98.494 09 = -98.399 03 = -98.245

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_F-PP0334-3N-03AUG2010.jpg	N	Aug 3, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_F-PP0334-2-03AUG2010.jpg		Aug 3, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_F-PP0334-1-03AUG2010.jpg		Aug 3, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 FF

NGS Name: 5508 FF

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	107 N	14 W	440322.40	922944.10	2	

NGS ACRN: [PP0151](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5508 FF 1960 1062.19

IN ROCHESTER, 1.9 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52, 0.4 MILE SOUTH OF 37TH STREET NORTHWEST, AT TRUNK HIGHWAY 52 MILEPOINT 57. 91, 79.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 52 AT STATION 2235+59, 33.0 FEET EAST OF THE WEST FRONTAGE ROAD, 19.0 FEET EAST-NORTHEAST OF A WITNESS SIGN ON A FENCE POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1062.212	.016	2/1				VERTICAL ADJUSTMENT	2011 00000690
1062.212	.016	2/1				VERTICAL CONTROL SURVEY	2002 VROC4
1062.212	.016	2/1				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1062.134	.016	2/1				VERTICAL CONTROL SURVEY	2002 VROC4
1062.134	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1062.134	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.481 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 G

NGS Name: 5508 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0333](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	12	108 N	15 W	441029.00	923352.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1984) **Stamping:** 5508 G 1959 1011

1.5 MILES NORTHWEST OF ORONOCO, 0.75 MILE NORTHWEST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 67.15, 58.0 FEET SOUTHWEST OF NORTHBOUND TRUNK HIGHWAY 52, 26.3 FEET NORTHEAST OF SOUTHBOUND TRUNK HIGHWAY 52, 24.1 FEET SOUTH OF A STEEL POST, 21.0 FEET WEST OF A STEEL POST, IN THE NORTHEAST CORNER OF A TRUNK HIGHWAY 52 BOX CULVERT.

Station Notes

8-3-2010 FOUND A 4.0 FOOT BY 6.0 FOOT ARCHED CONCRETE CULVERT SPANNING BOTH LANES.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1011.674	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1011.583	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1011.583	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.510 12B = -98.507 09 = -98.405 03 = -98.254

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 GG

NGS Name: 5508 GG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0150](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	22	107 N	14 W	440302.00	922934.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2009)

Stamping: GG 1960 1044.11

IN ROCHESTER, 0.7 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 22 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1044.092	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1044.017	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1044.017	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.484 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 H

NGS Name: 5508 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0332](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	12	108 N	15 W	441021.18	923330.19	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5508 H 1959 972

1.2 MILES NORTHWEST OF ORONOCO, 0.75 MILE NORTHWEST OF THE TRUNK HIGHWAY 52 BRIDGE OVER THE MIDDLE FORK OF THE ZUMBRO RIVER, IN THE SOUTHEAST CORNER OF A NORTHBOUND TRUNK HIGHWAY 52 BOX CULVERT, 170.0 FEET SOUTHWEST OF 59TH AVENUE NORTHWEST, 150.0 FEET NORTHWEST OF COUNTY ROAD 12 (WHITE BRIDGE ROAD NORTHWEST), AT TRUNK HIGHWAY 52 MILEPOINT 66.8, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
972.895	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
972.895	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
972.895	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
972.895	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
972.806	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
972.806	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
972.806	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
972.761	.262		874.349	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.514 09 = -98.412 03 = -98.264

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 10 21.17956	92 33 30.19407	594010.058	223666.566	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3002873.162	758857.648	1756240.414	16046991.103	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_H-PP0332-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_H-PP0332-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_H-PP0332-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 HH

NGS Name: 5508 HH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0149](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	27	107 N	14 W	440245.00	922922.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2001	1980	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2009)

Stamping: HH 1960 1069.55

IN ROCHESTER, 1.2 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 22 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1069.575	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1069.499	.016	2				VERTICAL CONTROL SURVEY		1972	L106 MINN
1069.499	.016	2				VERTICAL CONTROL SURVEY		1971	L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.573 09 = -98.484 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 I

NGS Name: 5508 I

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0328](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	7	108 N	14 W	441013.00	923304.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1959) Stamping: 5508 I 1959 974

IN ORONOCO, 0.75 MILE WEST ON COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND COUNTY ROAD 18
IN ORONOCO, THEN 0.1 MILE NORTHWEST ON TRUNK HIGHWAY 52, 120.0 FEET SOUTH OF A POWER POLE, 100.0 FEET
NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 66.35, 10.0 FEET WEST OF A
DRIVEWAY, 0.3 FOOT WEST OF A WITNESS POST.

Station Notes

THE POSITION FALLS IN A RECONSTRUCTED AREA. GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
974.614	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
974.526	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
974.526	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.523 09 = -98.415 03 = -98.271

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 I 1

NGS Name: 5508 I 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0329](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	7	108 N	14 W	441008.00	923255.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	NO	CO RD		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1972) Stamping: 5508 I1 1972

IN ORONOCO, 0.6 MILE WEST ON COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND COUNTY ROAD 18
IN ORONOCO, 250.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF A COUNTY ROAD
12 BOX CULVERT, 146.0 FEET WEST OF A TEE-ROAD NORTH, 18.0 FEET SOUTH OF COUNTY ROAD 12.

Station Notes

THE AREA HAS BEEN RECONSTRUCTED, THE BOX CULVERT IS GONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
969.116	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
969.030	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
969.030	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.523 09 = -98.418 03 = -98.271

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 I 2

NGS Name: 5508 I 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0330](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	7	108 N	14 W	441010.00	923220.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2009)

Stamping: 5508 I2 1972

IN ORONOCO, AT THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
978.446	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
978.361	.016	2				VERTICAL CONTROL SURVEY	1973 L137 MINN
978.361	.016	2				VERTICAL CONTROL SURVEY	1972 L22792

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.523 09 = -98.418 03 = -98.274

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 II

NGS Name: 5508 II

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0148](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	107 N	14 W	440236.00	922915.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2001	DESTROYED	Horz=NO Vert=NO	NO	9271		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1980)

Stamping: II 1960 1099.78

IN ROCHESTER, AT THE JUNCTION OF ELTON HILLS DRIVE NORTHWEST AND FRONTAGE AVENUE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1099.876	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1099.801	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1099.801	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.573 09 = -98.487 03 = -98.327

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 J

NGS Name: 5508 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0327](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	7	108 N	14 W	440957.00	923246.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO	9235		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1959) Stamping: 5508 J 1959 698

IN ORONOCO, 0.75 MILE WEST ON COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND COUNTY ROAD 18
IN ORONOCO, THEN 0.25 MILE SOUTHEAST ON TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF NORTHBOUND
TRUNK HIGHWAY 52 BRIDGE NUMBER 9235 OVER THE ZUMBRO RIVER, AT THE NORTH END OF SHADY LAKE, AT TRUNK
HIGHWAY 52 MILEPOINT 66.0.

Station Notes

A NEW BRIDGE 55065 WAS BUILT IN 2007.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
968.764	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
968.679	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
968.679	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.530 12B = -98.530 09 = -98.422 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 JJ

NGS Name: 5508 JJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	104 N	14 W	440222.00	922912.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2002	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5508 JJ 1960

IN ROCHESTER, 0.6 MILE NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST IN ROCHESTER, 167.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2301+04.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1085.529	.033	3				VERTICAL CONTROL SURVEY	1960 CS5508

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.576 09 = -98.491 03 = -98.327

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 K

NGS Name: 5508 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0184](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	18	108 N	14 W	440937.00	923224.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO	9234		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1959) **Stamping:** 5508 K 1959 963

IN ORONOCO, 1.1 MILES SOUTH ON COUNTY ROAD 18 FROM THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12
IN ORONOCO, THEN 0.6 MILE NORTHWEST ON TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF NORTHBOUND
TRUNK HIGHWAY 52 BRIDGE NUMBER 9234 OVER THE MIDDLE FORK OF THE ZUMBRO RIVER.

Station Notes

A NEW BRIDGE 55077 WAS BUILT IN 2007.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
963.443	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
963.361	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
963.361	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.537 09 = -98.425 03 = -98.284

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 KK

NGS Name: 5508 KK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0147](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	107 N	14 W	440210.00	922918.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2001	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1980) Stamping: KK 1960 1041.60

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND 14TH STREET NORTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1044.673	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1044.604	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1044.604	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.586 09 = -98.500 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 L

NGS Name: 5508 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0183](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	17	108 N	14 W	440926.00	923211.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 1 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1959) Stamping: 5508L 1959 983

1.1 MILES SOUTH ON COUNTY ROAD 18 FROM THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12 IN ORONOCO, THEN 0.3 MILE NORTHWEST ON TRUNK HIGHWAY 52, 200.0 FEET SOUTHWEST OF THE FARM BUILDINGS, 100.0 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 65.2, 1.0 FOOT WEST OF A NORTH-SOUTH FENCE LINE, 0.8 FOOT WEST OF A WITNESS POST.

Station Notes

NORTHBOUND TRUNK HIGHWAY 52 WAS RELOCATED 75.0 FEET EAST. GRADED OUT

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
983.728	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
983.646	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
983.646	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.540 09 = -98.428 03 = -98.287

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 LL

NGS Name: 5508 LL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7917](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	104 N	14 W	440205.00	922913.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	NO	9068		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2002) Stamping: 5508 LL 1960

IN ROCHESTER, IN THE SOUTHEAST CORNER OF A RAILROAD BRIDGE NUMBER 9068, 0.07 MILE NORTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, AT TRUNK HIGHWAY 52 MILEPOINT 56.15, 41.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2328+89.

Station Notes

REPLACED BY BRIDGE 55046 IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1030.592	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1030.595	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1030.588	.033	3				VERTICAL CONTROL SURVEY	1960	CS5508

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.582 09 = -98.500 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 M

NGS Name: 5508 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0182](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	17	108 N	14 W	440909.00	923158.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1959) **Stamping:** 5508 M 1959 976

IN ORONOCO, 1.1 MILES SOUTH ON COUNTY ROAD 18 FROM THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12
IN ORONOCO, THEN 0.1 MILE SOUTH ALONG TRUNK HIGHWAY 52, IN THE SOUTHWEST CORNER OF A TRUNK HIGHWAY 52
TWIN BOX CULVERT, AT TRUNK HIGHWAY 52 MILEPOINT 64.8, 170.0 FEET NORTHWEST OF AN ORONOCO POPULATION 564
HIGHWAY SIGN.

Station Notes

THE CULVERT WAS REPLACED IN 2006, ABOUT 300.0 FEET NORTH.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
976.540	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
976.458	.016	2				VERTICAL CONTROL SURVEY	1973 L137 MINN
976.458	.016	2				VERTICAL CONTROL SURVEY	1972 L22792

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.543 09 = -98.428 03 = -98.290

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 MM

NGS Name: 5508 MM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0146](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440155.00	922916.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2001	DESTROYED	Horz=NO Vert=NO	NO	9069		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (2000)

Stamping: 1030.25 MM 1960

IN ROCHESTER, 300.0 FEET NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE NUMBER 9069 OVER THE RAILROAD AND 7TH STREET NORTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1030.280	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1030.214	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1030.214	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.507 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 MM 1

NGS Name: 5508 MM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7918](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	14 W	440158.40	922916.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	NO	9069		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2001)

Stamping: 5508 MM 1

IN ROCHESTER, IN THE ABUTMENT AT THE NORTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 52 BRIDGE
NUMBER 9069 OVER TRUNK HIGHWAY 14, 33.4 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52.

Station Notes

REPLACED BY BRIDGE 55046 IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1031.442	.016	2/1				VERTICAL ADJUSTMENT	2006 00000497
1031.442	.016	2/1				VERTICAL CONTROL SURVEY	2001 VKASS

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.586 09 = -98.504 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 O

NGS Name: 5508 O

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0181](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	20	108 N	14 W	440834.00	923138.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1959) Stamping: 5508-O 1959 1024

IN ORONOCO, 1.1 MILES SOUTH ON COUNTY ROAD 18 FROM THE JUNCTION OF COUNTY ROAD 18 AND COUNTY ROAD 12
IN ORONOCO, THEN 0.8 MILE SOUTH ALONG TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 64.1, 124.0 FEET
NORTH-NORTHWEST OF A 4.0 INCH DIAMETER APPLE TREE, 6.0 FEET SOUTHEAST OF A POWER POLE NUMBER 36829, 1.0
FOOT WEST OF A WITNESS POST.

Station Notes

THE POSITION FALLS IN THE SOUTHEAST OFF-RAMP OF A NEW INTERCHANGE. GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1024.217	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1024.135	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1024.135	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.432 03 = -98.297

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 OO

NGS Name: 5508 OO

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DH7916](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	104 N	14 W	440200.60	922913.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	YES	9032		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2002) Stamping: 5508 OO 1960

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, AT TRUNK HIGHWAY 52 MILEPOINT 56.06, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 52 BRIDGE NUMBER 9032 OVER TRUNK HIGHWAY 14, 41.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2333+50.

Station Notes

REPLACED BY BRIDGE 55049 IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1023.837	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1023.837	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1023.863	.033	3				VERTICAL CONTROL SURVEY	1960	CS5508

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.586 09 = -98.504 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 P

NGS Name: 5508 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0180](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	29	108 N	14 W	440813.40	923130.40	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2012	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 7 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5508 P 1959 1061

2.3 MILES SOUTH-SOUTHEAST OF ORONOCO, 1.2 MILES SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 18 IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 63.75, 55.0 FEET SOUTHEAST OF THE EAST END OF A CONCRETE CULVERT, 1.0 FOOT WEST OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1062.167	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1062.081	.016	2					VERTICAL CONTROL SURVEY	1973	L137 MINN
1062.081	.016	2					VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.435 03 = -98.300

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_P-PP0180-3E-29JUN2010.jpg	E	Jun 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_P-PP0180-2-29JUN2010.jpg		Jun 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_P-PP0180-1-29JUN2010.jpg		Jun 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 PP

NGS Name: 5508 PP

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	104 N	14 W	440146.00	922915.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2010	DESTROYED	Horz=NO Vert=NO	NO	8953		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (1960) Stamping: 5508 PP 1960

IN ROCHESTER, 0.08 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST IN ROCHESTER, 58.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2337+70, IN THE SOUTHEAST HEADWALL OF TRUNK HIGHWAY 52 TRIPLE BOX CULVERT 8953.

Station Notes

THE CULVERT WAS REPLACED BY SOUTHBOUND BRIDGE 55061 AND NORTHBOUND BRIDGE 55062.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.579	.033	3				VERTICAL CONTROL SURVEY	1960	CS5508

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.507 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 Q

NGS Name: 5508 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0179](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	108 N	14 W	440750.69	923123.20	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5508 Q 1959 1060

2.47 MILES SOUTH-SOUTHEAST OF ORONOCO, 0.94 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST), 66.80 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, AT MILEPOINT 63.27, 7.5 FEET WEST OF A RIGHT-OF-WAY FENCE, 8.0 FEET EAST OF A 10.0 INCH DIAMETER EVERGREEN TREE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1060.109	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1060.109	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1060.109	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1060.109	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1060.024	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1060.024	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1060.024	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1060.100	.262		961.665	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.438 03 = -98.304

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 50.69265	92 31 23.19960	603338.962	208469.189	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012402.172	743787.343	1765580.794	16031809.950	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_Q-PP0179-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_Q-PP0179-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_Q-PP0179-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 QQ RESET

NGS Name: 5508 QQ RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	34	107 N	14 W	440127.00	922914.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1963	2002	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5508 QQ RESET 1963

IN ROCHESTER, 100.0 FEET NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14/TRUNK HIGHWAY 52 AND 4TH STREET NORTHWEST, 33.0 FEET WEST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2342+00.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1004.847	.033	3				VERTICAL CONTROL SURVEY	1963	CS5508	

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.514 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 R

NGS Name: 5508 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0178](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	29	108 N	14 W	440729.81	923116.43	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5508 R 1959 1013

2.8 MILES SOUTH-SOUTHEAST OF ORONOCO, 1.38 MILES SOUTH OF THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST), 0.16 MILE NORTH OF THE 85TH STREET NORTHWEST BRIDGE OVER TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF A NORTHBOUND TRUNK HIGHWAY 52 BOX CULVERT, AT TRUNK HIGHWAY 52 MILEPOINT 62.87.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1013.554	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1013.554	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1013.554	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1013.554	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1013.476	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1013.476	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1013.476	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1013.466	.262		915.028	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.441 03 = -98.307

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 29.80745	92 31 16.42857	603842.967	206356.551	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012934.161	741681.826	1766086.739	16029698.750	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_R-PP0178-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_R-PP0178-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_R-PP0178-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 RR

NGS Name: 5508 RR

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	34	104 N	14 W	440118.00	922914.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1960	2002	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002) Stamping: 5508 RR 1960

IN ROCHESTER, 0.35 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST IN ROCHESTER, 81.0 FEET EAST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 STATION 2352+14, 35.0 FEET NORTH OF 2ND STREET NORTHWEST.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1004.860	.033	3				VERTICAL CONTROL SURVEY	1960	CS5508	

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.589 09 = -98.514 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 S

NGS Name: 5508 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0177](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	29	108 N	14 W	440722.99	923113.96	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1959	2012	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5508 S 1959 1016 XX

3.0 MILES SOUTH-SOUTHEAST OF ORONOCO, 1.08 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 (75TH STREET NORTHWEST), IN THE SOUTHEAST CORNER OF A BOX CULVERT (OF NORTHBOUND TRUNK HIGHWAY 52), AT TRUNK HIGHWAY 52 MILEPOINT 62.73, 300.0 FEET WEST OF A SUBSTATION, 150.0 FEET NORTH OF 85TH STREET NORTHWEST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1016.412	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1016.412	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1016.412	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1016.412	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1016.412	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1016.412	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1016.333	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1016.333	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1016.333	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1016.333	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1016.317	.262		917.875	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.441 03 = -98.307

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 22.98573	92 31 13.96004	604026.351	205666.595	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3013126.681	740994.445	1766270.750	16029009.281	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_S-PP0177-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_S-PP0177-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5508_S-PP0177-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5508 T

NGS Name: 5508 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0176](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	108 N	14 W	440658.70	923105.50	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1959	2010	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 4 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5508 T 1067 1959

2.8 MILES NORTHEAST OF DOUGLAS, 2.7 MILES EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND COUNTY ROAD 3 IN DOUGLAS, THEN 0.5 MILE NORTH ON TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 62.25, 160.0 FEET SOUTH OF A ROCHESTER TRUCK CENTER SIGN, 2.0 FEET WEST OF THE WEST END OF A FENCE, 2.0 FEET WEST OF A FENCE CORNER, 1.0 FOOT WEST OF A WITNESS POST.

Station Notes

THE AREA WAS GRADED OUT BY TRUNK HIGHWAY 52 RECONSTRUCTION.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1067.852	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1067.862	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1067.839	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1067.777	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1067.754	.016	2				VERTICAL CONTROL SURVEY	1973	L137 MINN
1067.754	.016	2				VERTICAL CONTROL SURVEY	1972	L22792

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.543 09 = -98.441 03 = -98.307

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 U

NGS Name: 5508 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0175](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	33	108 N	14 W	440630.00	923055.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5508U 1959

2.8 MILES EAST OF DOUGLAS, 2.7 MILES EAST ON COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND COUNTY ROAD 3 IN DOUGLAS TO TRUNK HIGHWAY 52, 130.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 36.0 FEET NORTH OF COUNTY ROAD 14, AT TRUNK HIGHWAY 52 MILEPOINT 61.75, 4.0 FEET NORTHWEST OF A POWER POLE, 2.0 FEET SOUTHWEST OF A CABLE MARKER, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1089.680	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1089.594	.016	2				VERTICAL CONTROL SURVEY	1972 L22792
1089.594	.016	2				VERTICAL CONTROL SURVEY	1972 L137 MINN
1089.594	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.445 03 = -98.310

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 W

NGS Name: 5508 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0174](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	4	107 N	14 W	440549.50	923043.10	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5508 W 1959

3.0 MILES EAST-SOUTHEAST OF DOUGLAS, 0.8 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 IN DOUGLAS, 40.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 60.89, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 52 BOX CULVERT.

Station Notes

THE BOX CULVERT WAS REPLACED BY TWIN BOX CULVERTS IN 2003.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1067.052	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1067.075	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1067.075	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1066.983	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1066.983	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1066.983	.016	2				VERTICAL CONTROL SURVEY	1972	L22792
1066.983	.016	2				VERTICAL CONTROL SURVEY	1972	L137 MINN
1066.983	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.451 03 = -98.313

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 X

NGS Name: 5508 X

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	14 W	440537.00	923040.00	2	

NGS ACRN: [PP0324](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: X 1959 1087.90

0.5 MILE NORTH OF ROCHESTER, 1.0 MILE SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 IN ROCHESTER, 45.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52 AT STATION 2090+00, 35.0 FEET SOUTH OF A TEE-ROAD WEST, 6.0 FEET SOUTH OF A POWER POLE, 2.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1088.023	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1087.924	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1087.924	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.553 09 = -98.455 03 = -98.313

* No Horizontal Positions in the Database *



Mn/DOT Name: 5508 Y

NGS Name: 5508 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0323](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	14 W	440520.10	923041.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2012	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 6 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5508-Y 1970 1081.84

IN NORTH ROCHESTER, 1.4 MILES SOUTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14, 0.4 MILE SOUTH OF A TOWNSHIP ROAD WEST, AT TRUNK HIGHWAY 52 MILEPOINT 60.32, 500.0 FEET NORTHWEST OF LEAVE AND S STORAGE BUILDING, 120.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 52 AT STATION 2107+50, 90.0 FEET SOUTHWEST OF THE WEST END OF A CULVERT UNDER THE HIGHWAY, 2.0 FEET NORTHEAST OF A WITNESS POST.

Station Notes

7-29-2010 THE AREA LIKELY HAS BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1081.934	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1081.956	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1081.934	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1081.868	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1081.842	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1081.842	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.556 12B = -98.560 09 = -98.461 03 = -98.317

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 AA

NGS Name: 5509 AA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0783](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	14	106 N	14 W	435918.00	922743.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	NOT FOUND	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: (2010) **Stamping:** 5509 AA 1970

IN ROCHESTER, 1.1 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, 100.0 FEET SOUTH OF PEDESTRIAN BRIDGE NUMBER 5019 OVER TRUNK HIGHWAY 63, 40.0 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF THE GOLDEN HILL SCHOOL (OLD BUILDING EAST OF TRUNK HIGHWAY 63).

Station Notes

4-07-2010 HAD A STRONG SIGNAL WITH A LOCATOR 39.0 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF THE SCHOOL, FALLS IN THE MIDDLE OF AN ASPHALT PATHWAY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1065.818	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1065.736	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1065.736	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.520 09 = -98.438 03 = -98.248

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 AA 1

NGS Name: 5509 AA 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0784](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	14	106 N	14 W	435918.00	922742.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	GOOD	Horz=NO Vert=YES	YES	55019	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEP	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5509 AA 1 1970

IN ROCHESTER, 1.1 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, IN THE SOUTH END OF THE FIRST STEP ABOVE THE SIDEWALK ON THE WEST END OF PEDESTRIAN BRIDGE NUMBER 55019 OVER TRUNK HIGHWAY 63, 1.7 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1086.051	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1086.051	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1086.051	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1086.051	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.972	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1085.972	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.520 09 = -98.438 03 = -98.248

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AA_1-OO0784-3SE-07APR2010.jpg	SE	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AA_1-OO0784-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AA_1-OO0784-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AB

NGS Name: 5509 AB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1718](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	11	106 N	14 W	435946.13	922746.81	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: 5509 AB 2010

IN ROCHESTER, 0.75 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 38.8, 37.0 FEET EAST OF TRUNK HIGHWAY 63, 52.7 FEET NORTH OF 18TH STREET SOUTHEAST, 112.2 FEET SOUTH-SOUTHWEST OF AN ADVANCE AUTO PARTS SIGN, 1.2 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1040.293	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1040.293	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1040.293	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1040.293			941.793	.008	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1040.293	.131		942.029	.066	1996	GPS - STATIC	2013 HCHES
1040.293			941.783	.008	2011	GPS - STATIC	2013 HCHES
1040.205	.262		941.675	.197	2011	GPS - RTRN	2013 RTRN2013
1040.224	.262		941.773	.197	2007	GPS - RTRN	2012 RTRN2012
			941.793	.007	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1040.287	.131		941.891	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1040.287	.131		941.891	.066	2007	GPS - STATIC	2011 HFRON
1040.287	.131		942.042	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.530 09 = -98.451 03 = -98.264

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Geodetic Position</u>						
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 59 46.13411	92 27 46.81271	619391.634	159480.851	.007		ADJUSTMENT
43 59 46.13412	92 27 46.81268	619391.637	159480.852	.007	C	GPS - STATIC
43 59 46.13459	92 27 46.81311	619391.605	159480.900	.131	3	GPS - RTRN
43 59 46.13411	92 27 46.81271	619391.634	159480.851	.007		ADJUSTMENT
						2012 GPS2800

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Geodetic Position</u>						
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 59 46.13437	92 27 46.81396	619391.543	159480.877	.131	3	GPS - RTRN
43 59 46.13424	92 27 46.81351	619391.576	159480.864	.033	C	ADJUSTMENT
43 59 46.13424	92 27 46.81351	619391.576	159480.864	.033	C	GPS - STATIC
						2011 HFRON

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Geodetic Position</u>						
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 59 46.13388	92 27 46.81272	619391.634	159480.828	.033	C	GPS - STATIC
43 59 46.13388	92 27 46.81272	619391.634	159480.828	.033	C	GPS - STATIC
						2010 HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029103.192	695021.734	1781676.301	15982859.112	.007		ADJUSTMENT	2013	GPS2950
3029103.194	695021.735	1781676.303	15982859.113	.007	C	GPS - STATIC	2013	HCHES
3029103.162	695021.782	1781676.271	15982859.160	.131	3	GPS - RTRN	2013	RTRN2013
3029103.192	695021.734	1781676.301	15982859.112	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029103.101	695021.759	1781676.210	15982859.137	.131	3	GPS - RTRN	2012	RTRN2012
3029103.134	695021.746	1781676.242	15982859.124	.033	C	ADJUSTMENT	2011	GPS2814
3029103.134	695021.746	1781676.242	15982859.124	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029103.192	695021.711	1781676.300	15982859.088	.033	C	GPS - STATIC	2013	HCHES
3029103.192	695021.711	1781676.300	15982859.088	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AB-DN1718-3E-03APR2013.jpg	E	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AB-DN1718-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AB-DN1718-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AC

NGS Name: 5509 AC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7519](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	26	106 N	14 W	435710.38	922804.90	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2023	GOOD	Horz=NO Vert=NO	YES	55068	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5509 AC 2004

IN ROCHESTER, IN THE TOP OF THE INTERIOR BARRIER NORTH OF THE WALKWAY IN THE SOUTHEAST CORNER OF 48TH STREET SOUTHWEST BRIDGE NUMBER 55068 OVER TRUNK HIGHWAY 63, 1.7 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 35.65.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1114.240	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1114.253	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1114.260	.262		1015.818	.197	2011	GPS - RTRN	2023	RTRN2023
1114.204	.262		1015.739	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.441 12B = -98.464 09 = -98.386 03 = -98.179

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 10.38196	92 28 04.89974	618155.227	143701.436	.131	3	GPS - RTRN	2023	RTRN2023
43 57 10.38128	92 28 04.89869	618155.304	143701.368	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3028076.868	679228.655	1780456.302	15967085.233	.131	3	GPS - RTRN	2023	RTRN2023
3028076.946	679228.588	1780456.379	15967085.165	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AC-DP7519-3W-18APR2023.jpg	W	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AC-DP7519-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AC-DP7519-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AD

NGS Name: 5509 AD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7521](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	26	106 N	14 W	435749.20	922746.65	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2013	GOOD	Horz=NO Vert=?	YES	55067	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5509 AD 2006

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF 40TH STREET SOUTHWEST BRIDGE NUMBER 55067 OVER TRUNK HIGHWAY 63, 0.9 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 36.45.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1079.135	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1079.155	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1079.053	.262		980.572	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.481 09 = -98.399 03 = -98.195

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 49.20177	92 27 46.65024	619468.657	147639.802	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3029337.690	683183.805	1781765.213	15971023.225	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AD-DP7521-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AD-DP7521-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AD-DP7521-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AE

NGS Name: 5509 AE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7522](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	26	106 N	14 W	435749.21	922806.25	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2013	GOOD	Horz=NO Vert=YES	YES	55575	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE WALKWAY	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5509 AE 2005

IN ROCHESTER, IN THE WALKWAY IN THE SOUTHWEST CORNER OF 40TH STREET SOUTHWEST BRIDGE NUMBER 55575 OVER WILLOW CREEK, 0.9 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.3 MILE WEST ON 40TH STREET SOUTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1059.932	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1059.955	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1059.867	.262		961.373	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.471 12B = -98.494 09 = -98.415 03 = -98.212

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 49.20997	92 28 06.24510	618035.434	147632.794	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3027904.810	683157.737	1780332.612	15971014.780	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AE-DP7522-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AE-DP7522-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AE-DP7522-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AF

NGS Name: 5509 AF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7523](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	23	106 N	14 W	435800.00	922749.54	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2013	GOOD	Horz=NO Vert=?	YES	55072	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5509 AF 2005

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF COMMERCIAL DRIVE SOUTHWEST (WEST FRANKLIN ROAD) BRIDGE NUMBER 55072 OVER WILLOW CREEK, 0.2 MILE WEST ALONG 40TH STREET SOUTHWEST FROM THE JUNCTION OF 40TH STREET SOUTHWEST AND TRUNK HIGHWAY 63 TO TRUNK HIGHWAY 63 MILEPOINT 36.6, THEN 0.3 MILE NORTHEAST ON COMMERCIAL DRIVE SOUTHWEST, 12.0 FEET NORTHEAST OF THE END OF A GUARD RAIL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.903	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1055.926	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.861	.262		957.373	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.491 09 = -98.409 03 = -98.208

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 58 00.00235	92 27 49.53522	619251.636	148732.356	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3029106.175	684273.282	1781547.186	15972115.092	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AF-DP7523-3N-03APR2013.jpg	N	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AF-DP7523-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AF-DP7523-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AG

NGS Name: 5509 AG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7524](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	23	106 N	14 W	435759.91	922748.09	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2013	GOOD	Horz=NO Vert=YES	YES	55073	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE RAILING	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5509 AG 2004

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF SOUTHBOUND TRUNK HIGHWAY 63 BRIDGE NUMBER 55073 OVER THE WILLOW CREEK, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 36.6.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.710	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1055.736	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.654	.262		957.167	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.487 09 = -98.405 03 = -98.205

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 59.90819	92 27 48.08600	619357.683	148723.404	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3029212.322	684265.741	1781653.197	15972106.249	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AG-DP7524-3N-03APR2013.jpg	N	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AG-DP7524-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AG-DP7524-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AH

NGS Name: 5509 AH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7525](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	23	106 N	14 W	435759.91	922746.47	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2013	GOOD	Horz=NO Vert=?	YES	55074	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE RAILING

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5509 AH 2004

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 63 BRIDGE NUMBER 55074 OVER WILLOW CREEK, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 36.6.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.152	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1055.178	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1055.123	.262		956.635	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.464 12B = -98.487 09 = -98.405 03 = -98.205

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 59.90906	92 27 46.47022	619475.858	148724.142	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3029330.468	684268.051	1781771.321	15972107.106	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AH-DP7525-3N-03APR2013.jpg	N	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AH-DP7525-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AH-DP7525-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AJ

NGS Name: 5509 AJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7526](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	23	106 N	14 W	435801.16	922745.16	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2003	2013	GOOD	Horz=NO Vert=YES	YES	55075	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE WALKWAY	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5509 AJ 2003

IN ROCHESTER, IN THE WALKWAY IN THE NORTHEAST CORNER OF WOODLAKE DRIVE SOUTHEAST BRIDGE NUMBER 55075 OVER WILLOW CREEK, 0.1 MILE EAST ALONG 40TH STREET SOUTHWEST FROM THE JUNCTION OF 40TH STREET SOUTHWEST AND TRUNK HIGHWAY 63 TO TRUNK HIGHWAY 63 MILEPOINT 36.6, THEN 0.2 MILE NORTH ON WOODLAKE DRIVE SOUTHEAST, 6.0 FEET SOUTH OF THE END OF THE BARRIER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1052.334	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1052.363	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1052.265	.262		953.778	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.464 12B = -98.487 09 = -98.405 03 = -98.205

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 01.16244	92 27 45.15891	619571.068	148851.592	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029423.965	684396.746	1781866.361	15972234.598	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AJ-DP7526-3S-03APR2013.jpg	S	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AJ-DP7526-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AJ-DP7526-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AK

NGS Name: 5509 AK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7511](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	3	104 N	14 W	435026.60	922922.98	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 40 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** 5509 AK 2013

IN STEWARTVILLE, 1.05 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 27.6, 47.4 FEET WEST OF TRUNK HIGHWAY 63, 19.5 FEET SOUTH OF A FIELD ENTRANCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1264.607	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1264.614	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1264.751	.262		1166.694	.197	2011	GPS - RTRN	2024	RTRN2024
1264.571	.262		1166.490	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.084 09 = -98.015 03 = -97.831

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 50 26.60298	92 29 22.98420	612654.572	102783.014	.131	3	GPS - RTRN	2024	RTRN2024
43 50 26.60395	92 29 22.98275	612654.678	102783.113	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3023121.278	638243.817	1774998.841	15926179.026	.131	3	GPS - RTRN	2024	RTRN2024
3023121.383	638243.917	1774998.946	15926179.125	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AK-DP7511-3W-24JUL2024.jpg	W	Jul 24, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AK-DP7511-2-24JUL2024.jpg		Jul 24, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AK-DP7511-1-24JUL2024.jpg		Jul 24, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AL

NGS Name: 5509 AL

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DP7513	Get Map
NW	34	105 N	14 W	435139.72	922919.37	2	3	NGS Quad / Sta Num : 43092143/ USGS Quad: STEWARTVILLE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5509 AL 2013

IN STEWARTVILLE, 0.35 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 29.10, 34.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, 50.2 FEET SOUTH OF A LIGHT POLE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1195.309	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1195.309	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1195.299	.262		1097.157	.197	2011	GPS - RTRN	2016	RTRN2016
1195.296	.262		1097.150	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.143 09 = -98.071 03 = -97.884

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>	
43 51 39.72264	92 29 19.37222	612880.884	110188.696	2016	RTRN2016	
43 51 39.72345	92 29 19.37328	612880.806	110188.777	2013	RTRN2013	

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>					
3023249.076	645651.340	1775217.704	15933581.710	2016	RTRN2016	
3023248.997	645651.421	1775217.626	15933581.791	2013	RTRN2013	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
<u>Location:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AL-DP7513-3W-15APR2013.jpg	W	Apr 15, 2013
<u>Monument:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AL-DP7513-2-15APR2013.jpg		Apr 15, 2013
<u>Disk:</u>	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AL-DP7513-1-15APR2013.jpg		Apr 15, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AM

NGS Name: 5509 AM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7514](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	27	105 N	14 W	435220.91	922916.29	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5509 AM 2013

IN STEWARTVILLE, 1.15 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 29.9, 88.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 11.2 FEET WEST OF A CHAIN LINK FENCE, 11.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1253.200	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1253.209	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1253.209	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1253.209	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1253.200	.262		1155.021	.197	2011	GPS - RTRN	2016	RTRN2016
1253.147	.262		1154.968	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.156 12B = -98.182 09 = -98.110 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 20.90863	92 29 16.28728	613085.227	114360.491	.131	3	GPS - RTRN	2016	RTRN2016
43 52 20.90925	92 29 16.28617	613085.308	114360.555	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3023397.912	649825.185	1775417.811	15937751.896	.131	3	GPS - RTRN	2016	RTRN2016
3023397.992	649825.250	1775417.892	15937751.960	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AM-DP7514-3E-01MAY2013.jpg	E	May 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AM-DP7514-2-01MAY2013.jpg		May 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AM-DP7514-1-01MAY2013.jpg		May 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 AN

NGS Name: 5509 AN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7518](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	106 N	14 W	435607.57	922803.30	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: 5509 AN 2013

IN ROCHESTER, 2.9 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 34.45, 73.8 FEET NORTHWEST OF SOUTHBOUND TRUNK HIGHWAY 63, 20.5 FEET SOUTHEAST OF 60TH STREET SOUTHWEST, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1190.349	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1190.349	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1190.352	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1190.349			1091.953	.020	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1190.349	.131		1092.166	.066	1996	GPS - STATIC	2024 HTH63
1190.349			1091.953	.020	2011	GPS - STATIC	2024 HTH63
1190.345	.262		1091.979	.197	2011	GPS - RTRN	2023 RTRN2023
1190.290	.262		1091.904	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.366 12B = -98.386 09 = -98.317 03 = -98.113

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 56 07.57272	92 28 03.29865	618306.992	137341.752	.010		ADJUSTMENT	2024	GPS3721
43 56 07.57272	92 28 03.29865	618306.992	137341.752	.010	C	GPS - STATIC	2024	HTH63
43 56 07.57235	92 28 03.29780	618307.054	137341.714	.131	3	GPS - RTRN	2023	RTRN2023
43 56 07.57216	92 28 03.29735	618307.088	137341.695	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 56 07.57256	92 28 03.29888	618306.975	137341.735	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028313.189	672872.081	1780614.378	15960728.437	.010		ADJUSTMENT	2024	GPS3721
3028313.189	672872.081	1780614.378	15960728.437	.010	C	GPS - STATIC	2024	HTH63
3028313.252	672872.045	1780614.441	15960728.400	.131	3	GPS - RTRN	2023	RTRN2023
3028313.285	672872.026	1780614.474	15960728.381	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028313.173	672872.064	1780614.362	15960728.421	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AN-DP7518-3NW-18APR2023.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AN-DP7518-2-18APR2023.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_AN-DP7518-1-18APR2023.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NW	Apr 18, 2023
	Apr 18, 2023
	Apr 18, 2023



Mn/DOT Name: 5509 C

NGS Name: 5509 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000355](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	34	105 N	14 W	435114.00	922917.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1976)

Stamping: 5509-C 1970

IN STEWARTVILLE, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND 3RD STREET SOUTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1225.375	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1225.286	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1225.286	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.094 12B = -98.117 09 = -98.048 03 = -97.861

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 D

NGS Name: 5509 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0351](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	105 N	14 W	435149.10	922917.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2007	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2007) **Stamping:** 5509 D 1970

0.4 MILE NORTH OF STEWARTVILLE, 1.5 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, 96.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 STATION 740+16, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1211.139	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1211.057	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1211.057	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.126 12B = -98.149 09 = -98.077 03 = -97.890

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D-OO0351-3E-22AUG2007.jpg	E	Aug 22, 2007
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D-OO0351-2-22AUG2007.jpg		Aug 22, 2007
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D-OO0351-1-22AUG2007.jpg		Aug 22, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 D 1

NGS Name: 5509 D 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DP7512	Get Map
NW	34	105 N	14 W	435135.26	922918.26	2	3	NGS Quad / Sta Num : 43092143/ USGS Quad: STEWARTVILLE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2016	GOOD	Horz=NO Vert=YES	YES	55029	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WALKWAY	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5509 D 1

IN STEWARTVILLE, 0.30 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 EAST IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 29.0, 32.0 FEET EAST OF TRUNK HIGHWAY 63, IN THE SIDEWALK AT THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 55029 OVER THE ROOT RIVER, 3.0 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1199.755	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1199.758	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1199.686	.033	3				VERTICAL CONTROL SURVEY	1980	CS5509

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1199.935	.262		1101.799	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.136 09 = -98.067 03 = -97.880

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Olmsted County</u>			<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
43 51 35.26476	92 29 18.26448		612964.391	109737.699	.131 3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>			<u>UTM - Zone 15</u>			<u>Project Info</u>		
<u>MN State Plane - South Zone</u>			<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
3023338.567	645201.525		1775301.623	15933130.992	.131 3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_1-DP7512-3N-04AUG2016.jpg	N	Aug 4, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_1-DP7512-2-04AUG2016.jpg		Aug 4, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_1-DP7512-1-04AUG2016.jpg		Aug 4, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 D 2

NGS Name: 5509 D 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	105 N	14 W	435138.10	922918.30		

NGS ACRN:
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2007	DESTROYED	Horz=NO Vert=NO	YES	55029		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WALKWAY	SURVEY DISK	MNDT

Description: (1980)

Stamping: 5509 D 2

IN STEWARTVILLE, 1.6 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT THE NORTH EDGE OF STEWARTVILLE, 32.0 FEET EAST OF TRUNK HIGHWAY 63, IN THE SIDEWALK AT THE NORTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 55029 OVER THE ROOT RIVER.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1198.393	.033	3				VERTICAL CONTROL SURVEY	1980 CS5509

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.140 09 = -98.067 03 = -97.880

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_2-3S-22AUG2007.jpg	S	Aug 22, 2007
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_2-2-22AUG2007.jpg		Aug 22, 2007
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_D_2-1-22AUG2007.jpg		Aug 22, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 F

NGS Name: 5509 F

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	27	105 N	14 W	435213.50	922920.10	2	

NGS ACRN: OO0350	Get Map
NGS Quad / Sta Num : 43092143/	
USGS Quad: STEWARTVILLE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2007	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5509 F 1970

1.0 MILE NORTH OF STEWARTVILLE, 1.0 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, 0.9 MILE NORTH OF THE ROOT RIVER, 131.0 FEET NORTH OF A TOWNSHIP ROAD, 100.0 FEET SOUTH OF A PIPELINE MARKER, 96.0 FEET WEST OF TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 STATION 765+25, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1234.240	.016	2/0						VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1234.161	.016	2						VERTICAL CONTROL SURVEY	1972	L105 MINN
1234.161	.016	2						VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.153 12B = -98.176 09 = -98.107 03 = -97.916

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_F-OO0350-3SE-07AUG2007.jpg	SE	Aug 7, 2007
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_F-OO0350-2-07AUG2007.jpg		Aug 7, 2007
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_F-OO0350-1-07AUG2007.jpg		Aug 7, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 G

NGS Name: 5509 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0349](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	27	105 N	14 W	435238.00	922917.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5509-G 1970

1.5 MILES NORTH OF STEWARTVILLE, 0.6 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, 99.0 FEET EAST OF TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 STATION 781+90, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1248.515	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1248.433	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1248.433	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.176 12B = -98.199 09 = -98.130 03 = -97.936

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 H

NGS Name: 5509 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0348](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	22	105 N	14 W	435254.00	922920.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5509-H 1970

2.0 MILES NORTH OF STEWARTVILLE, 0.3 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, 200.0 FEET NORTHEAST OF A SERVICE STATION AND A RESTAURANT, 99.0 FEET WEST OF TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 STATION 806+00, 2.0 FEET EAST OF A WITNESS POST.

Station Notes

5-26-2010 THE AREA HAS BEEN REGRADED AND FILLED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1251.635	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1251.553	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1251.553	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.195 12B = -98.218 09 = -98.149 03 = -97.956

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 K

NGS Name: 5509 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0206](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	15	106 N	14 W	435323.00	922914.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5509-K 1970

1.5 MILES NORTH OF STEWARTVILLE, 0.4 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, 246.0 FEET NORTH OF THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63, 60.0 FEET EAST OF TRUNK HIGHWAY 63 AT STATION 845+45, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 63 BOX CULVERT.

Station Notes

THE BOX CULVERT HAS BEEN REPLACED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1242.025	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1241.900	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1241.900	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.222 12B = -98.241 09 = -98.179 03 = -97.982

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 L

NGS Name: 5509 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000205](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	105 N	14 W	435423.79	922850.28	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 10 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2002) Stamping: 5509 L 1970

2.4 MILES NORTH OF STEWARTVILLE, 1.5 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 32.4, AT TRUNK HIGHWAY 63 STATION 900+25, 135.0 FEET NORTH OF 80TH STREET SOUTHEAST, 74.2 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 9.0 FEET NORTH OF A RIGHT-OF-WAY MARKER, 1.6 FEET SOUTH OF A BURIED CABLE MARKER, 0.8 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1276.500	.016	2/1					VERTICAL CONTROL SURVEY	2024	VHAVA
1276.523	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1276.523	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH
1276.523	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1276.402	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1276.402	.016	2					VERTICAL CONTROL SURVEY	1972	L106 MINN
1276.402	.016	2					VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1276.523				1178.206	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1276.523	.131			1178.416	.066	1996	GPS - STATIC	2024	HTH63
1276.523				1178.206	.019	2011	GPS - STATIC	2024	HTH63
1276.503	.262			1178.233	.197	2011	GPS - RTRN	2023	RTRN2023
1276.474	.262			1178.183	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.271 12B = -98.290 09 = -98.231 03 = -98.031

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								<u>Year</u> <u>Reference</u>
43 54 23.78630	92 28 50.27532			614924.935	126813.492	.010		ADJUSTMENT	2024 GPS3721
43 54 23.78630	92 28 50.27532			614924.935	126813.492	.010	C	GPS - STATIC	2024 HTH63
43 54 23.78621	92 28 50.27548			614924.923	126813.483	.131	3	GPS - RTRN	2023 RTRN2023
43 54 23.78661	92 28 50.27492			614924.963	126813.523	.131	3	GPS - RTRN	2013 RTRN2013

NAD83(1996)				Olmsted County				Project Info	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								<u>Year</u> <u>Reference</u>
43 54 23.78614	92 28 50.27554			614924.918	126813.476	.033	C	GPS - STATIC	2024 HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025071.717	662300.614	1777244.309	15950201.336	.010		ADJUSTMENT	2024	GPS3721
3025071.717	662300.614	1777244.309	15950201.336	.010	C	GPS - STATIC	2024	HTH63
3025071.705	662300.605	1777244.297	15950201.327	.131	3	GPS - RTRN	2023	RTRN2023
3025071.746	662300.646	1777244.338	15950201.368	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025071.701	662300.597	1777244.293	15950201.320	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_L-OO0205-3E-18APR2023.jpg	E	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_L-OO0205-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_L-OO0205-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 M

NGS Name: 5509 M

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	11	105 N	14 W	435501.00	922837.00	2	

NGS ACRN: OO0204	Get Map
NGS Quad / Sta Num : 43092144/	
USGS Quad: SIMPSON	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2007	DESTROYED	Horz=NO Vert=NO	YES	9407	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WING WALL	BENCH MARK DISK	MNDT

Description: (2007)

Stamping: 5509 M 1970

4.3 MILES NORTH OF STEWARTVILLE, IN THE BRIDGE WING WALL IN THE SOUTHEAST CORNER OF COUNTY ROAD 16
BRIDGE NUMBER 9407 OVER TRUNK HIGHWAY 63, 2.2 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF
INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, 18.6 FEET SOUTH OF COUNTY ROAD 16.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1295.975	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1295.854	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1295.854	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.327 09 = -98.268 03 = -98.061

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M-OO0204-3S-28AUG2006.jpg	S	Aug 28, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M-OO0204-2-28AUG2006.jpg		Aug 28, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M-OO0204-1-28AUG2006.jpg		Aug 28, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 M RESET

NGS Name: 5509 M RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7517](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	11	105 N	14 W	435501.18	922836.45	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2007	2023	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2007)

Stamping: 5509 M RESET 1970 2007

4.3 MILES NORTH OF STEWARTVILLE, IN THE BRIDGE WING WALL IN THE SOUTHEAST CORNER OF COUNTY ROAD 16 BRIDGE NUMBER 9407 OVER TRUNK HIGHWAY 63, 2.2 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63, 18.6 FEET SOUTH OF COUNTY ROAD 16, 4.5 FEET SOUTHWEST OF A WITNESS POST.

Station Notes

THE BRIDGE HAS BEEN REPLACED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1296.986	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1296.986	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1296.904	.262		1198.574	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.327 09 = -98.268 03 = -98.064

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 01.17509	92 28 36.45192	615916.789	130604.993	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026012.984	666104.673	1778231.946	15953992.191	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M_RESET-DP7517-3W-20JUL2010.jpg	W	Jul 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M_RESET-DP7517-2-20JUL2010.jpg		Jul 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_M_RESET-DP7517-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 N

NGS Name: 5509 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000203](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	2	105 N	14 W	435527.42	922826.44	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5509 N 1970

1.5 MILES SOUTH OF ROCHESTER, 2.7 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 33.6, 73.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63 AT STATION 966+87, 29.0 FEET WEST OF A POWER POLE NUMBER 9034, 24.0 FEET NORTH OF WOODBINE STREET SOUTHEAST, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1265.818	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1265.841	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1265.841	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1265.841	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1265.726	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1265.726	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1265.726	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1265.841			1167.435	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1265.841	.131		1167.649	.066	1996	GPS - STATIC	2024	HTH63
1265.841			1167.435	.019	2011	GPS - STATIC	2024	HTH63
1265.795	.262		1167.462	.197	2011	GPS - RTRN	2023	RTRN2023
1265.801	.262		1167.468	.197	2011	GPS - OPUS	2021	GPSBM
1265.650	.262		1167.317	.197	2011	GPS - OPUS	2021	GPSBM
1265.837	.262		1167.501	.197	2011	GPS - RTRN	2021	RTRN2021
1265.782	.262		1167.429	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.356 09 = -98.290 03 = -98.084

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 27.41805	92 28 26.44266	616635.202	133266.375	.010		ADJUSTMENT	2024	GPS3721
43 55 27.41805	92 28 26.44266	616635.202	133266.375	.010	C	GPS - STATIC	2024	HTH63
43 55 27.41813	92 28 26.44315	616635.166	133266.383	.131	3	GPS - RTRN	2023	RTRN2023
43 55 27.41790	92 28 26.44237	616635.223	133266.360	.131	3	GPS - OPUS	2021	GPSBM
43 55 27.41844	92 28 26.44270	616635.198	133266.415	.131	3	GPS - OPUS	2021	GPSBM
43 55 27.41754	92 28 26.44258	616635.208	133266.323	.131	3	GPS - RTRN	2021	RTRN2021
43 55 27.41864	92 28 26.44219	616635.236	133266.435	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 27.41789	92 28 26.44288	616635.186	133266.359	.033	C	GPS - STATIC	2024	HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3026695.883	668775.161	1778947.388	15956653.143	.010		ADJUSTMENT	2024	GPS3721
3026695.883	668775.161	1778947.388	15956653.143	.010	C	GPS - STATIC	2024	HTH63
3026695.847	668775.169	1778947.352	15956653.151	.131	3	GPS - RTRN	2023	RTRN2023
3026695.904	668775.147	1778947.409	15956653.128	.131	3	GPS - OPUS	2021	GPSBM
3026695.879	668775.201	1778947.385	15956653.182	.131	3	GPS - OPUS	2021	GPSBM
3026695.890	668775.110	1778947.394	15956653.092	.131	3	GPS - RTRN	2021	RTRN2021
3026695.916	668775.222	1778947.422	15956653.203	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3026695.867	668775.145	1778947.372	15956653.127	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_N-OO0203-3E-18APR2023.jpg	E	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_N-OO0203-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_N-OO0203-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 P

NGS Name: 5509 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0202](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	2	105 N	14 W	435549.00	922814.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1990)

Stamping: 5509-P 1970

1.0 MILE SOUTH OF ROCHESTER, 3.2 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN ROCHESTER, 250.0 FEET NORTHWEST OF A ONE STORY BRICK BUILDING (ROCHESTER EQUIPMENT COMPANY), 73.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63 AT STATION 991+57, 30.0 FEET EAST OF A FRONTAGE ROAD, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1246.248	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1246.139	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1246.139	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.350 12B = -98.373 09 = -98.307 03 = -98.100

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 Q

NGS Name: 5509 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0201](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	106 N	14 W	435620.00	922753.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2013	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5509 Q 1970

5.9 MILES SOUTH OF ROCHESTER, 3.8 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN ROCHESTER, AT TRUNK HIGHWAY 63 STATION 1026+00, IN THE SOUTHEAST CORNER OF THE EAST HEADWALL OF A DOUBLE BOX CULVERT, 125.0 FEET SOUTH OF THE SOUTHEAST ROAD CURVE, 100.0 FEET NORTH OF A POWER POLE, 1.2 FEET NORTH OF A WITNESS POST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1127.219	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1127.117	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1127.117	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1127.117	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.373 12B = -98.392 09 = -98.323 03 = -98.120

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q-OO0201-3E-21JUL2010.jpg	E	Jul 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q-OO0201-2-21JUL2010.jpg		Jul 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q-OO0201-1-21JUL2010.jpg		Jul 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 Q 1

NGS Name: 5509 Q 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0200](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	35	106 N	14 W	435630.37	922759.43	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5509 Q 1 1970

5.8 MILES SOUTH OF ROCHESTER, 4.0 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 34.9, 90.0 FEET SOUTH OF THE DRIVE TO FERGUSON TRAILER SALES, 70.0 FEET WEST OF TRUNK HIGHWAY 63, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1113.147	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1113.147	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1113.147	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1113.147	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1113.046	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1113.046	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1113.046	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1113.124	.262		1014.709	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.412 09 = -98.340 03 = -98.136

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.37165	92 27 59.42545	618577.820	139652.008	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3028553.245	675185.545	1780882.775	15963037.971	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q_1-OO0200-3W-15MAY2023.jpg	W	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q_1-OO0200-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_Q_1-OO0200-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 R

NGS Name: 5509 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0199](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	35	106 N	14 W	435648.00	922806.07	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5509 R 1970

AT THE SOUTH EDGE OF ROCHESTER, 2.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 35.2, AT THE SOUTH END OF A ROCK CUT, 75.0 FEET EAST OF TRUNK HIGHWAY 63, AT STATION 1054+94, ABOUT 100.0 FEET SOUTH OF A ROCHESTER WELCOMES YOU SIGN, 13.0 FEET NORTH OF A B28 SIGNPOST, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1093.456	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1093.426	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1093.430	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1093.918	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1093.820	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1093.820	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1093.820	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1093.393	.262		994.952	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.422 12B = -98.441 09 = -98.366 03 = -98.159

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 48.00071	92 28 06.06520	618082.288	141434.553	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3028034.090	676961.193	1780385.669	15964819.252	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_R-OO0199-3E-15MAY2023.jpg	E	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_R-OO0199-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5509_R-OO0199-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5509 S

NGS Name: 5509 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0198](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	26	106 N	14 W	435710.00	922808.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5509-S 1970

IN ROCHESTER, 1.5 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, 133.0 FEET SOUTH OF A GRAVEL ROAD, 100.0 FEET SOUTH OF A POWER POLE, 71.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63 AT STATION 1077+70, 5.0 FEET EAST OF A FENCE CORNER, 3.0 FEET EAST OF A RIGHT-OF-WAY MARKER, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

THE POSITION FALLS IN THE 48TH STREET INTERCHANGE. GRADED OUT OR BURIED 20.0 FEET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.523	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1085.431	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1085.431	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.445 12B = -98.464 09 = -98.389 03 = -98.179

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 T

NGS Name: 5509 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000197](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	26	106 N	14 W	435740.00	922753.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5509-T 1970

IN ROCHESTER, 0.9 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, NEAR THE PROJECTION OF COUNTY ROAD 20 EAST, 68.0 FEET WEST OF TRUNK HIGHWAY 63 AT STATION 1110+85, 12.0 FEET SOUTH OF AN ENTRANCE WEST, 4.0 FEET SOUTHEAST OF A TELEPHONE CABLE MARKER POLE, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

THE AREA WAS GRADED OUT IN 2003.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1048.233	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1048.151	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1048.151	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.477 09 = -98.399 03 = -98.195

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 U

NGS Name: 5509 U

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	26	106 N	14 W	435741.00	922752.00	2	

NGS ACRN: [000196](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5509-U 1970

IN ROCHESTER, 0.8 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, 60.0 FEET SOUTH OF THE NORTH ENTRANCE TO A TRUCK STOP AND CAFE, IN THE SOUTHEAST CORNER OF THE EAST HEADWALL OF A DOUBLE BOX CULVERT UNDER TRUNK HIGHWAY 63.

Station Notes

THE AREA WAS GRADED OUT IN 2003.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.010	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1048.928	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1048.928	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.477 09 = -98.399 03 = -98.195

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 V

NGS Name: 5509 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000195](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	28	106 N	14 W	435801.00	922745.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) Stamping: 5509-V 1970

IN ROCHESTER, 0.6 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 36.8, 200.0 FEET EAST OF A DOUBLE BOX CULVERT UNDER THE WEST FRONTAGE ROAD, IN THE SOUTHEAST CORNER OF A TRIPLE BOX CULVERT UNDER TRUNK HIGHWAY 63.

Station Notes

THE TRIPLE BOX CULVERT WAS REPLACED BY 2 BRIDGES IN 2004.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1050.608	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1050.529	.016	2				VERTICAL CONTROL SURVEY		1972	L106 MINN
1050.529	.016	2				VERTICAL CONTROL SURVEY		1971	L22214

Geoid Separations(ft): GEOID18 = -98.464 12B = -98.487 09 = -98.405 03 = -98.205

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 W

NGS Name: 5509 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0194](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	23	106 N	14 W	435832.00	922746.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - MEDIUM	SURVEY DISK	MNDT

Description: (2002) Stamping: 5509 W 1970

IN ROCHESTER, 0.05 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, 100.0 FEET NORTHEAST OF THE TRUNK HIGHWAY 52 EXIT RAMP TO SOUTHBOUND TRUNK HIGHWAY 63, 67.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63 AT STATION 1168+42, 39.0 FEET SOUTH OF THE EDGE OF THE CONCRETE RAMP, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

4-07-2010 THE AREA WAS RECONSTRUCTED, GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.027	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1048.951	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1048.951	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.484 12B = -98.504 09 = -98.422 03 = -98.225

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 X

NGS Name: 5509 X

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000192](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	23	106 N	14 W	435842.00	922742.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5509-X 1970

IN ROCHESTER, 0.1 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, EAST OF TRUNK HIGHWAY 63, 200.0 FEET WEST OF A ONE STORY FRAME HOUSE, 80.0 FEET SOUTHEAST OF A POWER POLE, 30.0 FEET SOUTH OF AN APPLE TREE, 25.0 FEET NORTHWEST OF A WILLOW TREE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1043.810	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1043.738	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1043.738	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Geoid Separations(ft): GEOID18 = -98.487 12B = -98.507 09 = -98.425 03 = -98.228

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 Y

NGS Name: 5509 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000193](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	23	106 N	14 W	435841.00	922745.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2002)

Stamping: 5509-Y

IN ROCHESTER, 0.15 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63, ALONG THE WEST FRONTAGE ROAD OPPOSITE TRUNK HIGHWAY 63 STATION 1179+00, AT TRUNK HIGHWAY 63 MILEPOINT 37.4, 30.0 FEET WEST OF THE FRONTAGE ROAD, 11.0 FEET WEST OF THE FRONTAGE ROAD, 11.0 FEET SOUTH OF A POWER POLE, 0.5 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1055.424	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1055.349	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1055.349	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.487 12B = -98.507 09 = -98.428 03 = -98.231

* No Horizontal Positions in the Database *



Mn/DOT Name: 5509 Z

NGS Name: 5509 Z

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0782](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	106 N	14 W	435856.00	922743.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 6 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1986) Stamping: 5509 Z 1970

IN ROCHESTER, 1.6 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, 0.2 MILE SOUTH OF TRUNK HIGHWAY 63 MILEPOST 38, 66.0 FEET EAST OF TRUNK HIGHWAY 63 AT STATION 1193+05, 400.0 FEET NORTHEAST OF A TIRE SERVICE, 30.0 FEET NORTH OF A POWER POLE, 2.0 FEET WEST OF A RIGHT-OF-WAY FENCE, 1.0 FOOT WEST OF A WITNESS POST.

Station Notes

4-08-2010 THE AREA HAS BEEN RECONSTRUCTED, GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.737	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.662	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1057.662	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.514 09 = -98.432 03 = -98.238

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 A

NGS Name: 5510 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0167](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	26	107 N	14 W	440235.00	922735.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	GOOD	Horz=NO Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5510 A 1970

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND 6TH STREET NORTHEAST IN ROCHESTER, 0.5 MILE NORTH OF THE NORTH END OF SILVER LAKE, 155.0 FEET SOUTH OF THE ENTRANCE TO SCHMIDT GOODMAN AND OTHERS, 60.0 FEET WEST OF TRUNK HIGHWAY 63 AT STATION 1419+80, 43.0 FEET NORTH OF A POWER POLE, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

THE MONUMENT FALLS UNDER A POWERLINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1017.009	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1017.009	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1017.009	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1017.009	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1016.934	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1016.934	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1016.934	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.500 12B = -98.504 09 = -98.415 03 = -98.268

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A-PP0167-3W-08APR2010.jpg	W	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A-PP0167-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A-PP0167-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 A 1

NGS Name: 5510 A 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	26	107 N	14 W	440214.00	922743.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1974	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
DAM

Disk Type
SURVEY DISK

Mon. Agency
MNMT

Description: (1974)

Stamping: 5510 A 1 1974

IN ROCHESTER, AT THE JUNCTION OF 1ST AVENUE NORTHEAST AND 14TH STREET NORTHEAST, IN THE NORTH END OF A DAM AT THE WEST END OF SILVER LAKE IN ROCHESTER, 175.0 FEET EAST OF SOUTHBOUND TRUNK HIGHWAY 63 (NORTH BROADWAY STREET), 90.0 FEET SOUTH OF 14TH STREET NORTHEAST.

Station Notes

4-08-2010 THE DAM HAS BEEN REBUILT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
978.942	.033	3				VERTICAL CONTROL SURVEY	1974 CS5510

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.517 09 = -98.432 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 A 2

NGS Name: 5510 A 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	26	107 N	14 W	440212.00	922746.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	DESTROYED	Horz=NO Vert=NO	NO	5859		SEE DESCRIPTION

Monument Type

BRIDGE ABUTMENT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1977)

Stamping: 5510 A 2 1977

1.0 MILE NORTH OF DOWNTOWN ROCHESTER, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 5859 OVER THE ZUMBRO RIVER, AT THE WEST END OF SILVER LAKE, 22.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 STATION 1396+40.

Station Notes

SEE 5510 S FOR NEWER DISK IN THE SIDEWALK.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
985.451	.033	3				VERTICAL CONTROL SURVEY	1977 CS5510

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.520 09 = -98.435 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 A 3

NGS Name: 5510 A 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	26	107 N	14 W	440234.30	922753.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2010	GOOD	Horz=NO Vert=YES	YES	55514	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5510 A 3 1966

IN ROCHESTER, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF ELTON HILLS DRIVE BRIDGE NUMBER 55514 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.2 MILE NORTHWEST OF TRUNK HIGHWAY 63.

Station Notes

THE DISK FALLS UNDER A RAILING.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.520 09 = -98.432 03 = -98.281

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A_3-3W-17MAY2010.jpg	W	May 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A_3-2-17MAY2010.jpg		May 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_A_3-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 B

NGS Name: 5510 B

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	25	107 N	14 W	440254.00	922723.00	2	

NGS ACRN: PP0166	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1970) Stamping: 5510-B 1970

IN ROCHESTER, 0.7 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22, 105.0 FEET WEST OF TRUNK HIGHWAY 63 AT STATION 1441+97, 75.0 FEET SOUTH OF 24TH STREET NORTHEAST, 39.0 FEET SOUTH OF A POWER POLE, 2.0 FEET SOUTHEAST OF A WITNESS POST.

Station Notes

THE AREA HAS BEEN RECONSTRUCTED AND GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.471	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.396	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1061.396	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.484 12B = -98.487 09 = -98.399 03 = -98.254

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 C

NGS Name: 5510 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0165](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	24	107 N	14 W	440312.31	922719.23	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1970) Stamping: 5510 C 1970

IN ROCHESTER, 0.5 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22, 228.0 FEET SOUTH OF 27TH STREET NORTHEAST, 75.0 FEET WEST OF TRUNK HIGHWAY 63 AT STATION 63+69, 12.0 FEET EAST OF THE NORTHEAST CORNER OF THE EVANGELICAL UNITED METHODIST CHURCH PARKING LOT, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1021.471	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1021.471	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1021.471	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1021.471	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1021.399	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1021.399	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1021.399	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			923.033	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1021.487	.131		923.122	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1021.487	.131		923.122	.066	2007	GPS - STATIC	2011	HFRON
1021.487	.131		923.279	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.481 09 = -98.389 03 = -98.251

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 12.30607	92 27 19.23464	621290.873	180370.124	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 12.30616	92 27 19.23549	621290.811	180370.132	.033	C	ADJUSTMENT	2011	GPS2814
44 03 12.30616	92 27 19.23549	621290.811	180370.132	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 12.30583	92 27 19.23484	621290.859	180370.099	.033	C	GPS - STATIC	2010	HFRON



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030724.244	715932.430	1783553.582	16003741.343	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030724.182	715932.438	1783553.520	16003741.351	.033	C	ADJUSTMENT	2011	GPS2814
3030724.182	715932.438	1783553.520	16003741.351	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030724.230	715932.406	1783553.568	16003741.318	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_C-PP0165-3W-08APR2010.jpg	W	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_C-PP0165-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_C-PP0165-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 D

NGS Name: 5510 D

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	107 N	14 W	440334.00	922715.00	2	

NGS ACRN: PP0164	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5510-D 1970

IN ROCHESTER, NEAR THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22, 246.0 FEET WEST OF TRUNK HIGHWAY 63 AT STATION 85+32, 75.0 FEET NORTH OF COUNTY ROAD 22, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1005.241	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1005.172	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1005.172	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.474 12B = -98.477 09 = -98.379 03 = -98.245

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 E

NGS Name: 5510 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0163](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	13	107 N	14 W	440347.00	922706.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1970) Stamping: 5510-E 1970

IN NORTH ROCHESTER, 0.5 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 124, 185.0 FEET EAST OF TRUNK HIGHWAY 63 AT STATION 107+75, 2.0 FEET NORTH OF A FENCE LINE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1027.048	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1026.976	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1026.976	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.464 12B = -98.468 09 = -98.369 03 = -98.238

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 F

NGS Name: 5510 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0162](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	13	107 N	14 W	440418.00	922655.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO	6840		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1984) Stamping: 5510-F 1970

0.8 MILE NORTH OF ROCHESTER, 0.8 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
995.510	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
995.444	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
995.444	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.461 09 = -98.356 03 = -98.228

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 G

NGS Name: 5510 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0161](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	13	107 N	14 W	440430.00	922655.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1985)

Stamping: 5510-G 1970

0.8 MILE NORTH OF ROCHESTER, 1.14 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER, NEAR A TRAILER SALES LOT, 250.0 FEET NORTH OF A METAL SHED, 184.0 FEET EAST OF TRUNK HIGHWAY 63, 140.0 FEET SOUTHEAST OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1008.584	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1008.518	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1008.518	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.458 09 = -98.353 03 = -98.228

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 H

NGS Name: 5510 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0160](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	12	107 N	14 W	440445.00	922701.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5510-H 1970

1.1 MILES NORTH OF ROCHESTER, 2.1 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 14, AT A TEE-ROAD WEST, 125.0 FEET WEST OF TRUNK HIGHWAY 63, 55.0 FEET SOUTH OF A TEE-ROAD WEST, AT THE NORTHEAST CORNER OF THE BROOKS TRAILER PARK, 50.0 FEET WEST OF A ROAD IN A PARK, 15.0 FEET NORTH OF A TELEPHONE POLE, 14.0 FEET SOUTH-SOUTHEAST OF A TELEPHONE POLE, 12.0 FEET NORTH OF A ROW OF BUSHES, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.557	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.488	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1022.488	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.464 09 = -98.356 03 = -98.231

* No Horizontal Positions in the Database *



Mn/DOT Name: 5510 J

NGS Name: 5510 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0159](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	12	107 N	14 W	440506.50	922648.80	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5510 J 1970

3.3 MILES NORTH OF ROCHESTER, 1.7 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 14 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 45.15, 160.0 FEET EAST OF TRUNK HIGHWAY 63, 75.0 FEET EAST-SOUTHEAST OF A POWER POLE, 8.0 FEET SOUTH OF DRIVEWAY NUMBER 5910, 0.4 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1032.213	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1032.213	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1032.196	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1032.216	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1032.216	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK
1032.216	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1032.150	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1032.150	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1032.150	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.451 09 = -98.343 03 = -98.222

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_J-PP0159-3E-30MAR2010.jpg	E	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_J-PP0159-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_J-PP0159-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 K

NGS Name: 5510 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0158](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	12	107 N	14 W	440519.40	922642.80	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5510 K 1970

1.9 MILES NORTH OF ROCHESTER, 1.4 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 14 IN ROCHESTER, AT TRUNK HIGHWAY MILEPOINT 45.40, 0.1 MILE SOUTH OF BUCK RIDGE DRIVE NORTHEAST, 125.0 FEET WEST OF TRUNK HIGHWAY 63, 50.0 FEET NORTH OF THE EDGE OF THE WOODS, 1.2 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1031.651	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1031.651	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1031.632	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1031.642	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1031.651	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK
1031.642	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1031.576	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1031.576	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1031.576	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.445 12B = -98.448 09 = -98.340 03 = -98.218

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_K-PP0158-3W-30MAR2010.jpg	W	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_K-PP0158-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_K-PP0158-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 L

NGS Name: 5510 L

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0157](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	12	107 N	14 W	440532.13	922630.67	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2006)

Stamping: 5510 L 1970

2.2 MILES NORTH OF ROCHESTER, 1.25 MILES SOUTH ALONG COUNTY ROAD 33 FROM THE JUNCTION OF COUNTY ROAD 33 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 5.0 MILES NORTH OF ROCHESTER), 125.0 FEET WEST OF COUNTY ROAD 33 (BROADWAY AVENUE NORTH), 100.0 FEET NORTH OF 65TH STREET NORTHEAST EXTENDED, 93.0 FEET SOUTHWEST OF A TELEPHONE POLE, 4.0 FEET WEST OF A FENCE LINE, 2.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1048.981	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1048.981	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1048.948	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1048.948	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1048.974	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK
1048.948	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1048.882	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1048.882	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1048.882	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.438 09 = -98.330 03 = -98.212

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_L-PP0157-3W-20APR2023.jpg	W	Apr 20, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_L-PP0157-2-20APR2023.jpg		Apr 20, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_L-PP0157-1-20APR2023.jpg		Apr 20, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 M

NGS Name: 5510 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0156](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	1	107 N	14 W	440540.17	922624.99	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5510 M 1970

2.4 MILES NORTH OF ROCHESTER, 1.1 MILES SOUTH ALONG COUNTY ROAD 33 FROM THE JUNCTION OF COUNTY ROAD 33 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 5.0 MILES NORTH OF ROCHESTER), 75.0 FEET SOUTHWEST OF COUNTY ROAD 33 (BROADWAY AVENUE NORTH), 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1034.922	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1034.922	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1034.922	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1034.893	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1034.893	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1034.827	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1034.827	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1034.827	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1035.142	.262		936.707	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.435 12B = -98.435 09 = -98.323 03 = -98.205

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 40.17238	92 26 24.98903	625166.055	195366.513	.131	3	GPS - RTRN	2023	RTRN2023

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3034399.209	730977.501	1787411.836	16018735.248	.131	3	GPS - RTRN	2023	RTRN2023

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_M-PP0156-3W-19APR2023.jpg	W	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_M-PP0156-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_M-PP0156-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 N

NGS Name: 5510 N

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: PP0154	Get Map
NW	6	107 N	13 W	440559.98	922608.98	2	C	NGS Quad / Sta Num : 44092233/ USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	GOOD	Horz=NO Vert=NO	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1970) Stamping: 5510 N 1970

2.8 MILES NORTH OF ROCHESTER, 0.5 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 14 IN ROCHESTER, 185.0 FEET EAST OF TRUNK HIGHWAY 63, 110.0 FEET EAST OF A FENCE CORNER, 2.0 FEET SOUTH OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1004.654	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1004.654	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719
1004.621	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON
1004.621	.016	2					VERTICAL ADJUSTMENT	1991	00000025
<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1004.555	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1004.555	.016	2					VERTICAL CONTROL SURVEY	1972	L106 MINN
1004.555	.016	2					VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
				906.235	.013	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1004.624	.131			906.333	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1004.624	.131			906.333	.066	2007	GPS - STATIC	2011	HFRON
1004.624	.131			906.468	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.428 12B = -98.425 09 = -98.313 03 = -98.199

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 05 59.97980	92 26 08.97766	626322.899	197379.126	.007		ADJUSTMENT	2012	GPS2800
<u>NAD83(2007)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 05 59.97986	92 26 08.97848	626322.840	197379.132	.033	C	ADJUSTMENT	2011	GPS2814
44 05 59.97986	92 26 08.97848	626322.840	197379.132	.033	C	GPS - STATIC	2011	HFRON
<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>								
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 05 59.97956	92 26 08.97786	626322.885	197379.102	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3035529.055	733005.112	1788566.129	16020748.180	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3035528.995	733005.117	1788566.069	16020748.185	.033	C	ADJUSTMENT	2011	GPS2814
3035528.995	733005.117	1788566.069	16020748.185	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3035529.041	733005.087	1788566.114	16020748.156	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_N-PP0154-3E-29MAR2010.jpg	E	Mar 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_N-PP0154-2-29MAR2010.jpg		Mar 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_N-PP0154-1-29MAR2010.jpg		Mar 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 P

NGS Name: 5510 P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0153](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	31	108 N	13 W	440631.44	922547.86	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5510 P 1970

3.2 MILES NORTH OF ROCHESTER, 4.2 MILES EAST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, 246.0 FEET NORTH ON COUNTY ROAD 33 (75TH STREET NORTHEAST), 190.0 FEET EAST OF TRUNK HIGHWAY 63, 8.2FEET NORTH OF A FENCE CORNER, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.430	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1024.430	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1024.398	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1024.430	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.365	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1024.365	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1024.365	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1024.562	.262		926.150	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.409 09 = -98.300 03 = -98.185

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 31.44420	92 25 47.85728	627845.355	200574.466	.131	3	GPS - RTRN	2023	RTRN2023

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037008.705	736220.080	1790084.667	16023943.708	.131	3	GPS - RTRN	2023	RTRN2023

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_P-PP0153-3N-19APR2023.jpg	N	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_P-PP0153-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_P-PP0153-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 Q

NGS Name: 5510 Q

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	13	107 N	14 W	440417.70	922654.40	2	

NGS ACRN: DK6796	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2010	GOOD	Horz=NO Vert=YES	YES	6840	FLUSH	MARKER W/BAR MAGNET

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5510 Q 2005

2.0 MILES NORTH-NORTHEAST OF ROCHESTER, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 6840 OVER THE HADLEY VALLEY CREEK, 0.95 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN THE NORTHEAST OF ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 44.20, 22.0 FEET EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
995.096	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
995.096	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
995.096	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
995.096	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
995.093	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.458 09 = -98.356 03 = -98.228

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_Q-DK6796-3N-30MAR2010.jpg	N	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_Q-DK6796-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_Q-DK6796-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 R

NGS Name: 5510 R

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	108 N	13 W	440813.50	922501.30	2	

NGS ACRN: [DN5954](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (1957)

Stamping: 5510 R 1957

6.2 MILES SOUTHEAST OF ORONOCO, 6.6 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, THEN 2.0 MILES SOUTH ON TRUNK HIGHWAY 63, IN THE SOUTHWEST CORNER OF A TRUNK HIGHWAY 63 TRIPLE BOX CULVERT, AT TRUNK HIGHWAY 63 STATION 395+10.

Station Notes

THE MARK IS NAMED STA 395+10 IN CONTROL SECTION LISTINGS, STAMPED 5510 R 1957, 03-29-2010.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1034.988	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1034.988	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1034.962	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1034.909	.033	3				VERTICAL CONTROL SURVEY	1957	CS5510

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.399 09 = -98.284 03 = -98.172

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_R-DN5954-3NE-29MAR2010.jpg	NE	Mar 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_R-DN5954-2-29MAR2010.jpg		Mar 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_R-DN5954-1-29MAR2010.jpg		Mar 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 S

NGS Name: 5510 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5956](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	26	107 N	14 W	440212.30	922745.60	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WALKWAY	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5510 S 1978

IN ROCHESTER, IN THE SIDEWALK AT THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 5859 OVER THE ZUMBRO RIVER, 0.05 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 14TH STREET NORTHEAST, AT TRUNK HIGHWAY 63 MILEPOINT 41.65, 22.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63 (NORTH BROADWAY AVENUE).

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
985.395	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
985.395	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
985.395	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.520 09 = -98.435 03 = -98.277

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_S-DN5956-3E-04MAY2010.jpg	E	May 4, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_S-DN5956-2-04MAY2010.jpg		May 4, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_S-DN5956-1-04MAY2010.jpg		May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 T

NGS Name: 5510 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1719](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	24	107 N	14 W	440341.83	922709.42	2	C	2010	2020	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 5 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: 5510 T 2010

IN ROCHESTER, 0.15 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 37TH STREET SOUTH (COUNTY ROAD 22) IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 43.45, 72.8 FEET EAST OF WESTBOUND TRUNK HIGHWAY 63, 2.8 FEET WEST OF A RIGHT-OF-WAY POST, 23.2 FEET EAST OF A POWER LINE WITH A GUY WIRE, 1.7 FEET WEST OF A RIGHT-OF-WAY POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1022.688	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1022.688	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1022.688	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
			924.250	.011	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1022.701	.131		924.342	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1022.701	.131		924.342	.066	2007	GPS - STATIC	2011 HFRON
1022.701	.131		924.499	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.471 09 = -98.373 03 = -98.241

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
44 03 41.82991	92 27 09.42364	621990.570	183363.905	.007		ADJUSTMENT 2012 GPS2800

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
44 03 41.82999	92 27 09.42448	621990.509	183363.913	.033	C	ADJUSTMENT 2011 GPS2814
44 03 41.82999	92 27 09.42448	621990.509	183363.913	.033	C	GPS - STATIC 2011 HFRON

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
44 03 41.82966	92 27 09.42383	621990.556	183363.880	.033	C	GPS - STATIC 2010 HFRON

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>	<u>X</u> <u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
	3031383.988 718934.954	1784249.937	16006734.551	.007		ADJUSTMENT 2012 GPS2800

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>	<u>X</u> <u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
	3031383.927 718934.961	1784249.876	16006734.559	.033	C	ADJUSTMENT 2011 GPS2814
	3031383.927 718934.961	1784249.876	16006734.559	.033	C	GPS - STATIC 2011 HFRON

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>	<u>X</u> <u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
	3031383.975 718934.928	1784249.924	16006734.526	.033	C	GPS - STATIC 2010 HFRON



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T-DN1719-3E-20MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T-DN1719-2-20MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T-DN1719-1-20MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	May 20, 2010
	May 20, 2010
	May 20, 2010



Mn/DOT Name: 5510 T 1

NGS Name: 5510 T 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN5955](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	23	107 N	14 W	440341.50	922757.20	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1969	2010	GOOD	Horz=NO Vert=YES	YES	55519	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5510 T 1 1969

IN ROCHESTER, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 22 (37TH STREET NORTHEAST)
BRIDGE NUMBER 55519 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.65 MILE WEST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
979.542	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
979.542	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
979.542	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Geoid Separations(ft): GEOID18 = -98.510 12B = -98.510 09 = -98.412 03 = -98.274

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T_1-DN5955-3SW-17MAY2010.jpg	SW	May 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T_1-DN5955-2-17MAY2010.jpg		May 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_T_1-DN5955-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 U

NGS Name: 5510 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1720](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	35	107 N	14 W	440150.17	922747.65	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 85 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: 5510 U 2010

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND 7TH STREET NORTH IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 46.15, 56.5 FEET NORTH OF 7TH STREET NORTH, 35.7 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, 10.8 FEET NORTHEAST OF A SUPER AMERICA SIGNPOST, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
990.831	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
990.831	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
990.831	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
990.828	.262		892.305	.197	2011	GPS - OPUS	2021	GPSBM
990.894	.262		892.370	.197	2011	GPS - RTRN	2021	RTRN2021
990.536	.262		892.091	.197	2007	GPS - RTRN	2012	RTRN2012
			892.344	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
990.844	.131		892.442	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
990.844	.131		892.442	.066	2007	GPS - STATIC	2011	HFRON
990.844	.131		892.606	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.527 09 = -98.445 03 = -98.281

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 50.16767	92 27 47.64701	619261.584	172040.806	.131	3	GPS - OPUS	2021	GPSBM
44 01 50.16743	92 27 47.64653	619261.619	172040.782	.131	3	GPS - RTRN	2021	RTRN2021
44 01 50.16758	92 27 47.64694	619261.589	172040.797	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 50.16652	92 27 47.64731	619261.563	172040.689	.131	3	GPS - RTRN	2012	RTRN2012
44 01 50.16768	92 27 47.64777	619261.529	172040.807	.033	C	ADJUSTMENT	2011	GPS2814
44 01 50.16768	92 27 47.64777	619261.529	172040.807	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 50.16735	92 27 47.64708	619261.579	172040.773	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028806.117	707577.673	1781533.612	15995413.542	.131	3	GPS - OPUS	2021	GPSBM
3028806.152	707577.650	1781533.647	15995413.518	.131	3	GPS - RTRN	2021	RTRN2021
3028806.122	707577.665	1781533.617	15995413.533	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028806.097	707577.557	1781533.590	15995413.425	.131	3	GPS - RTRN	2012	RTRN2012
3028806.061	707577.673	1781533.556	15995413.543	.033	C	ADJUSTMENT	2011	GPS2814
3028806.061	707577.673	1781533.556	15995413.543	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028806.112	707577.641	1781533.607	15995413.510	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U-DN1720-3W-20MAY2010.jpg	W	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U-DN1720-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U-DN1720-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 U 1

NGS Name: 5510 U 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	35	107 N	14 W	440150.20	922818.30	2	

NGS ACRN: [DN5957](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2010	GOOD	Horz=NO Vert=?	YES	55529	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5510 U 1 1980

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF 7TH STREET NORTHEAST BRIDGE NUMBER 55529 OVER CASCADE CREEK, 0.45 MILE WEST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
992.701	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
992.701	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
992.701	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.550 09 = -98.468 03 = -98.304

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_1-DN5957-3S-17MAY2010.jpg	S	May 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_1-DN5957-2-17MAY2010.jpg		May 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_1-DN5957-1-17MAY2010.jpg		May 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 U 2

NGS Name: 5510 U 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DN5958 NGS Quad / Sta Num : 44092233/ USGS Quad: ROCHESTER	Get Map
SW	35	107 N	14 W	440141.00	922822.00	2			

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2010	GOOD	Horz=NO Vert=YES	YES	55504	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5510 U 2 1996

IN ROCHESTER, IN THE ABUTMENT IN THE NORTHWEST CORNER OF EASTBOUND CIVIC CENTER DRIVE BRIDGE NUMBER 55504 OVER CASCADE CREEK, 0.5 MILE WEST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
992.432	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
992.432	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
992.436	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.556 09 = -98.474 03 = -98.304

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_2-DN5958-3E-18MAY2010.jpg	E	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_2-DN5958-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_U_2-DN5958-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 V

NGS Name: 5510 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1721](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	6	108 N	13 W	441049.18	922510.49	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: 5510 V 2010

4.2 MILES NORTHWEST OF POTSDAM, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, AT TRUNK HIGHWAY 63 MILEPOINT 52.25, 73.8 FEET WEST OF TRUNK HIGHWAY 63, 13.0 FEET SOUTH OF EXTENDED 125TH STREET NORTHEAST, 14.1 FEET NORTH OF DRIVEWAY NUMBER 12501, 1.5 FEET EAST OF A RIGHT-OF-WAY POST, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1099.571	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1099.571	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1099.558	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
			1001.130	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1099.571	.131		1001.235	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1099.571	.131		1001.235	.066	2007	GPS - STATIC	2011	HFRON
1099.571	.131		1001.327	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.415 12B = -98.409 09 = -98.290 03 = -98.195

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 10 49.18127	92 25 10.48711	630414.717	226691.137	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 10 49.18137	92 25 10.48785	630414.663	226691.147	.033	C	ADJUSTMENT	2011	GPS2814
44 10 49.18137	92 25 10.48785	630414.663	226691.147	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 10 49.18102	92 25 10.48722	630414.709	226691.112	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039230.093	762365.669	1792626.096	16050051.815	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039230.039	762365.678	1792626.042	16050051.825	.033	C	ADJUSTMENT	2011	GPS2814
3039230.039	762365.678	1792626.042	16050051.825	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039230.086	762365.643	1792626.088	16050051.790	.033	C	GPS - STATIC	2010	HFRON



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_V-DN1721-3W-20MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_V-DN1721-2-20MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_V-DN1721-1-20MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	May 20, 2010
	May 20, 2010
	May 20, 2010



Mn/DOT Name: 5510 W

NGS Name: 5510 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1722](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	108 N	13 W	441130.55	922510.39	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 35 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: 5510 W 2010

4.4 MILES NORTHWEST OF POTSDAM, 1.8 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, AT TRUNK HIGHWAY 63 MILEPOINT 53.05, 58.8 FEET EAST OF TRUNK HIGHWAY 63, 25.8 FEET NORTH OF A FIELD ENTRANCE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1142.357	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1142.357	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1142.347	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1043.922	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1142.353	.131		1044.027	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1142.353	.131		1044.027	.066	2007	GPS - STATIC	2011	HFRON
1142.353	.131		1044.119	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.415 12B = -98.412 09 = -98.290 03 = -98.199

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 30.55027	92 25 10.39151	630396.430	230880.556	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 30.55039	92 25 10.39226	630396.375	230880.568	.033	C	ADJUSTMENT	2011	GPS2814
44 11 30.55039	92 25 10.39226	630396.375	230880.568	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 30.55004	92 25 10.39162	630396.422	230880.533	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039156.072	766553.973	1792603.490	16054239.411	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039156.017	766553.985	1792603.435	16054239.423	.033	C	ADJUSTMENT	2011	GPS2814
3039156.017	766553.985	1792603.435	16054239.423	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039156.065	766553.950	1792603.482	16054239.388	.033	C	GPS - STATIC	2010	HFRON



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_W-DN1722-3E-20MAY2010.jpg	E	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_W-DN1722-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_W-DN1722-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5510 X

NGS Name: 5510 X

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	106 N	14 W	440054.00	922746.00	2	

NGS ACRN: DN5963	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1987	2010	GOOD	Horz=NO Vert=YES	YES	55030	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WALKWAY	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5510 X 1987

IN ROCHESTER, IN THE SIDEWALK IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 (SOUTH BROADWAY) BRIDGE
NUMBER 55030 OVER THE SOUTH FORK OF THE ZUMBRO RIVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1002.596	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1002.596	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1002.596	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.530 12B = -98.537 09 = -98.451 03 = -98.281

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_X-DN5963-3N-18MAY2010.jpg	N	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_X-DN5963-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5510_X-DN5963-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 A

NGS Name: 5511 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001529](#)
NGS Quad / Sta Num : 43092112/
USGS Quad: PILOT MOUND

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	35	105 N	11 W	435116.14	920637.79	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
COPPER CLAD ROD (NO SLEEVE) (DEPTH 28 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2010) **Stamping:** 5511 A 1979

4.0 MILES EAST OF CHATFIELD, 4.1 MILES EAST ALONG TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 74/TRUNK HIGHWAY AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 24.15, 73.6 FEET NORTH OF TRUNK HIGHWAY 74, 99.5 FEET EAST OF A RIGHT-OF-WAY POST, 43.0 FEET NORTH OF A TRUNK HIGHWAY 74 SIGNPOST, 0.7 FOOT SOUTH OF A WITNESS POST.

Station Pair: SWENSON MNDT AZ MK - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1101.192	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
1101.192	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1101.192	.016	2/1				VERTICAL CONTROL SURVEY	2017	VRFOR
1101.192	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1101.172	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1101.192	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1101.162	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1101.166	.262		1002.757	.197	2011	GPS - RTRN	2023	RTRN2023
1101.156	.262		1002.741	.197	2011	GPS - RTRN	2016	RTRN2016
1101.192			1002.754	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1101.192	.131		1002.938	.066	1996	GPS - STATIC	2014	HOLMS
1101.192			1002.754	.013	2011	GPS - STATIC	2014	HOLMS
1101.051	.262		1002.636	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.415 09 = -98.327 03 = -98.176

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 16.13914	92 06 37.78592	712664.418	108547.104	.131	3	GPS - RTRN	2023	RTRN2023
43 51 16.14002	92 06 37.78612	712664.402	108547.193	.131	3	GPS - RTRN	2016	RTRN2016
43 51 16.13964	92 06 37.78624	712664.394	108547.155	.016		ADJUSTMENT	2014	GPS3018
43 51 16.13964	92 06 37.78624	712664.394	108547.155	.016	C	GPS - STATIC	2014	HOLMS
43 51 16.13964	92 06 37.78607	712664.406	108547.155	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 16.13943	92 06 37.78648	712664.376	108547.133	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3123038.600	645338.928	1874961.387	15932039.302	.131	3	GPS - RTRN	2023	RTRN2023
3123038.583	645339.017	1874961.371	15932039.391	.131	3	GPS - RTRN	2016	RTRN2016
3123038.575	645338.978	1874961.363	15932039.352	.016		ADJUSTMENT	2014	GPS3018
3123038.575	645338.978	1874961.363	15932039.352	.016	C	GPS - STATIC	2014	HOLMS
3123038.588	645338.979	1874961.375	15932039.352	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3123038.558	645338.957	1874961.345	15932039.331	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_A-OO1529-3N-12APR2023.jpg	N	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_A-OO1529-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_A-OO1529-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 B

NGS Name: 5511 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1530](#)
NGS Quad / Sta Num : 43092112/
USGS Quad: PILOT MOUND

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	35	105 N	11 W	435115.18	920705.56	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 0 IN.	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
COPPER CLAD ROD (NO SLEEVE) (DEPTH 28 FT)	VERTICAL CONTROL DISK	MNDT

Description: (1979) Stamping: 5511 B 1979

3.4 MILES EAST OF CHATFIELD, 3.65 MILES EAST ALONG TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 23.75, 72.0 FEET SOUTH OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30, 15.0 FEET WEST OF A FIELD ENTRANCE, 9.0 FEET WEST OF COUNTY ROAD 130 EXTENDED, 1.0 FOOT NORTH OF A FENCE LINE, 2.0 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1104.643	.016	2/1				VERTICAL CONTROL SURVEY	2024 VCHAT2
1104.643	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1104.643	.016	2/1				VERTICAL CONTROL SURVEY	2017 VRFOR
1104.643	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1104.627	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH
1104.643	.016	2/2				VERTICAL ADJUSTMENT	1991 00000025

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1104.617	.016	2				VERTICAL CONTROL SURVEY	1980 L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1104.676	.262		1006.278	.197	2011	GPS - RTRN	2023 RTRN2023
1104.660	.262		1006.255	.197	2011	GPS - RTRN	2016 RTRN2016
1104.489	.262		1006.087	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.395 12B = -98.405 09 = -98.313 03 = -98.166

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Olmsted County			Project Info	
Latitude	Longitude		X	Y	Acc Order	Determination Method	Year Reference
43 51 15.18291	92 07 05.56198		710630.083	108430.476	.131 3	GPS - RTRN	2023 RTRN2023
43 51 15.18315	92 07 05.56177		710630.098	108430.500	.131 3	GPS - RTRN	2016 RTRN2016
43 51 15.18233	92 07 05.56127		710630.136	108430.417	.131 3	GPS - RTRN	2013 RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)			UTM - Zone 15			Project Info	
MN State Plane - South Zone			X	Y	Acc Order	Determination Method	Year Reference
3121006.144	645195.184		1872927.967	15931920.724	.131 3	GPS - RTRN	2023 RTRN2023
3121006.159	645195.209		1872927.982	15931920.748	.131 3	GPS - RTRN	2016 RTRN2016
3121006.198	645195.127		1872928.020	15931920.666	.131 3	GPS - RTRN	2013 RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_B-OO1530-3S-12APR2023.jpg	S	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_B-OO1530-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_B-OO1530-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 C

NGS Name: 5511 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1531](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	34	105 N	11 W	435116.12	920757.85	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2023	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
COPPER CLAD ROD (NO SLEEVE) (DEPTH 29 FT)	VERTICAL CONTROL DISK	MNDT

Description: (2010)

Stamping: 5511 C 1979

2.4 MILES EAST OF CHATFIELD, 2.95 MILES EAST ALONG TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 23.05, 75.0 FEET NORTH OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30, 175.5 FEET NORTHEAST OF TRUNK HIGHWAY 74 MILEPOST 23, 95.4 FEET NORTHEAST OF THE NORTHEAST END OF A METAL CULVERT, 1.4 FEET EAST OF A STEEL POST FOR A SPIRAL TANGENT POINT, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1095.401	.016	2/1					VERTICAL CONTROL SURVEY	2024	VCHAT2
1095.401	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1095.395	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH
1095.411	.016	2/2					VERTICAL ADJUSTMENT	1991	00000025
NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1095.382	.016	2					VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1095.392	.262			997.026	.197	2011	GPS - RTRN	2023	RTRN2023
1095.405	.262			997.029	.197	2011	GPS - RTRN	2016	RTRN2016
1095.306	.262			996.930	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.366 12B = -98.376 09 = -98.284 03 = -98.140

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position								Year	Reference
Latitude	Longitude	X	Y	Acc	Order	Determination Method			
43 51 16.11562	92 07 57.84803	706797.939	108488.164	.131	3	GPS - RTRN		2023	RTRN2023
43 51 16.11591	92 07 57.84836	706797.914	108488.193	.131	3	GPS - RTRN		2016	RTRN2016
43 51 16.11557	92 07 57.84765	706797.967	108488.159	.131	3	GPS - RTRN		2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone								Year	Reference
X	Y	X	Y	Acc	Order	Determination Method			
3117173.839	645201.755	1869097.280	15931974.630	.131	3	GPS - RTRN		2023	RTRN2023
3117173.815	645201.784	1869097.255	15931974.659	.131	3	GPS - RTRN		2016	RTRN2016
3117173.867	645201.750	1869097.307	15931974.625	.131	3	GPS - RTRN		2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_C-OO1531-3N-12APR2023.jpg	N	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_C-OO1531-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_C-OO1531-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 D

NGS Name: 5511 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001532](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	33	105 N	11 W	435103.00	920858.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2001	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	BENCH MARK DISK	MNDT

Description: (1979)

Stamping: 5511 D 1979

1.55 MILES EAST OF CHATFIELD, 2.05 MILES EAST ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 52 IN CHATFIELD, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 74 BOX CULVERT, 22.3 FEET SOUTH OF TRUNK HIGHWAY 74, AT TRUNK HIGHWAY 74 MILEPOINT 22.1.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1042.547	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1042.524	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.350 12B = -98.356 09 = -98.268 03 = -98.123

* No Horizontal Positions in the Database *



Mn/DOT Name: 5511 D RESET

NGS Name: 5511 D RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7547](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	33	105 N	11 W	435102.19	920859.35	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1997	2013	GOOD	Horz=NO Vert=NO	YES	8855	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2007)

Stamping: 5511 D RESET 1997

1.55 MILES EAST OF CHATFIELD, 2.05 MILES EAST ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 22.1, IN THE SOUTHEAST CORNER OF A TRUNK HIGHWAY 74 BOX CULVERT, 22.3 FEET SOUTH OF TRUNK HIGHWAY 74, 0.75 FOOT NORTH OF A WITNESS POST.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference	
1043.728	.016	2/1						VERTICAL ADJUSTMENT	2017	00000900	
1043.725	.016	2/1						VERTICAL CONTROL SURVEY	2014	VSTCH	
1043.732	.033	3						VERTICAL CONTROL SURVEY	1997	CS5511	

NGVD29				Ellipsoid (NAD83)				Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference	
1043.699	.033	3						VERTICAL CONTROL SURVEY	1997	CS5511	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference	
1043.672	.262			945.313	.197	2011		GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.350 12B = -98.356 09 = -98.268 03 = -98.126

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Geodetic Position			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 02.19052	92 08 59.35312	702304.294	107035.734	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Project Info		
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3112700.274	643689.633	1864606.844	15930518.368	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_D_RESET-DP7547-3E-01APR2013.jpg	E	Apr 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_D_RESET-DP7547-2-01APR2013.jpg		Apr 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_D_RESET-DP7547-1-01APR2013.jpg		Apr 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 E

NGS Name: 5511 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1533](#)

[Get Map](#)

NGS Quad / Sta Num : 43092113/

USGS Quad: CHATFIELD

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	32	105 N	11 W	435100.99	920947.26	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2023	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	MARKER IS STEEL ROD

Monument Type

COPPER CLAD ROD (NO SLEEVE) (DEPTH 9 FT)

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2007)

Stamping: 5511 E 1979

0.8 MILE EAST OF CHATFIELD, 1.4 MILES EAST ALONG TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 119.5 FEET NORTH OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30, AT TRUNK HIGHWAY 74 MILEPOINT 21.45, 48.0 FEET EAST OF TERRITORIAL ROAD SOUTHEAST, 1.1 FEET SOUTHWEST OF A RIGHT-OF-WAY POST, 0.6 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.727	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
1191.727	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1191.736	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1191.717	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.691	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.887	.262		1093.567	.197	2011	GPS - RTRN	2023	RTRN2023
1191.602	.262		1093.272	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.320 12B = -98.327 09 = -98.238 03 = -98.103

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 00.98799	92 09 47.26000	698794.818	106881.604	.131	3	GPS - RTRN	2023	RTRN2023
43 51 00.98852	92 09 47.26077	698794.761	106881.658	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3109193.409	643488.734	1861098.921	15930360.856	.131	3	GPS - RTRN	2023	RTRN2023
3109193.351	643488.786	1861098.863	15930360.909	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_E-OO1533-3N-12APR2023.jpg	N	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_E-OO1533-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_E-OO1533-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 G

NGS Name: 5511 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7548](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	33	105 N	11 W	435103.00	920857.07	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2023	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 21 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5511 G 2013

2.0 MILES EAST OF CHATFIELD, 2.1 MILES EAST ALONG TRUNK HIGHWAY 30/TRUNK HIGHWAY 74 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 22.05, 58.3 FEET NORTH OF TRUNK HIGHWAY 30/TRUNK HIGHWAY 74, 22.7 FEET WEST OF A FIELD ENTRANCE, 13.0 FEET SOUTH OF A GATE POST, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1043.233	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1043.230	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference	
1043.200	.262		944.841	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.359 09 = -98.268 03 = -98.126

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 51 03.00053	92 08 57.06649	702471.093	107119.315	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3112865.933	643775.424	1864773.495	15930602.079	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G-DP7548-3N-25APR2013.jpg	N	Apr 25, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G-DP7548-2-25APR2013.jpg		Apr 25, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G-DP7548-1-25APR2013.jpg		Apr 25, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 G RESET

NGS Name: 5511 G RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS2103](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	33	105 N	11 W	435103.00	920857.07	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2023	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 21 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5511 G RESET 2023

2.0 MILES EAST OF CHATFIELD, 2.1 MILES EAST ALONG TRUNK HIGHWAY 30/TRUNK HIGHWAY 74 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 22.05, 58.3 FEET NORTH OF TRUNK HIGHWAY 30/TRUNK HIGHWAY 74, 22.7 FEET WEST OF A FIELD ENTRANCE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1042.787	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2

No Geoid Separations Available

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G_RESET-DS2103-3N-12APR2023.jpg	N	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G_RESET-DS2103-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_G_RESET-DS2103-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 H

NGS Name: 5511 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7549](#)

[Get Map](#)

NGS Quad / Sta Num : 43092112/

USGS Quad: PILOT MOUND

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	36	105 N	11 W	435139.98	920555.92	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2013)

Stamping: 5511 H 2013

4.6 MILES EAST OF CHATFIELD, 4.15 MILES EAST ALONG TRUNK HIGHWAY 30/74 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 1.0 MILE NORTHEAST ALONG TRUNK HIGHWAY 74, AT TRUNK HIGHWAY 74 MILEPOINT 24.9, 70.6 FEET NORTHWEST OF TRUNK HIGHWAY 74, 43.7 FEET EAST OF 190TH AVENUE SOUTHEAST, 14.7 FEET EAST OF A POWER POLE WITH A GUY WIRE, 0.9 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1220.070	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1220.070	.016	2/1				VERTICAL CONTROL SURVEY	2017	VRFOR
1220.070	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1220.057	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1220.073	.262		1121.661	.197	2011	GPS - RTRN	2016	RTRN2016
1220.017	.262		1121.605	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.402 12B = -98.412 09 = -98.327 03 = -98.169

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 39.97506	92 05 55.92390	715707.889	110990.918	.131	3	GPS - RTRN	2016	RTRN2016
43 51 39.97518	92 05 55.92345	715707.922	110990.930	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3126048.989	647822.949	1878001.268	15934485.143	.131	3	GPS - RTRN	2016	RTRN2016
3126049.021	647822.962	1878001.301	15934485.156	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_H-DP7549-3NW-08APR2013.jpg	NW	Apr 8, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_H-DP7549-2-08APR2013.jpg		Apr 8, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_H-DP7549-1-08APR2013.jpg		Apr 8, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5511 J

NGS Name: 5511 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7550](#)

[Get Map](#)

NGS Quad / Sta Num : 43092112/

USGS Quad: PILOT MOUND

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	25	105 N	11 W	435157.70	920454.77	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: 5511 J 2013

5.5 MILES EAST OF CHATFIELD, 4.15 MILES EAST ALONG TRUNK HIGHWAY 30/TRUNK HIGHWAY 74 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 1.85 MILES NORTHEAST ALONG TRUNK HIGHWAY 74, AT TRUNK HIGHWAY 74 MILEPOINT 25.85, 49.6 FEET NORTHWEST OF TRUNK HIGHWAY 74, 17.7 FEET SOUTHWEST OF A FIELD ENTRANCE, 3.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1045.031	.016	2/1				VERTICAL ADJUSTMENT		2017	00000900
1045.018	.016	2/1				VERTICAL CONTROL SURVEY		2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1045.064	.262		946.632	.197	2011	GPS - RTRN		2024	RTRN2024
1045.126	.262		946.698	.197	2011	GPS - OPUS		2021	GPSBM
1045.106	.262		946.678	.197	2011	GPS - OPUS		2021	GPSBM
1044.991	.262		946.563	.197	2011	GPS - OPUS		2021	GPSBM
1045.050	.262		946.622	.197	2011	GPS - RTRN		2021	RTRN2021
1045.041	.262		946.602	.197	2011	GPS - RTRN		2016	RTRN2016
1044.959	.262		946.520	.197	2011	GPS - RTRN		2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.428 12B = -98.435 09 = -98.346 03 = -98.182

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 51 57.70447	92 04 54.76623	720170.492	112831.082	.131	3	GPS - RTRN
43 51 57.70451	92 04 54.76724	720170.418	112831.085	.131	3	GPS - OPUS
43 51 57.70379	92 04 54.76714	720170.426	112831.012	.131	3	GPS - OPUS
43 51 57.70404	92 04 54.76926	720170.270	112831.036	.131	3	GPS - OPUS
43 51 57.70313	92 04 54.76659	720170.467	112830.946	.131	3	GPS - RTRN
43 51 57.70356	92 04 54.76718	720170.423	112830.989	.131	3	GPS - RTRN
43 51 57.70350	92 04 54.76660	720170.466	112830.983	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3130486.328	649722.351	1882460.326	15936328.971	.131	3	GPS - RTRN
3130486.254	649722.354	1882460.252	15936328.974	.131	3	GPS - OPUS
3130486.263	649722.281	1882460.260	15936328.902	.131	3	GPS - OPUS
3130486.107	649722.303	1882460.105	15936328.925	.131	3	GPS - OPUS
3130486.305	649722.215	1882460.301	15936328.835	.131	3	GPS - RTRN
3130486.260	649722.258	1882460.258	15936328.878	.131	3	GPS - RTRN
3130486.303	649722.253	1882460.300	15936328.873	.131	3	GPS - RTRN



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_J-DP7550-3NW-15OCT2024.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_J-DP7550-2-15OCT2024.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5511_J-DP7550-1-15OCT2024.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NW	Oct 15, 2024
	Oct 15, 2024
	Oct 15, 2024



Mn/DOT Name: 5512 A

NGS Name: 5512 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1723](#) [Get Map](#)
NGS Quad / Sta Num : 44092231/
USGS Quad: MILLVILLE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	12	108 N	13 W	440956.95	921937.55	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) **Stamping:** 5512 A 2010

0.6 MILE EAST OF POTSDAM, 4.55 MILES EAST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 247 MILEPOINT 4.55, 69.0 FEET NORTH OF TRUNK HIGHWAY 247, 5.0 FEET SOUTH OF A POWER POLE, 3.75 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1117.524	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1117.524	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1117.514	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1117.531	.262		1019.207	.197	2011	GPS - OPUS	2021	GPSBM
1117.465	.262		1019.142	.197	2011	GPS - RTRN	2021	RTRN2021
			1019.201	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1117.517	.131		1019.325	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1117.517	.131		1019.325	.066	2007	GPS - STATIC	2011	HFRON
1117.517	.131		1019.414	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.323 12B = -98.330 09 = -98.185 03 = -98.090

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 56.94649	92 19 37.54862	654715.783	221561.311	.131	3	GPS - OPUS	2021	GPSBM
44 09 56.94637	92 19 37.54776	654715.846	221561.299	.131	3	GPS - RTRN	2021	RTRN2021
44 09 56.94602	92 19 37.54768	654715.852	221561.264	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 56.94616	92 19 37.54840	654715.799	221561.278	.033	C	ADJUSTMENT	2011	GPS2814
44 09 56.94616	92 19 37.54840	654715.799	221561.278	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 56.94583	92 19 37.54773	654715.848	221561.245	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3063594.430	757560.333	1816922.123	16044949.268	.131	3	GPS - OPUS	2021	GPSBM
3063594.493	757560.322	1816922.186	16044949.256	.131	3	GPS - RTRN	2021	RTRN2021
3063594.499	757560.287	1816922.192	16044949.221	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3063594.446	757560.300	1816922.140	16044949.235	.033	C	ADJUSTMENT	2011	GPS2814
3063594.446	757560.300	1816922.140	16044949.235	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3063594.496	757560.267	1816922.189	16044949.202	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_A-DN1723-3N-20MAY2010.jpg	N	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_A-DN1723-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_A-DN1723-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5512 B

NGS Name: 5512 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1724](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	108 N	13 W	440957.28	922243.83	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: 5512 B 2010

2.0 MILES WEST OF POTSDAM, 2.0 MILES EAST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 247 MILEPOINT 2.0, 66.0 FEET NORTH OF TRUNK HIGHWAY 247, 66.2 FEET EAST OF COUNTY ROAD 128, 13.0 FEET SOUTHEAST OF A POWER POLE WITH A GUY WIRE, 96.5 FEET NORTH OF MILEPOST 2, 1.3 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1073.630	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1073.630	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1073.617	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1073.584	.262		975.211	.197	2011	GPS - OPUS	2021	GPSBM
1073.666	.262		975.293	.197	2011	GPS - RTRN	2021	RTRN2021
			975.231	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1073.620	.131		975.346	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1073.620	.131		975.346	.066	2007	GPS - STATIC	2011	HFRON
1073.620	.131		975.448	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.373 12B = -98.366 09 = -98.238 03 = -98.140

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 57.27686	92 22 43.82688	641137.040	221501.952	.131	3	GPS - OPUS	2021	GPSBM
44 09 57.27703	92 22 43.82672	641137.052	221501.969	.131	3	GPS - RTRN	2021	RTRN2021
44 09 57.27724	92 22 43.82631	641137.081	221501.990	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 57.27734	92 22 43.82703	641137.029	221502.000	.033	C	ADJUSTMENT	2011	GPS2814
44 09 57.27734	92 22 43.82703	641137.029	221502.000	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 57.27698	92 22 43.82635	641137.079	221501.964	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050019.259	757320.230	1803349.185	16044875.913	.131	3	GPS - OPUS	2021	GPSBM
3050019.270	757320.247	1803349.197	16044875.930	.131	3	GPS - RTRN	2021	RTRN2021
3050019.300	757320.269	1803349.227	16044875.952	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050019.247	757320.278	1803349.174	16044875.962	.033	C	ADJUSTMENT	2011	GPS2814
3050019.247	757320.278	1803349.174	16044875.962	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050019.298	757320.243	1803349.224	16044875.926	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_B-DN1724-3N-20MAY2010.jpg	N	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_B-DN1724-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_B-DN1724-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5512 C

NGS Name: 5512 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1725](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	8	108 N	13 W	440957.60	922357.71	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: 5512 C 2010

3.0 MILES WEST OF POTSDAM, 1.0 MILE EAST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 247 MILEPOINT 1.0, 37.0 FEET NORTH OF TRUNK HIGHWAY 247, 45.8 FEET WEST OF 40TH AVENUE NORTHEAST, 4.4 FEET SOUTH OF A FENCE CORNER, 152.5 FEET NORTHWEST OF MILEPOST 1, 1.8 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1109.844	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1109.844	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
1109.827	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
			1011.425	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1109.840	.131		1011.533	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814	
1109.840	.131		1011.533	.066	2007	GPS - STATIC	2011	HFRON	
1109.840	.131		1011.629	.066	1996	GPS - STATIC	2010	HFRON	

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.382 09 = -98.264 03 = -98.166

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 09 57.59953	92 23 57.70577	635751.517	221500.176	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 09 57.59965	92 23 57.70651	635751.463	221500.188	.033	C	ADJUSTMENT	2011	GPS2814
44 09 57.59965	92 23 57.70651	635751.463	221500.188	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 09 57.59930	92 23 57.70585	635751.511	221500.153	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3044634.863	757246.786	1797965.961	16044868.585	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3044634.809	757246.797	1797965.907	16044868.596	.033	C	ADJUSTMENT	2011	GPS2814
3044634.809	757246.797	1797965.907	16044868.596	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3044634.858	757246.762	1797965.956	16044868.561	.033	C	GPS - STATIC	2010	HFRON



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_C-DN1725-3N-20MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_C-DN1725-2-20MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_C-DN1725-1-20MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	May 20, 2010
	May 20, 2010
	May 20, 2010



Mn/DOT Name: 5512 D

NGS Name: 5512 D

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	17	108 N	13 W	440956.36	922507.36	2	C

NGS ACRN: [DN1726](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: 5512 D 2010

4.0 MILES WEST OF POTSDAM, AT THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 51.25, 67.3 FEET SOUTH OF TRUNK HIGHWAY 247, 92.2 FEET EAST OF TRUNK HIGHWAY 63, 22.0 FEET EAST-NORTHEAST OF A FENCE CORNER, 1.6 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1117.583	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1117.583	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1117.567	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1117.583			1019.161	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1117.567	.131		1019.378	.066	1996	GPS - STATIC	2014	HOLMS
1117.583			1019.161	.010	2011	GPS - STATIC	2014	HOLMS
			1019.161	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1117.583	.131		1019.273	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1117.583	.131		1019.273	.066	2007	GPS - STATIC	2011	HFRON
1117.583	.131		1019.378	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 56.35973	92 25 07.35667	630675.151	221343.372	.007		ADJUSTMENT	2014	GPS3018
44 09 56.35974	92 25 07.35665	630675.153	221343.373	.007	C	GPS - STATIC	2014	HOLMS
44 09 56.35973	92 25 07.35667	630675.151	221343.372	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 56.35983	92 25 07.35739	630675.099	221343.381	.033	C	ADJUSTMENT	2011	GPS2814
44 09 56.35983	92 25 07.35739	630675.099	221343.381	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 56.35946	92 25 07.35672	630675.148	221343.344	.033	C	GPS - STATIC	2014	HOLMS
44 09 56.35946	92 25 07.35672	630675.148	221343.344	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039561.623	757022.469	1792891.932	16044706.616	.007		ADJUSTMENT	2014	GPS3018
3039561.625	757022.470	1792891.934	16044706.617	.007	C	GPS - STATIC	2014	HOLMS
3039561.623	757022.469	1792891.932	16044706.616	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039561.571	757022.478	1792891.880	16044706.625	.033	C	ADJUSTMENT	2011	GPS2814
3039561.571	757022.478	1792891.880	16044706.625	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039561.620	757022.441	1792891.929	16044706.588	.033	C	GPS - STATIC	2014	HOLMS
3039561.620	757022.441	1792891.929	16044706.588	.033	C	GPS - STATIC	2010	HFRON

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_D-DN1726-3S-20MAY2010.jpg	S	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_D-DN1726-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5512_D-DN1726-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5513 A

NGS Name: 5513 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0169](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	106 N	14 W	440109.00	922741.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	9558		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5513-A 1970

IN ROCHESTER, AT THE JUNCTION OF 4TH STREET SOUTHEAST AND 1ST AVENUE SOUTHEAST, IN THE SOUTHEAST CORNER OF 4TH STREET BRIDGE NUMBER 9558 OVER THE ZUMBRO RIVER, 150.0 FEET SOUTH OF A RAILROAD BRIDGE OVER THE ZUMBRO RIVER.

Station Notes

4-08-2010 THE EXISTING BRIDGE WAS REPLACED BY BRIDGE 55557 IN 1993.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
998.495	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
998.410	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
998.410	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.445 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: 5513 B

NGS Name: 5513 B

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	106 N	14 W	440109.00	922741.00	2	

NGS ACRN: DN5962	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1993	2010	GOOD	Horz=NO Vert=?	YES	55557	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	USACE

Description: (2010)

Stamping: 5513 B 1993

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF 4TH STREET SOUTHEAST BRIDGE NUMBER 55557 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.1 MILE EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1000.710	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1000.710	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1000.710	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.445 03 = -98.277

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_B-DN5962-3W-18MAY2010.jpg	W	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_B-DN5962-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_B-DN5962-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5513 C

NGS Name: 5513 C

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	106 N	14 W	440115.00	922732.00	2	

NGS ACRN: [DN5961](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1992	2010	GOOD	Horz=NO Vert=?	YES	55553	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE RAILING	SURVEY DISK	USACE

Description: (2010)

Stamping: 5513 C 1992

IN ROCHESTER, IN THE RAILING IN THE SOUTHEAST CORNER OF 3RD AVENUE SOUTHEAST BRIDGE NUMBER 55553 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.15 MILE EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
994.211	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
994.211	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
994.211	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.523 09 = -98.438 03 = -98.271

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_C-DN5961-3N-18MAY2010.jpg	N	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_C-DN5961-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_C-DN5961-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5513 D

NGS Name: 5513 D

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	106 N	14 W	440118.00	922735.00	2	

NGS ACRN: [DN5960](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1992	2010	GOOD	Horz=NO Vert=YES	YES	55553	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WALKWAY	SURVEY DISK	USACE

Description: (2010)

Stamping: 5513 D 1992

IN ROCHESTER, IN THE WALKWAY IN THE NORTHEAST CORNER OF 3RD AVENUE SOUTHEAST BRIDGE NUMBER 55553
OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.15 MILE EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
993.515	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
993.515	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
993.515	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.527 09 = -98.438 03 = -98.274

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_D-DN5960-3NE-18MAY2010.jpg	NE	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_D-DN5960-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_D-DN5960-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5513 E

NGS Name: 5513 E

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	36	107 N	14 W	440124.20	922725.20	2	

NGS ACRN: DN5959	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5513 E 1968

IN ROCHESTER, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF THE EAST CENTER STREET SOUTHEAST BRIDGE OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 0.3 MILE EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
995.159	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
995.159	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
995.159	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.517 09 = -98.428 03 = -98.268

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_E-DN5959-3W-18MAY2010.jpg	W	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_E-DN5959-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5513_E-DN5959-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5515 A

NGS Name: 5515 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1755](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	31	108 N	13 W	440629.53	922549.79	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5515 A 2023

5.0 MILES NORTH OF ROCHESTER, 4.2 MILES EAST ALONG TRUNK HIGHWAY 63 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 47.0, 170.4 FEET EAST OF TRUNK HIGHWAY 63, 58.4 FEET NORTH OF COUNTY ROAD 33 (75TH STREET NORTHEAST), 133.7 EAST-SOUTHEAST OF MILEPOST NUMBER 47, 2.2 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj				Year	Reference		
1023.951	.016	2/1						VERTICAL CONTROL SURVEY	2024	VHAVA		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj				Year	Reference		
1023.984			925.569	.024	2011			HORIZONTAL ADJUSTMENT	2024	GPS3721		
1023.997	.131		925.763	.066	1996			GPS - STATIC	2024	HTH63		
1023.984			925.569	.024	2011			GPS - STATIC	2024	HTH63		
1023.974	.262		925.559	.197	2011			GPS - RTRN	2023	RTRN2023		

Geoid Separations(ft): GEOID18 = -98.412 03 = -98.185

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
44 06 29.53200	92 25 49.78580	627705.784	200379.994	.010		ADJUSTMENT	2024	GPS3721	
44 06 29.53200	92 25 49.78580	627705.784	200379.994	.010	C	GPS - STATIC	2024	HTH63	
44 06 29.53153	92 25 49.78490	627705.850	200379.947	.131	3	GPS - RTRN	2023	RTRN2023	

NAD83(1996)		Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
44 06 29.53182	92 25 49.78602	627705.768	200379.976	.033	C	GPS - STATIC	2024	HTH63	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order		Year	Reference	
3036871.748	736023.789	1789945.354	16023749.176	.010		ADJUSTMENT	2024	GPS3721	
3036871.748	736023.789	1789945.354	16023749.176	.010	C	GPS - STATIC	2024	HTH63	
3036871.814	736023.743	1789945.419	16023749.129	.131	3	GPS - RTRN	2023	RTRN2023	

NAD83(1996)		MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order		Year	Reference	
3036871.732	736023.771	1789945.338	16023749.157	.033	C	GPS - STATIC	2024	HTH63	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_A-DS1755-3N-26APR2023.jpg	N	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_A-DS1755-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_A-DS1755-1-23APR2023.jpg		Apr 23, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5515 B

NGS Name: 5515 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1756](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	1	107 N	14 W	440628.22	922711.70	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5515 B 2023

4.5 MILES NORTH OF ROCHESTER, 3.1 MILES EAST ALONG TRUNK HIGHWAY 63 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 46.0, 58.1 FEET SOUTH OF TRUNK HIGHWAY 63, 128.3 FEET WEST-SOUTHWEST OF MILEPOST 46, 15.6 FEET EAST OF A FIELD ENTRANCE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Year	Reference
1005.920	.016	2/1				2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Year	Reference
1005.910			907.442	.025	2011	2024	GPS3721
1005.923	.131		907.636	.066	1996	2024	HTH63
1005.910			907.442	.025	2011	2024	HTH63
1005.867	.262		907.403	.197	2011	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.464 03 = -98.238

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 06 28.21858	92 27 11.69968	621729.683	200212.577	.010		ADJUSTMENT	2024	GPS3721
44 06 28.21858	92 27 11.69968	621729.683	200212.577	.010	C	GPS - STATIC	2024	HTH63
44 06 28.21908	92 27 11.69971	621729.681	200212.627	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 06 28.21839	92 27 11.69991	621729.667	200212.557	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3030899.047	735776.910	1783971.989	16023575.721	.010		ADJUSTMENT	2024	GPS3721
3030899.047	735776.910	1783971.989	16023575.721	.010	C	GPS - STATIC	2024	HTH63
3030899.044	735776.960	1783971.987	16023575.772	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3030899.030	735776.890	1783971.972	16023575.701	.033	C	GPS - STATIC	2024	HTH63

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_B-DS1756-3S-26APR2023.jpg	S	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_B-DS1756-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_B-DS1756-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5515 C

NGS Name: 5515 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1757](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	108 N	14 W	440631.53	922826.64	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2023	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 7 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5515 C 2023

4.6 MILES NORTH OF ROCHESTER, 2.05 MILES EAST ALONG TRUNK HIGHWAY 63 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 44.9, 52.4 FEET NORTH OF TRUNK HIGHWAY 63, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1044.033	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
1044.132			945.631	.023	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721		
1044.145	.131		945.822	.066	1996	GPS - STATIC	2024	HTH63		
1044.132			945.631	.023	2011	GPS - STATIC	2024	HTH63		
1044.053	.262		945.553	.197	2011	GPS - RTRN	2023	RTRN2023		

Geoid Separations(ft): GEOID18 = -98.497 03 = -98.271

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06	31.52658	92 28 26.64344	616259.571	200517.530	.010			ADJUSTMENT	2024	GPS3721
44 06	31.52658	92 28 26.64344	616259.571	200517.530	.010	C		GPS - STATIC	2024	HTH63
44 06	31.52665	92 28 26.64322	616259.587	200517.537	.131	3		GPS - RTRN	2023	RTRN2023

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06	31.52640	92 28 26.64367	616259.555	200517.512	.033	C		GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025425.952	736009.051	1778503.923	16023874.953	.010				ADJUSTMENT	2024	GPS3721
3025425.952	736009.051	1778503.923	16023874.953	.010	C			GPS - STATIC	2024	HTH63
3025425.968	736009.059	1778503.939	16023874.960	.131	3			GPS - RTRN	2023	RTRN2023

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025425.935	736009.033	1778503.906	16023874.935	.033	C			GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_C-DS1757-3N-26APR2023.jpg	N	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_C-DS1757-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_C-DS1757-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5515 D

NGS Name: 5515 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1758](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	3	107 N	14 W	440628.84	922940.83	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2023	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2023)

Stamping: 5515 D 2023

4.7 MILES NORTH OF ROCHESTER, 1.0 MILE EAST ALONG TRUNK HIGHWAY 63 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 63 MILEPOINT 43.9, 51.8 FEET SOUTH OF TRUNK HIGHWAY 63, 51.8 FEET EAST OF A DRIVEWAY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1012.016	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1012.032			913.502	.024	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1012.042	.131		913.692	.066	1996	GPS - STATIC	2024	HTH63
1012.032			913.502	.024	2011	GPS - STATIC	2024	HTH63
1012.035	.262		913.509	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.527 03 = -98.294

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 06 28.83559	92 29 40.82577	610848.286	200216.647	.010		ADJUSTMENT	2024	GPS3721
44 06 28.83559	92 29 40.82577	610848.286	200216.647	.010	C	GPS - STATIC	2024	HTH63
44 06 28.83553	92 29 40.82547	610848.308	200216.641	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 06 28.83540	92 29 40.82600	610848.269	200216.628	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3020019.729	735636.270	1773095.286	16023568.673	.010		ADJUSTMENT	2024	GPS3721
3020019.729	735636.270	1773095.286	16023568.673	.010	C	GPS - STATIC	2024	HTH63
3020019.751	735636.265	1773095.308	16023568.667	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)		UTM - Zone 15				Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3020019.713	735636.251	1773095.269	16023568.654	.033	C	GPS - STATIC	2024	HTH63

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_D-DS1758-3S-26APR2023.jpg	S	Apr 26, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_D-DS1758-2-26APR2023.jpg		Apr 26, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5515_D-DS1758-1-26APR2023.jpg		Apr 26, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 A

NGS Name: 5580 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0369](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	5	104 N	14 W	435028.56	923239.20	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=NO	YES	9856	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1966)

Stamping: 5580 A 1966

3.0 MILES WEST OF STEWARTVILLE, 3.0 MILES WEST AND SOUTH ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT INTERSTATE HIGHWAY 90 MILEPOINT 205.3, 0.5 MILE NORTH OF THE SOUTH OLMSTED COUNTY LINE, IN THE SOUTHEAST CORNER OF COUNTY ROAD 6 BRIDGE NUMBER 9856 OVER INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.341	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1248.334	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1248.419	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.331	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1248.331	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1248.331	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.314	.262		1150.086	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.208 12B = -98.228 09 = -98.166 03 = -97.953

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 50 28.55739	92 32 39.19568	598272.591	102911.222	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3008739.839	638180.802	1760623.028	15926292.905	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_A-OO0369-3W-25MAY2010.jpg	W	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_A-OO0369-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_A-OO0369-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AA

NGS Name: 5580 AA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000163](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	7	105 N	13 W	435457.01	922529.69	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 AA 1970

5.0 MILES EAST NORTHEAST OF STEWARTVILLE, 3.9 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 663 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 213.50, 99.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 0.3 FOOT SOUTHEAST OF A FENCE, 1.2 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1279.374	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1279.371	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1279.384	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1279.315	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1279.315	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1279.315	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1279.266	.262		1181.126	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.136 12B = -98.140 09 = -98.074 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 57.01166	92 25 29.69247	629590.067	130260.609	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039688.552	665942.223	1791899.697	15953661.616	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AA-000163-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AA-000163-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AA-000163-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AB

NGS Name: 5580 AB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000164](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	7	105 N	13 W	435505.05	922514.29	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5580 AB 1970

4.4 MILES SOUTHWEST OF MARION, 4.3 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 213.7,100.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 1.2 FEET SOUTHEAST OF A RIGHT-OF-WAY FENCE AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1275.782	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1275.775	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1275.775	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1275.709	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1275.709	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1275.709	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1275.680	.262		1177.540	.197	2011	GPS - RTRN	2016	RTRN2016
			1177.603	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1177.698	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1275.785	.131		1177.845	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1275.785	.131		1177.845	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.136 12B = -98.140 09 = -98.074 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 05.05489	92 25 14.29522	630712.264	131081.843	.131	3	GPS - RTRN	2016	RTRN2016
43 55 05.05424	92 25 14.29395	630712.357	131081.778	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 05.05444	92 25 14.29481	630712.294	131081.798	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 05.05406	92 25 14.29406	630712.349	131081.760	.033	C	ADJUSTMENT	2003	GPS1770
43 55 05.05406	92 25 14.29406	630712.351	131081.759	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040799.635	666778.250	1793020.594	15954483.620	.131	3	GPS - RTRN	2016	RTRN2016
3040799.729	666778.186	1793020.688	15954483.555	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040799.665	666778.205	1793020.625	15954483.575	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3040799.721	666778.168	1793020.680	15954483.537	.033	C	ADJUSTMENT	2003	GPS1770
3040799.721	666778.168	1793020.680	15954483.537	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AB-OO0164-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AB-OO0164-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AB-OO0164-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AC

NGS Name: 5580 AC

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	105 N	13 W	435510.00	922456.00	2	

NGS ACRN: [000162](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2016) Stamping: 5580-AC 1970

4.0 MILES SOUTHWEST OF MARION, 4.1 MILES WEST ON INTERSTATE HIGHWAY 90 FROM THE INTERSTATE HIGHWAY 90 BRIDGE OVER COUNTY ROAD 1 IN MARION, 100.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 490+00, 2.0 FEET EAST OF A RIGHT-OF-WAY POST, 1.0 FOOT NORTH OF A WITNESS POST.

Station Notes

IN 1996 THE GEODETIC UNIT FOUND THE CONCRETE MONUMENT BROKEN AND THE DISK MISSING.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1268.370	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1268.308	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1268.308	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.126 12B = -98.133 09 = -98.064 03 = -97.903

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 AD

NGS Name: 5580 AD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0158](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	5	105 N	13 W	435514.08	922429.66	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES	55806	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5580 AD 1970

3.7 MILES SOUTHWEST OF MARION, 3.6 SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 214.40, IN THE SOUTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55806 OVER COUNTY ROAD 1.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1261.549	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1261.536	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1261.536	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1261.474	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1261.474	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1261.474	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1261.497	.262		1163.380	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.117 09 = -98.048 03 = -97.890

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 14.07952	92 24 29.65576	633974.164	132015.607	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044048.562	667755.258	1796280.172	15955420.243	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AD-OO0158-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AD-OO0158-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AD-OO0158-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AE

NGS Name: 5580 AE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000157](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	5	105 N	13 W	435520.98	922419.34	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** 5580 AE 1970

3.5 MILES SOUTHWEST OF MARION, 3.4 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 214.6, 98.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 2.2 FEET SOUTHWEST OF A RIGHT-OF-WAY POST, 0.4 FOOT NORTH OF A FENCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1251.549	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1251.546	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1251.546	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1251.484	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1251.484	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1251.484	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1251.457	.262		1153.341	.197	2011	GPS - RTRN	2016	RTRN2016
			1153.377	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1153.479	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1251.539	.131		1153.620	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1251.539	.131		1153.620	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.117 09 = -98.048 03 = -97.894

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 20.97925	92 24 19.33935	634724.944	132718.965	.131	3	GPS - RTRN	2016	RTRN2016
43 55 20.97973	92 24 19.34024	634724.879	132719.013	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 20.97994	92 24 19.34117	634724.811	132719.034	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 20.97958	92 24 19.34041	634724.866	132718.998	.033	C	ADJUSTMENT	2003	GPS1770
43 55 20.97958	92 24 19.34041	634724.866	132718.996	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3044789.857	668468.488	1797029.930	15956124.052	.131	3	GPS - RTRN	2016	RTRN2016
3044789.791	668468.535	1797029.865	15956124.100	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3044789.722	668468.555	1797029.797	15956124.121	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3044789.779	668468.520	1797029.852	15956124.085	.033	C	ADJUSTMENT	2003	GPS1770
3044789.779	668468.520	1797029.852	15956124.085	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AE-OO0157-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AE-OO0157-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AE-OO0157-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AF

NGS Name: 5580 AF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0156](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	5	105 N	13 W	435536.00	922402.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580 AF 1970

0.6 MILE NORTHEAST OF SIMPSON, 0.4 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE INTERSTATE HIGHWAY 90
BRIDGE OVER COUNTY ROAD 1, 400.0 FEET SOUTH OF DEAD END COUNTY ROAD 16, 95.0 FEET NORTH OF WESTBOUND
INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 540+00, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1274.830	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1274.768	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1274.768	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.123 09 = -98.054 03 = -97.900

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 AG

NGS Name: 5580 AG

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: 000155 NGS Quad / Sta Num : 43092144/ USGS Quad: SIMPSON	Get Map
NW	4	105 N	13 W	435545.64	922336.47	2	C		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AG 1970

2.5 MILES SOUTHWEST OF MARION, 2.65 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 215.35, 98.5 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 2.0 FEET EAST OF A RIGHT-OF-WAY POST, 0.5 FOOT SOUTHWEST OF A FENCE, 0.4 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1267.271	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1267.265	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6
1267.265	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1267.205	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1267.205	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1267.205	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1267.291	.262			1169.171	.197	2011	GPS - OPUS	2021	GPSBM
1267.258	.262			1169.138	.197	2011	GPS - RTRN	2021	RTRN2021
1267.245	.262			1169.125	.197	2011	GPS - RTRN	2016	RTRN2016
				1169.105	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1267.199	.262			1169.151	.197	2007	GPS - RTRN	2011	RTRN2011
				1169.207	.014	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1267.255	.131			1169.355	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1267.255	.131			1169.355	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.117 09 = -98.048 03 = -97.897

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
43 55 45.63516	92 23 36.46784			637846.991	135235.385	.131 3 GPS - OPUS	2021	GPSBM	
43 55 45.63529	92 23 36.46781			637846.993	135235.398	.131 3 GPS - RTRN	2021	RTRN2021	
43 55 45.63457	92 23 36.46817			637846.967	135235.325	.131 3 GPS - RTRN	2016	RTRN2016	
43 55 45.63519	92 23 36.46727			637847.033	135235.388	.013 ADJUSTMENT	2012	GPS2800	

<u>NAD83(2007)</u>				<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
43 55 45.63582	92 23 36.46709			637847.045	135235.452	.131 3 GPS - RTRN	2011	RTRN2011	
43 55 45.63541	92 23 36.46822			637846.963	135235.410	.016 ADJUSTMENT	2007	GPS2300	

<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
43 55 45.63504	92 23 36.46746			637847.019	135235.373	.033 C ADJUSTMENT	2003	GPS1770	
43 55 45.63504	92 23 36.46746			637847.018	135235.373	.033 C GPS - STATIC	2002	HI90	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3047877.889	671026.028	1800148.137	15958642.524	.131	3	GPS - OPUS	2021	GPSBM
3047877.891	671026.041	1800148.139	15958642.537	.131	3	GPS - RTRN	2021	RTRN2021
3047877.867	671025.968	1800148.113	15958642.464	.131	3	GPS - RTRN	2016	RTRN2016
3047877.931	671026.032	1800148.178	15958642.528	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3047877.943	671026.096	1800148.191	15958642.592	.131	3	GPS - RTRN	2011	RTRN2011
3047877.861	671026.053	1800148.109	15958642.549	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3047877.917	671026.017	1800148.164	15958642.512	.033	C	ADJUSTMENT	2003	GPS1770
3047877.917	671026.017	1800148.164	15958642.512	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AG-OO0155-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AG-OO0155-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AG-OO0155-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AH

NGS Name: 5580 AH

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	4	105 N	13 W	435543.91	922319.61	2	3

NGS ACRN: [OO0154](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AH 1970

2.5 MILES SOUTHWEST OF MARION, 2.4 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 215.60, 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.3 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1265.224	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1265.214	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6
1265.194	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1265.139	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1265.139	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1265.139	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1265.289	.262			1167.183	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.110 12B = -98.103 09 = -98.035 03 = -97.887

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position				X		Y		Year	Reference
Latitude	Longitude								
43 55 43.90578	92 23 19.61041			639081.812		135068.125	.131 3	GPS - RTRN	2016 RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X		Y		Year	Reference
X	Y								
3049114.727	670875.229			1801382.602		15958476.569	.131 3	GPS - RTRN	2016 RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AH-OO0154-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AH-OO0154-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AH-OO0154-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AJ

NGS Name: 5580 AJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0153](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	4	105 N	13 W	435548.00	922300.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580-AJ 1970

1.5 MILES NORTHWEST OF SIMPSON, 1.2 MILES EAST ON INTERSTATE HIGHWAY 90 FROM THE INTERSTATE HIGHWAY 90 BRIDGE OVER COUNTY ROAD 1, 0.8 MILE EAST OF COUNTY ROAD 16, NEAR AN ABANDONED ROAD NORTH, AT THE WEST END OF A LONG CURVE, OPPOSITE A PINE GROVE, 85.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 585+00, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1263.160	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1263.104	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1263.104	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.097 09 = -98.028 03 = -97.884

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AJ-OO0153-2-04AUG2010.jpg		Aug 4, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AJ-OO0153-1-04AUG2010.jpg		Aug 4, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AK

NGS Name: 5580 AK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0152](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	3	105 N	13 W	435547.77	922240.07	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 AK 1970

1.75 MILES SOUTHWEST OF MARION, 1.85 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 216.15, 110.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 2.0 FEET NORTH OF A RIGHT-OF-WAY POST, 0.6 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.4 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1254.945	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1254.922	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1254.922	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1254.870	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1254.870	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1254.870	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1254.932	.262		1156.842	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.097 12B = -98.090 09 = -98.015 03 = -97.877

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 47.77272	92 22 40.06850	641973.125	135478.420	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3052000.089	671323.935	1804272.282	15958889.581	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AK-OO0152-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AK-OO0152-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AK-OO0152-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AL

NGS Name: 5580 AL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0151](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	3	105 N	13 W	435558.16	922226.71	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AL 1970

1.4 MILES SOUTHWEST OF MARION, 1.6 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 216.40, 100.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 1.0 FOOT SOUTH OF A RIGHT-OF-WAY POST, 0.2 FOOT EAST OF A FENCE, 0.5 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1253.387	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1253.364	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1253.364	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1253.314	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1253.314	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1253.314	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1253.285	.262		1155.191	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.094 09 = -98.015 03 = -97.880

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 58.15788	92 22 26.70625	642944.103	136536.467	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3052956.820	672394.726	1805241.792	15959948.152	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AL-OO0151-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AL-OO0151-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AL-OO0151-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AM

NGS Name: 5580 AM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0150](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	34	106 N	13 W	435609.00	922221.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2010)

Stamping: 5580-AM 1970

1.3 MILES SOUTHWEST OF MARION, 1.3 MILES SOUTHWEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), 0.5 MILE SOUTH OF DEAD END COUNTY ROAD L, 130.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 632+00.

Station Notes

8-25-2010 FOUND THE WITNESS POST, THE REAL TIME REFERENCE NETWORK (RTRN) INDICATES THE STATION SHOULD BE PROJECTING 0.5 FOOT. PROBED FOR REMAINS, FOUND NOTHING. BELIEVE THE STATION WAS GRADED OUT BY FENCING OPERATIONS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1246.228	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1246.179	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1246.179	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.110 12B = -98.103 09 = -98.021 03 = -97.887

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 AN

NGS Name: 5580 AN

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	34	106 N	13 W	435624.07	922212.62	2	C

NGS ACRN: [000147](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AN 1970

1.3 MILES WEST OF MARION, 1.05 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION, AT INTERSTATE HIGHWAY 90 MILEPOINT 216.97, 174.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 0.2 FOOT EAST OF A RIGHT-OF-WAY FENCE, 1.3 FEET SOUTHWEST OF A RIGHT-OF-WAY POST AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1233.016	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1233.006	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1233.006	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1232.960	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1232.960	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1232.960	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1232.931	.262		1134.817	.197	2011	GPS - RTRN	2016	RTRN2016
			1134.844	.006	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1233.006			1134.844	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1233.003			1134.860	.006	2011	GPS - STATIC	2013	HPRED
1233.003	.131		1135.093	.066	1996	GPS - STATIC	2013	HPRED
			1134.844	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1232.835	.262		1134.804	.197	2007	GPS - RTRN	2011	RTRN2011
			1134.949	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1233.003	.131		1135.093	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1233.003	.131		1135.093	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.113 09 = -98.035 03 = -97.897

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 24.06937	92 22 12.61675	643957.784	139167.158	.131	3	GPS - RTRN	2016	RTRN2016
43 56 24.06922	92 22 12.61778	643957.709	139167.142	.007		ADJUSTMENT	2014	GPS2902-B
43 56 24.06922	92 22 12.61778	643957.709	139167.142	.007		ADJUSTMENT	2013	GPS2902
43 56 24.06922	92 22 12.61784	643957.705	139167.142	.007	C	GPS - STATIC	2013	HPRED
43 56 24.06922	92 22 12.61778	643957.709	139167.142	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 24.06827	92 22 12.61752	643957.728	139167.046	.131	3	GPS - RTRN	2011	RTRN2011
43 56 24.06943	92 22 12.61875	643957.638	139167.163	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 24.06907	92 22 12.61799	643957.694	139167.127	.033	C	GPS - STATIC	2013	HPRED
43 56 24.06907	92 22 12.61799	643957.694	139167.127	.033	C	ADJUSTMENT	2003	GPS1770
43 56 24.06907	92 22 12.61799	643957.695	139167.127	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053935.313	675038.460	1806252.414	15962578.747	.131	3	GPS - RTRN	2016	RTRN2016
3053935.239	675038.443	1806252.339	15962578.731	.007		ADJUSTMENT	2014	GPS2902-B
3053935.239	675038.443	1806252.339	15962578.731	.007		ADJUSTMENT	2013	GPS2902
3053935.234	675038.443	1806252.335	15962578.731	.007	C	GPS - STATIC	2013	HPRED
3053935.239	675038.443	1806252.339	15962578.731	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053935.259	675038.347	1806252.359	15962578.635	.131	3	GPS - RTRN	2011	RTRN2011
3053935.167	675038.463	1806252.268	15962578.752	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053935.223	675038.427	1806252.324	15962578.716	.033	C	GPS - STATIC	2013	HPRED
3053935.223	675038.427	1806252.324	15962578.716	.033	C	ADJUSTMENT	2003	GPS1770
3053935.223	675038.427	1806252.324	15962578.716	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AN-OO0147-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AN-OO0147-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AN-OO0147-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AP

NGS Name: 5580 AP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0146](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	34	106 N	13 W	435642.93	922208.02	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2011)

Stamping: 5580 AP 1970

1.2 MILES WEST OF MARION, 0.7 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 217.35, 96.4 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1225.929	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1225.923	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1225.923	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1225.877	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1225.877	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1225.877	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1225.726	.262		1127.678	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.140 12B = -98.130 09 = -98.048 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 42.92656	92 22 08.01801	644281.595	141078.932	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3054233.623	676954.216	1806574.175	15964490.041	.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AP-OO0146-3NW-27SEP2011.jpg	NW	Sep 27, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AP-OO0146-2-27SEP2011.jpg		Sep 27, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AP-OO0146-1-27SEP2011.jpg		Sep 27, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AQ

NGS Name: 5580 AQ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000145](#)

[Get Map](#)

NGS Quad / Sta Num : 43092141/

USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	106 N	13 W	435656.63	922152.73	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AQ 1970

1.0 MILE NORTHWEST OF MARION, 0.35 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 217.6, AT INTERSTATE HIGHWAY 90 STATION 679+00, AT THE TOP OF THE NORTH BACK SLOPE, 195.0 FEET NORTHWEST OF INTERSTATE HIGHWAY 90, 150.0 FEET SOUTHWEST OF A CROSSOVER, 0.3 FOOT NORTH OF A RIGHT-OF-WAY FENCE, 0.3 FOOT SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1203.748	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1203.748	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1203.748	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1203.748	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1203.705	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1203.705	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1203.705	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1203.921	.262		1105.785	.197	2011	GPS - RTRN	2016	RTRN2016
			1105.585	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1203.629	.262		1105.582	.197	2007	GPS - RTRN	2011	RTRN2011
			1105.690	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1203.738	.131		1105.834	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1203.738	.131		1105.834	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.143 12B = -98.133 09 = -98.048 03 = -97.913

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 56 56.63059	92 21 52.72597	645391.144	142474.110	.131	3	GPS - RTRN	2016	RTRN2016
43 56 56.63030	92 21 52.72622	645391.126	142474.080	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 56 56.63143	92 21 52.72563	645391.168	142474.195	.131	3	GPS - RTRN	2011	RTRN2011
43 56 56.63049	92 21 52.72718	645391.055	142474.099	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 56 56.63012	92 21 52.72639	645391.113	142474.062	.033	C	ADJUSTMENT	2003	GPS1770
43 56 56.63012	92 21 52.72639	645391.114	142474.062	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055324.409	678363.922	1807681.859	15965885.742	.131	3	GPS - RTRN	2016	RTRN2016
3055324.392	678363.892	1807681.841	15965885.713	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055324.432	678364.007	1807681.883	15965885.827	.131	3	GPS - RTRN	2011	RTRN2011
3055324.321	678363.910	1807681.770	15965885.731	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055324.379	678363.874	1807681.829	15965885.694	.033	C	ADJUSTMENT	2003	GPS1770
3055324.379	678363.874	1807681.829	15965885.694	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AQ-OO0145-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AQ-OO0145-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AQ-OO0145-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AR

NGS Name: 5580 AR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000144](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	26	106 N	13 W	435703.30	922126.30	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES	55810	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2011)

Stamping: 5580 AR 1970

IN MARION, 0.75 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND MAIN STREET IN MARION, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 MILEPOINT 217.9, IN THE SOUTH SIDE OF THE EAST ABUTMENT OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55810 OVER TRUNK HIGHWAY 52, 43.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1132.619	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1132.619	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1132.619	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1132.596	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1132.554	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1132.554	.016	2				VERTICAL CONTROL SURVEY	1980	L24679
1132.554	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1132.554	.016	2				VERTICAL CONTROL SURVEY	1971	L22214
1132.554	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1132.570	.262		1034.443	.197	2011	GPS - RTRN	2016	RTRN2016
1132.491	.262		1034.457	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.123 09 = -98.035 03 = -97.903

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 03.29764	92 21 26.30134	647319.790	143162.264	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 03.29810	92 21 26.30358	647319.626	143162.310	.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3057243.562	679077.631	1809609.005	15966575.540	.131	3	GPS - RTRN	2016	RTRN2016

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3057243.397	679077.674	1809608.841	15966575.585	.131	3	GPS - RTRN	2011	RTRN2011



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AR-OO0144-3W-08AUG2016.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AR-OO0144-2-08AUG2016.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AR-OO0144-1-08AUG2016.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Aug 8, 2016
	Aug 8, 2016
	Aug 8, 2016



Mn/DOT Name: 5580 AS

NGS Name: 5580 AS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000143](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	26	106 N	13 W	435707.00	922114.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1979	DESTROYED	Horz=NO Vert=NO	NO			STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	SURVEY DISK	MNDT

Description: (1980) Stamping: 5580-AS 1970

0.8 MILE NORTH OF MARION, 0.2 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 IN MARION, 135.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 708+70, 70.0 FEET EAST OF OLD TRUNK HIGHWAY 52, 27.0 FEET SOUTHWEST OF A POWER POLE, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1113.728	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1113.689	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1113.689	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1113.689	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.126 12B = -98.117 09 = -98.025 03 = -97.897

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 AT

NGS Name: 5580 AT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000142](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	26	106 N	13 W	435711.64	922052.87	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5580 AT 1970

0.7 MILE NORTH OF MARION, 0.5 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 218.5, 127.5 FEET SOUTH OF THE SOUTH EDGE OF EASTBOUND INTERSTATE HIGHWAY 90 AT STATION STENCIL 725, 98.3 FEET SOUTH OF THE SOUTH END OF A CONCRETE CULVERT, 2.5 FEET WEST OF A RIGHT-OF-WAY POST AND AN ACCESS POST, 0.5 FOOT NORTH OF A POST WITH A BM SIGN, 1.0 FOOT SOUTH OF A RIGHT-OF-WAY FENCE AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1157.265	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1157.252	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1157.252	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1157.252	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1157.255	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1157.229	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1157.193	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1157.193	.016	2				VERTICAL CONTROL SURVEY	1980	L24679
1157.193	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1157.193	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1157.232	.262		1059.122	.197	2011	GPS - RTRN	2016	RTRN2016
			1059.122	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1157.255			1059.119	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1157.248			1059.119	.006	2011	GPS - STATIC	2013	HPRED
1157.248	.131		1059.381	.066	1996	GPS - STATIC	2013	HPRED
1157.134	.262		1059.115	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.110 09 = -98.018 03 = -97.894

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 11.64144	92 20 52.86868	649759.819	144023.913	.131	3	GPS - RTRN	2016	RTRN2016
43 57 11.64163	92 20 52.86891	649759.802	144023.932	.010		ADJUSTMENT	2014	GPS2902-B
43 57 11.64168	92 20 52.86887	649759.804	144023.937	.007		ADJUSTMENT	2013	GPS2902
43 57 11.64168	92 20 52.86887	649759.804	144023.937	.007	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 11.64109	92 20 52.87018	649759.709	144023.877	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 11.64129	92 20 52.86890	649759.803	144023.898	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3059671.699	679971.612	1812047.147	15967439.273	.131	3	GPS - RTRN	2016	RTRN2016
3059671.681	679971.631	1812047.130	15967439.292	.010		ADJUSTMENT	2014	GPS2902-B
3059671.684	679971.636	1812047.133	15967439.297	.007		ADJUSTMENT	2013	GPS2902
3059671.684	679971.636	1812047.133	15967439.297	.007	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3059671.589	679971.574	1812047.037	15967439.237	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3059671.682	679971.596	1812047.131	15967439.258	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AT-OO0142-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AT-OO0142-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AT-OO0142-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AU

NGS Name: 5580 AU

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000141](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	26	106 N	13 W	435717.83	922030.21	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1976)

Stamping: 5580 AU 1970

0.9 MILE NORTH-NORTHEAST OF MARION, 0.85 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 218.85, 98.6 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 2.0 FEET WEST-NORTHWEST OF A RIGHT-OF-WAY POST, 0.6 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.6 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1202.678	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1202.665	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1202.649	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1202.616	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1202.616	.016	2				VERTICAL CONTROL SURVEY	1980	L24679
1202.616	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1202.616	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1202.586	.262		1104.483	.197	2011	GPS - RTRN	2016	RTRN2016
			1104.535	.006	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1202.649			1104.535	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1202.655			1104.529	.006	2011	GPS - STATIC	2013	HPRED
1202.655	.131		1104.798	.066	1996	GPS - STATIC	2013	HPRED
			1104.535	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1202.540	.262		1104.532	.197	2007	GPS - RTRN	2011	RTRN2011
			1104.637	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1202.655	.131		1104.798	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1202.655	.131		1104.798	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.100 09 = -98.008 03 = -97.884

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.82710	92 20 30.21033	651413.018	144661.786	.131	3	GPS - RTRN	2016	RTRN2016
43 57 17.82772	92 20 30.21127	651412.948	144661.849	.007		ADJUSTMENT	2014	GPS2902-B
43 57 17.82772	92 20 30.21127	651412.948	144661.849	.007		ADJUSTMENT	2013	GPS2902
43 57 17.82783	92 20 30.21109	651412.962	144661.860	.007	C	GPS - STATIC	2013	HPRED
43 57 17.82772	92 20 30.21127	651412.948	144661.849	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.82694	92 20 30.21278	651412.839	144661.769	.131	3	GPS - RTRN	2011	RTRN2011
43 57 17.82772	92 20 30.21201	651412.894	144661.848	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.82737	92 20 30.21122	651412.952	144661.813	.033	C	GPS - STATIC	2013	HPRED
43 57 17.82737	92 20 30.21122	651412.952	144661.813	.033	C	ADJUSTMENT	2003	GPS1770
43 57 17.82737	92 20 30.21122	651412.952	144661.814	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3061316.119	680631.384	1813699.015	15968078.537	.131	3	GPS - RTRN	2016	RTRN2016
3061316.049	680631.445	1813698.945	15968078.599	.007		ADJUSTMENT	2014	GPS2902-B
3061316.049	680631.445	1813698.945	15968078.599	.007		ADJUSTMENT	2013	GPS2902
3061316.062	680631.457	1813698.958	15968078.610	.007	C	GPS - STATIC	2013	HPRED
3061316.049	680631.445	1813698.945	15968078.599	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3061315.940	680631.364	1813698.836	15968078.519	.131	3	GPS - RTRN	2011	RTRN2011
3061315.995	680631.444	1813698.891	15968078.599	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3061316.054	680631.410	1813698.949	15968078.563	.033	C	GPS - STATIC	2013	HPRED
3061316.054	680631.410	1813698.949	15968078.563	.033	C	ADJUSTMENT	2003	GPS1770
3061316.054	680631.410	1813698.949	15968078.563	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AU-OO0141-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AU-OO0141-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AU-OO0141-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AV

NGS Name: 5580 AV

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0139](#)

[Get Map](#)

NGS Quad / Sta Num : 43092141/

USGS Quad: MARION

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	25	106 N	13 W	435722.01	922007.70	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AV 1970

1.2 MILES NORTHEAST OF MARION, 1.2 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 219.2, 85.3 FEET NORTH OF THE NORTH EDGE OF WESTBOUND INTERSTATE HIGHWAY 90, 205.0 FEET WEST-NORTHWEST OF THE NORTH LEG OF A ROCHESTER EXIT SIGN, 2.9 FEET WEST-SOUTHWEST OF A RIGHT-OF-WAY POST, 0.7 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1234.512	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1234.502	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1234.502	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1234.456	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1234.473	.016	2				VERTICAL CONTROL SURVEY	1980	L24679
1234.456	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1234.456	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1234.499	.262		1136.408	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.097 12B = -98.090 09 = -97.995 03 = -97.874

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 22.01225	92 20 07.70277	653056.518	145097.130	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3062953.538	681088.533	1815341.391	15968515.346	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV-OO0139-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV-OO0139-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV-OO0139-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AV 1

NGS Name: 5580 AV 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0138](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	25	106 N	13 W	435721.97	921943.47	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AV 1 1970

1.5 MILES NORTHEAST OF MARION, 1.55 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 219.5, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT SOUTH OF A WITNESS POST.

Station Notes

DUE TO TREE COVER, THIS SURVEY MARK HAS BEEN ABANDONED FOR MNDOT GEODETIC HORIZONTAL SURVEYS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1248.800	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1248.790	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1248.790	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1248.744	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1248.744	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1248.744	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1248.702	.262		1150.624	.197	2011	GPS - RTRN	2016	RTRN2016
			1150.690	.006	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1248.790			1150.690	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1248.784			1150.697	.006	2011	GPS - STATIC	2013	HPRED
1248.784	.131		1150.943	.066	1996	GPS - STATIC	2013	HPRED
			1150.690	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1248.646	.262		1150.660	.197	2007	GPS - RTRN	2011	RTRN2011
			1150.785	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1248.784	.131		1150.943	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1248.784	.131		1150.943	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.084 12B = -98.077 09 = -97.982 03 = -97.864

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.96581	92 19 43.47107	654829.128	145104.992	.131	3	GPS - RTRN	2016	RTRN2016
43 57 21.96552	92 19 43.47092	654829.139	145104.963	.007		ADJUSTMENT	2014	GPS2902-B
43 57 21.96552	92 19 43.47092	654829.139	145104.963	.007		ADJUSTMENT	2013	GPS2902
43 57 21.96571	92 19 43.47100	654829.133	145104.982	.007	C	GPS - STATIC	2013	HPRED
43 57 21.96552	92 19 43.47092	654829.139	145104.963	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.96639	92 19 43.47113	654829.123	145105.051	.131	3	GPS - RTRN	2011	RTRN2011
43 57 21.96524	92 19 43.47132	654829.110	145104.934	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.96489	92 19 43.47053	654829.168	145104.899	.033	C	GPS - STATIC	2013	HPRED
43 57 21.96489	92 19 43.47053	654829.168	145104.899	.033	C	ADJUSTMENT	2003	GPS1770
43 57 21.96489	92 19 43.47053	654829.169	145104.900	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3064725.736	681119.994	1817113.254	15968524.982	.131	3	GPS - RTRN	2016	RTRN2016
3064725.747	681119.966	1817113.265	15968524.953	.007		ADJUSTMENT	2014	GPS2902-B
3064725.747	681119.966	1817113.265	15968524.953	.007		ADJUSTMENT	2013	GPS2902
3064725.741	681119.985	1817113.259	15968524.972	.007	C	GPS - STATIC	2013	HPRED
3064725.747	681119.966	1817113.265	15968524.953	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3064725.730	681120.053	1817113.249	15968525.041	.131	3	GPS - RTRN	2011	RTRN2011
3064725.719	681119.936	1817113.236	15968524.924	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3064725.777	681119.902	1817113.294	15968524.889	.033	C	GPS - STATIC	2013	HPRED
3064725.777	681119.902	1817113.294	15968524.889	.033	C	ADJUSTMENT	2003	GPS1770
3064725.777	681119.902	1817113.294	15968524.889	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV_1-000138-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV_1-000138-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AV_1-000138-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AW

NGS Name: 5580 AW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000134](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	25	106 N	13 W	435721.92	921926.70	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5580 AW 1970

1.6 MILES NORTHEAST OF MARION, 1.7 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 219.75, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 90.0 FEET WEST OF A TOWNSHIP ROAD, 0.5 FOOT SOUTH OF A POST WITH A RIGHT-OF-WAY AND A BM SIGNS, 1.5 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.341	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1254.328	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1254.299	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.253	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1254.253	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1254.253	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.074 12B = -98.074 09 = -97.972 03 = -97.857

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AW-000134-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AW-000134-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AW-000134-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AX

NGS Name: 5580 AX

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0133](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	30	106 N	12 W	435721.85	921906.16	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 AX 1970

1.8 MILES NORTHEAST OF MARION, 2.0 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 220.05, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT NORTH OF A RIGHT-OF-WAY FENCE, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1262.921	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1262.901	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1262.871	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1262.826	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1262.826	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1262.826	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1262.645	.262		1164.581	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.067 12B = -98.064 09 = -97.962 03 = -97.848

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.85307	92 19 06.15655	657558.809	145113.207	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3067454.834	681164.555	1819841.791	15968535.930	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AX-OO0133-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AX-OO0133-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AX-OO0133-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AY

NGS Name: 5580 AY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000132](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	30	106 N	12 W	435718.95	921845.67	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2011)

Stamping: 5580 AY 1970

2.0 MILES NORTHEAST OF MARION, 2.5 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 220.35, 97.5 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 1.3 FEET EAST OF A RIGHT-OF-WAY MARKER, 0.4 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.6 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1256.936	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1256.910	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1256.904	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1256.858	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1256.858	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1256.858	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1256.871	.262		1158.813	.197	2011	GPS - RTRN	2016	RTRN2016
			1158.849	.006	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1256.904			1158.849	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1256.920			1158.856	.006	2011	GPS - STATIC	2013	HPRED
1256.920	.131		1159.095	.066	1996	GPS - STATIC	2013	HPRED
			1158.849	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1256.835	.262		1158.882	.197	2007	GPS - RTRN	2011	RTRN2011
			1158.948	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1256.887	.131		1159.095	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1256.887	.131		1159.095	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.058 09 = -97.953 03 = -97.841

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.94714	92 18 45.66834	659059.699	144829.868	.131	3	GPS - RTRN	2016	RTRN2016
43 57 18.94766	92 18 45.66961	659059.606	144829.921	.007		ADJUSTMENT	2014	GPS2902-B
43 57 18.94766	92 18 45.66961	659059.606	144829.921	.007		ADJUSTMENT	2013	GPS2902
43 57 18.94774	92 18 45.66960	659059.607	144829.929	.007	C	GPS - STATIC	2013	HPRED
43 57 18.94766	92 18 45.66961	659059.606	144829.921	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.94782	92 18 45.67224	659059.414	144829.935	.131	3	GPS - RTRN	2011	RTRN2011
43 57 18.94793	92 18 45.67059	659059.534	144829.947	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.94763	92 18 45.66976	659059.595	144829.917	.033	C	GPS - STATIC	2013	HPRED
43 57 18.94763	92 18 45.66976	659059.595	144829.917	.033	C	ADJUSTMENT	2003	GPS1770
43 57 18.94763	92 18 45.66976	659059.594	144829.917	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3068959.236	680901.251	1821342.341	15968254.214	.131	3	GPS - RTRN	2016	RTRN2016
3068959.142	680901.302	1821342.248	15968254.266	.007		ADJUSTMENT	2014	GPS2902-B
3068959.142	680901.302	1821342.248	15968254.266	.007		ADJUSTMENT	2013	GPS2902
3068959.143	680901.310	1821342.249	15968254.274	.007	C	GPS - STATIC	2013	HPRED
3068959.142	680901.302	1821342.248	15968254.266	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3068958.949	680901.314	1821342.055	15968254.281	.131	3	GPS - RTRN	2011	RTRN2011
3068959.070	680901.328	1821342.176	15968254.293	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3068959.131	680901.299	1821342.237	15968254.263	.033	C	GPS - STATIC	2013	HPRED
3068959.131	680901.299	1821342.237	15968254.263	.033	C	ADJUSTMENT	2003	GPS1770
3068959.131	680901.299	1821342.237	15968254.263	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AY-OO0132-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AY-OO0132-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AY-OO0132-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 AZ

NGS Name: 5580 AZ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000131](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	30	106 N	12 W	435718.82	921825.15	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5580 AZ 1970

2.5 MILES NORTHEAST OF MARION, 2.65 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 220.6, AT INTERSTATE HIGHWAY 90 STATION 835+00 (835 STENCIL ON SOUTH EDGE OF EASTBOUND), 97.5 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.8 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1255.562	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1255.529	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1255.539	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1255.493	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1255.493	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1255.493	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1255.595	.262		1157.540	.197	2011	GPS - RTRN	2021	RTRN2021
1255.493	.262		1157.445	.197	2011	GPS - RTRN	2016	RTRN2016
			1157.481	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1157.580	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1255.509	.131		1157.724	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1255.509	.131		1157.724	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.051 09 = -97.943 03 = -97.831

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.81961	92 18 25.14757	660560.931	144828.001	.131	3	GPS - RTRN	2021	RTRN2021
43 57 18.81984	92 18 25.14664	660560.999	144828.024	.131	3	GPS - RTRN	2016	RTRN2016
43 57 18.81909	92 18 25.14744	660560.941	144827.948	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.81936	92 18 25.14841	660560.870	144827.975	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.81906	92 18 25.14758	660560.931	144827.945	.033	C	ADJUSTMENT	2003	GPS1770
43 57 18.81906	92 18 25.14758	660560.930	144827.945	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3070460.232	680919.375	1822842.952	15968253.851	.131	3	GPS - RTRN	2021	RTRN2021
3070460.300	680919.400	1822843.020	15968253.875	.131	3	GPS - RTRN	2016	RTRN2016
3070460.243	680919.323	1822842.962	15968253.799	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3070460.171	680919.348	1822842.891	15968253.826	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3070460.233	680919.320	1822842.952	15968253.796	.033	C	ADJUSTMENT	2003	GPS1770
3070460.233	680919.320	1822842.952	15968253.796	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AZ-OO0131-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AZ-OO0131-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_AZ-OO0131-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 B

NGS Name: 5580 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000368](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	104 N	14 W	435038.00	923229.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2001	DESTROYED	Horz=NO Vert=NO	NO	9858		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5580-B 1966

0.2 MILE EAST OF HIGH FOREST, ON THE INTERSTATE HIGHWAY 90 BRIDGE OVER THE NORTH BRANCH OF THE ROOT RIVER, 0.1 MILE NORTH OF COUNTY ROAD 6 SOUTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1225.536	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1225.447	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1225.447	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.212 12B = -98.231 09 = -98.172 03 = -97.956

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 B RESET 1984

NGS Name: 5580 B RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1624](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	104 N	14 W	435038.04	923230.05	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1984	2016	GOOD	Horz=NO Vert=NO	YES	9858	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	VERTICAL CONTROL DISK	MNDT

Description: (1984)

Stamping: 5580 B RESET 1984

2.9 MILES WEST OF STEWARTVILLE, 0.25 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 205.60, IN THE SOUTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 9858 OVER THE ROOT RIVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1225.381	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1225.372	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1225.372	.033	3					VERTICAL CONTROL SURVEY	1984	CS5580

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1225.385	.262			1127.150	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.212 12B = -98.231 09 = -98.172 03 = -97.956

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 50 38.04031	92 32 30.04756	598938.719	103874.531	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3009393.060	639152.814	1761287.907	15927256.452	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_B_RESET-OO1624-3NE-25MAY2010.jpg	NE	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_B_RESET-OO1624-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_B_RESET-OO1624-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BA

NGS Name: 5580 BA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0130](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	29	106 N	12 W	435718.73	921756.12	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES	55814	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1980)

Stamping: 5580 BA 1970

4.2 MILES SOUTHWEST OF EYOTA, 3.0 MILES WEST ALONG 30TH STREET SOUTHEAST FROM THE JUNCTION OF 30TH STREET SOUTHEAST AND COUNTY ROAD 7 SOUTHEAST IN EYOTA, THEN 1.5 MILES SOUTH ON COUNTY ROAD 19, 20.0 FEET EAST OF COUNTY ROAD 19, IN THE SOUTHEAST CORNER OF COUNTY ROAD 19 BRIDGE NUMBER 55814 OVER INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1245.470	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1245.427	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1245.427	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1245.385	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1245.385	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1245.385	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1245.309	.262		1147.268	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.041 09 = -97.933 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.72576	92 17 56.12277	662684.226	144834.298	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3072583.075	680953.948	1824965.362	15968262.274	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BA-OO0130-3N-17AUG2010.jpg	N	Aug 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BA-OO0130-2-17AUG2010.jpg		Aug 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BA-OO0130-1-17AUG2010.jpg		Aug 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BB

NGS Name: 5580 BB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000129](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	106 N	12 W	435721.00	921734.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580-BB 1970

4.0 MILES SOUTHWEST OF EYOTA, 0.3 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 19 IN EYOTA, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 869+00, 13.0 FEET EAST OF A CHOKE CHERRY TREE, 7.0 FEET SOUTH OF A FENCE, 2.0 FEET EAST OF A RIGHT-OF-WAY MARKER, 1.0 FOOT SOUTH OF A WITNESS POST.

Station Notes

9-8-2010 THE RIGHT OF WAY HAS BEEN WIDENED IN THIS AREA AND THE DITCH BOTTOM IS AT 100.0 FEET NORTH.
CONSIDER THIS MARK TO HAVE BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1245.116	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1245.070	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1245.070	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.038 09 = -97.923 03 = -97.818

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 BC

NGS Name: 5580 BC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000128](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	29	106 N	12 W	435718.45	921704.72	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) Stamping: 5580 BC 1970

3.7 MILES SOUTHWEST OF EYOTA, 2.3 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 0.7 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 19, OPPOSITE A REST AREA, AT INTERSTATE HIGHWAY 90 MILEPOINT 221.75, 97.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.2 FOOT NORTH OF A FENCE, 3.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1273.531	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1273.488	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1273.472	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025
NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1273.426	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1273.426	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1273.426	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1273.396	.262		1175.362	.197	2011	GPS - RTRN	2016 RTRN2016
			1175.464	.008	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			1175.562	.010	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1273.488	.131		1175.703	.066	1996	HORIZONTAL ADJUSTMENT	2003 GPS1770
1273.455	.131		1175.703	.066	1996	GPS - STATIC	2002 HI90

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.031 09 = -97.916 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Olmsted County			Project Info	
Latitude	Longitude		X	Y	Acc Order	Determination Method	Year Reference
43 57 18.45388	92 17 04.71570		666444.967	144835.262	.131 3	GPS - RTRN	2016 RTRN2016
43 57 18.45391	92 17 04.71704		666444.869	144835.264	.007	ADJUSTMENT	2012 GPS2800
NAD83(2007)			Olmsted County			Project Info	
Latitude	Longitude		X	Y	Acc Order	Determination Method	Year Reference
43 57 18.45421	92 17 04.71803		666444.796	144835.294	.010	ADJUSTMENT	2007 GPS2300
NAD83(1996)			Olmsted County			Project Info	
Latitude	Longitude		X	Y	Acc Order	Determination Method	Year Reference
43 57 18.45399	92 17 04.71717		666444.860	144835.272	.033 C	ADJUSTMENT	2003 GPS1770
43 57 18.45399	92 17 04.71717		666444.858	144835.271	.033 C	GPS - STATIC	2002 HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3076343.150	681005.000	1828724.549	15968267.006	.131	3	GPS - RTRN	2016	RTRN2016
3076343.052	681005.001	1828724.451	15968267.008	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3076342.979	681005.030	1828724.379	15968267.038	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3076343.043	681005.009	1828724.442	15968267.016	.033	C	ADJUSTMENT	2003	GPS1770
3076343.043	681005.009	1828724.442	15968267.016	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BC-OO0128-3S-10AUG2016.jpg	S	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BC-OO0128-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BC-OO0128-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BD

NGS Name: 5580 BD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000127](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	29	106 N	12 W	435721.00	921644.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	DESTROYED	Horz=NO Vert=NO	NO		PROJECTS 2 IN.	SEE DESCRIPTION

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1970)

Stamping: 5580-BD 1970

3.4 MILES SOUTHWEST OF EYOTA, 1.0 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 19 IN EYOTA, AT INTERSTATE HIGHWAY 90 STATION 908+00, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 75.0 FEET WEST OF A DEAD END ROAD, 13.0 FEET SOUTH OF A FENCE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1286.697	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1286.651	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1286.651	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.028 09 = -97.913 03 = -97.805

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 BE

NGS Name: 5580 BE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000126](#)

[Get Map](#)

NGS Quad / Sta Num : 43092141/

USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	28	106 N	12 W	435718.31	921626.20	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BE 1970

3.2 MILES SOUTHWEST OF EYOTA, 1.75 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 1.2 MILES EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 19, AT INTERSTATE HIGHWAY 90 MILEPOINT 222.3, 300.0 FEET SOUTHEAST OF A CROSSOVER, 97.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.8 FOOT NORTH OF A RIGHT-OF-WAY FENCE, 2.5 FEET EAST-NORTHEAST OF A RIGHT-OF-WAY POST AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1298.596	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1298.557	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1298.521	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1298.472	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1298.472	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1298.472	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1298.567	.262		1200.539	.197	2011	GPS - OPUS	2021	GPSBM
1298.610	.262		1200.582	.197	2011	GPS - RTRN	2021	RTRN2021
1298.514	.262		1200.486	.197	2011	GPS - RTRN	2016	RTRN2016
			1200.559	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1200.660	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1298.554	.131		1200.795	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1298.554	.131		1200.795	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.028 09 = -97.910 03 = -97.805

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 18.30967	92 16 26.20225	669262.417	144842.434	.131	3	GPS - OPUS	2021	GPSBM
43 57 18.30912	92 16 26.20235	669262.410	144842.378	.131	3	GPS - RTRN	2021	RTRN2021
43 57 18.30857	92 16 26.20092	669262.515	144842.323	.131	3	GPS - RTRN	2016	RTRN2016
43 57 18.30928	92 16 26.20195	669262.440	144842.394	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 18.30958	92 16 26.20294	669262.367	144842.424	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 18.30935	92 16 26.20207	669262.431	144842.401	.033	C	ADJUSTMENT	2003	GPS1770
43 57 18.30935	92 16 26.20207	669262.431	144842.401	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3079160.016	681049.699	1831540.833	15968276.998	.131	3	GPS - OPUS	2021	GPSBM
3079160.010	681049.643	1831540.826	15968276.942	.131	3	GPS - RTRN	2021	RTRN2021
3079160.116	681049.590	1831540.931	15968276.887	.131	3	GPS - RTRN	2016	RTRN2016
3079160.039	681049.660	1831540.855	15968276.958	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3079159.966	681049.689	1831540.783	15968276.988	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3079160.030	681049.667	1831540.846	15968276.965	.033	C	ADJUSTMENT	2003	GPS1770
3079160.030	681049.667	1831540.847	15968276.966	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BE-OO0126-3S-10AUG2016.jpg	S	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BE-OO0126-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BE-OO0126-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BF

NGS Name: 5580 BF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0125](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	28	106 N	12 W	435721.02	921609.79	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BF 1970

3.0 MILES SOUTHWEST OF EYOTA, 1.5 MILES WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 222.5, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 1.5 FEET SOUTHEAST OF A BENT OVER RIGHT-OF-WAY MARKER POST, 0.6 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.327	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1302.284	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1302.274	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.225	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1302.225	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1302.225	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.202	.262		1204.177	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.025 09 = -97.907 03 = -97.805

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.01514	92 16 09.78844	670460.970	145125.788	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3080354.586	681348.970	1832738.610	15968561.437	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BF-OO0125-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BF-OO0125-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BF-OO0125-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BG

NGS Name: 5580 BG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000124](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	28	106 N	12 W	435720.94	921550.70	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1996) **Stamping:** 5580 BG 1970

2.9 MILES SOUTHWEST OF EYOTA, 1.25 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 222.8, 98.5 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 2.1 FEET WEST-SOUTHWEST OF A RIGHT-OF-WAY POST, 0.6 FOOT NORTH OF A RIGHT-OF-WAY FENCE, 0.3 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1303.377	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1303.334	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1303.311	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1303.262	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1303.262	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1303.262	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1303.196	.262		1205.175	.197	2011	GPS - RTRN	2016	RTRN2016
			1205.326	.007	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1303.311			1205.326	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1303.311			1205.326	.007	2011	GPS - STATIC	2013	HPRED
1303.311	.131		1205.555	.066	1996	GPS - STATIC	2013	HPRED
			1205.326	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1303.268	.262		1205.362	.197	2007	GPS - RTRN	2011	RTRN2011
			1205.424	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1303.311	.131		1205.555	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1303.311	.131		1205.555	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.907 03 = -97.802

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.94289	92 15 50.69665	671857.613	145129.478	.131	3	GPS - RTRN	2016	RTRN2016
43 57 20.94220	92 15 50.69652	671857.623	145129.409	.007		ADJUSTMENT	2014	GPS2902-B
43 57 20.94220	92 15 50.69652	671857.623	145129.409	.007		ADJUSTMENT	2013	GPS2902
43 57 20.94234	92 15 50.69659	671857.618	145129.423	.007	C	GPS - STATIC	2013	HPRED
43 57 20.94220	92 15 50.69652	671857.623	145129.409	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.94337	92 15 50.69617	671857.647	145129.527	.131	3	GPS - RTRN	2011	RTRN2011
43 57 20.94264	92 15 50.69758	671857.545	145129.453	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.94243	92 15 50.69667	671857.612	145129.432	.033	C	GPS - STATIC	2013	HPRED
43 57 20.94243	92 15 50.69667	671857.612	145129.432	.033	C	ADJUSTMENT	2003	GPS1770
43 57 20.94243	92 15 50.69667	671857.613	145129.431	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3081750.937	681371.265	1834134.676	15968566.525	.131	3	GPS - RTRN	2016	RTRN2016
3081750.948	681371.195	1834134.686	15968566.455	.007		ADJUSTMENT	2014	GPS2902-B
3081750.948	681371.195	1834134.686	15968566.455	.007		ADJUSTMENT	2013	GPS2902
3081750.942	681371.209	1834134.681	15968566.469	.007	C	GPS - STATIC	2013	HPRED
3081750.948	681371.195	1834134.686	15968566.455	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3081750.971	681371.314	1834134.711	15968566.574	.131	3	GPS - RTRN	2011	RTRN2011
3081750.869	681371.238	1834134.608	15968566.499	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3081750.936	681371.218	1834134.675	15968566.478	.033	C	GPS - STATIC	2013	HPRED
3081750.936	681371.218	1834134.675	15968566.478	.033	C	ADJUSTMENT	2003	GPS1770
3081750.936	681371.218	1834134.675	15968566.478	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BG-OO0124-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BG-OO0124-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BG-OO0124-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BH

NGS Name: 5580 BH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0120](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	28	106 N	12 W	435721.00	921534.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1970)

Stamping: 5580-BH 1970

2.6 MILES SOUTHWEST OF EYOTA, 1.0 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 7 IN EYOTA, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 70.0 FEET EAST OF A DEAD END ROAD, AT INTERSTATE HIGHWAY 90 STATION 962+00, 8.0 FEET EAST OF A REFERENCE POINT MARKER, 5.0 FEET SOUTH OF A FENCE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1302.156	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1302.110	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1302.110	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.907 03 = -97.802

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 BH RESET

NGS Name: 5580 BH RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	28	106 N	12 W	435720.87	921531.59		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5580 BH RESET 1970

2.6 MILES SOUTHWEST OF EYOTA, 1.0 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 223.05, AT INTERSTATE HIGHWAY 90 STATION 962+00, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 70.0 FEET EAST OF A DEAD END ROAD, 9.0 FEET EAST OF A REFERENCE POINT MARKER, 0.6 FOOT SOUTH OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.907 03 = -97.802

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BH_RESET-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BH_RESET-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BH_RESET-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BJ

NGS Name: 5580 BJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0119](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	106 N	12 W	435718.00	921511.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580-BJ 1970

2.5 MILES SOUTHWEST OF EYOTA, 0.75 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 7 IN EYOTA, 0.3 MILE EAST OF A DEAD END ROAD, 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 975+00, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1301.162	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1301.116	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1301.116	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.907 03 = -97.805

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 BJ RESET

NGS Name: 5580 BJ RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8157](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	27	106 N	12 W	435718.05	921513.73	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BJ RESET 1970

2.5 MILES SOUTHWEST OF EYOTA, 0.75 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 200.0 FEET WEST OF A MEDIAN CROSSOVER, 0.8 FOOT NORTH OF A FENCE, 0.5 FOOT NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference	
1301.093	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938	
1301.047	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference	
1300.949	.262		1202.924	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.907 03 = -97.805

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 18.04692	92 15 13.72585	674564.422	144857.795	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3084460.895	681135.689	1836840.650	15968297.664	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BJ_RESET-DQ8157-3S-10AUG2016.jpg	S	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BJ_RESET-DQ8157-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BJ_RESET-DQ8157-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BK

NGS Name: 5580 BK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000118](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	27	106 N	12 W	435721.07	921453.28	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BK 1970

2.3 MILES SOUTHWEST OF EYOTA, 0.45 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 223.6, 129.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 2.5 FEET WEST OF A RIGHT-OF-WAY MARKER, 0.4 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.269	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1289.223	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1289.167	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.121	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1289.121	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1289.121	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.144	.262		1191.120	.197	2011	GPS - RTRN	2016	RTRN2016
			1191.254	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1289.115	.262		1191.205	.197	2007	GPS - RTRN	2011	RTRN2011
			1191.346	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1289.236	.131		1191.474	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1289.236	.131		1191.474	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.910 03 = -97.805

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.06912	92 14 53.28200	676057.448	145175.903	.131	3	GPS - RTRN	2016	RTRN2016
43 57 21.06933	92 14 53.28224	676057.430	145175.924	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.06913	92 14 53.28250	676057.412	145175.903	.131	3	GPS - RTRN	2011	RTRN2011
43 57 21.06930	92 14 53.28316	676057.363	145175.920	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 21.06912	92 14 53.28221	676057.433	145175.902	.033	C	ADJUSTMENT	2003	GPS1770
43 57 21.06912	92 14 53.28221	676057.434	145175.904	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085949.424	681473.633	1838332.749	15968617.137	.131	3	GPS - RTRN	2016	RTRN2016
3085949.406	681473.654	1838332.731	15968617.158	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085949.388	681473.633	1838332.712	15968617.138	.131	3	GPS - RTRN	2011	RTRN2011
3085949.339	681473.650	1838332.664	15968617.155	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085949.409	681473.633	1838332.733	15968617.137	.033	C	ADJUSTMENT	2003	GPS1770
3085949.409	681473.633	1838332.733	15968617.137	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BK-OO0118-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BK-OO0118-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BK-OO0118-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BL

NGS Name: 5580 BL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0117](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	12 W	435721.82	921428.64	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BL 1970

2.2 MILES SOUTHWEST OF EYOTA, 600.0 FEET WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 215.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 60.0 FEET NORTH OF AN ENTRANCE RAMP, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1290.414	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1290.368	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1290.345	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1290.303	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1290.303	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1290.303	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1290.234	.262		1192.209	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 57 21.81676	92 14 28.63761	677859.587	145266.300	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3087750.045	681588.026	1840134.063	15968709.303	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BL-OO0117-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BL-OO0117-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BL-OO0117-1-17AUG2010.jpg		Aug 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BM

NGS Name: 5580 BM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0112](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	26	106 N	12 W	435717.91	921419.88	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES	55808	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5580 BM 1970

2.2 MILES SOUTH-SOUTHEAST OF EYOTA, AT THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 224.1, 24.5 FEET EAST OF TRUNK HIGHWAY 42 (COUNTY ROAD 7), IN THE ABUTMENT IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 42 (COUNTY ROAD 7) BRIDGE NUMBER 55808 OVER INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.617	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1310.575	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1310.545	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.499	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1310.499	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1310.499	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.476	.262		1212.452	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.025 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.91429	92 14 19.87830	678503.584	144876.383	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088399.126	681206.758	1840778.188	15968320.190	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BM-OO0112-3E-10AUG2016.jpg	E	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BM-OO0112-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BM-OO0112-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BN

NGS Name: 5580 BN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0111](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	26	106 N	12 W	435717.20	921406.71	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BN 1970

2.2 MILES SOUTH OF EYOTA, 0.2 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 224.25, 186.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 4.5 FEET EAST-NORTHEAST OF A POWER POLE, 2.0 FEET NORTHEAST OF A RIGHT-OF-WAY MARKER, 0.5 FOOT SOUTH OF A FENCE, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1301.805	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1301.759	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1301.690	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1301.644	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1301.644	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1301.644	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1301.717	.262		1203.689	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.028 09 = -97.916 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.20385	92 14 06.70757	679467.642	144812.383	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3089363.869	681155.614	1841741.919	15968257.181	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BN-OO0111-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BN-OO0111-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BN-OO0111-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BP

NGS Name: 5580 BP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0110](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	26	106 N	12 W	435717.79	921344.95	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 BP 1970

2.2 MILES SOUTH OF EYOTA, 0.5 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 224.6, 110.5 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 1.9 FEET WEST OF A RIGHT-OF-WAY MARKER, UNDER A RIGHT-OF-WAY FENCE, 2.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1307.077	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1307.032	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1307.002	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1306.956	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1306.956	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1306.956	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1306.969	.262		1208.938	.197	2011	GPS - RTRN	2016	RTRN2016
			1209.013	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1209.105	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1307.018	.131		1209.233	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1307.018	.131		1209.233	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.031 09 = -97.920 03 = -97.818

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 17.78835	92 13 44.94667	681059.004	144884.783	.131	3	GPS - RTRN	2016	RTRN2016
43 57 17.78877	92 13 44.94726	681058.961	144884.826	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 17.78867	92 13 44.94824	681058.889	144884.815	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 17.78851	92 13 44.94727	681058.960	144884.799	.033	C	ADJUSTMENT	2003	GPS1770
43 57 17.78851	92 13 44.94727	681058.959	144884.799	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3090953.991	681249.207	1843332.562	15968331.146	.131	3	GPS - RTRN	2016	RTRN2016
3090953.946	681249.249	1843332.519	15968331.188	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3090953.875	681249.237	1843332.447	15968331.177	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3090953.946	681249.222	1843332.518	15968331.161	.033	C	ADJUSTMENT	2003	GPS1770
3090953.946	681249.223	1843332.518	15968331.162	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BP-OO0110-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BP-OO0110-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BP-OO0110-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BQ

NGS Name: 5580 BQ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0109](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	26	106 N	12 W	435717.72	921324.40	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: 5580 BQ 1970

2.2 MILES SOUTH-SOUTHEAST OF EYOTA, 0.75 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 7 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 224.85, DIRECTLY UNDER A RIGHT-OF-WAY FENCE, 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.3 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1315.207	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1315.161	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1315.125	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1315.125	.016	2/1				VERTICAL CONTROL SURVEY	2008	VEYOT
1315.125	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1315.079	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1315.079	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1315.079	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1314.994	.262		1216.960	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.035 09 = -97.923 03 = -97.821

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 17.72351	92 13 24.39927	682562.140	144890.801	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3092456.785	681275.254	1844835.083	15968338.666	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BQ-OO0109-3S-10AUG2016.jpg	S	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BQ-OO0109-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BQ-OO0109-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BR

NGS Name: 5580 BR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000108](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	25	106 N	12 W	435720.45	921303.93	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1996)

Stamping: 5580 BR 1970

2.3 MILES SOUTHEAST OF EYOTA, 1.1 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (COUNTY ROAD 7) (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 225.15, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.6 FOOT NORTH OF A FENCE, 2.0 FEET WEST OF A RIGHT-OF-WAY MARKER, 0.3 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1311.530	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1311.484	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1311.457	.016	2/1				VERTICAL ADJUSTMENT	2011 00000690
1311.457	.016	2/1				VERTICAL CONTROL SURVEY	2008 VEYOT
1311.480	.016	2				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1311.438	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1311.438	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1311.438	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1311.369	.262		1213.331	.197	2011	GPS - RTRN	2016 RTRN2016
			1213.465	.008	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			1213.557	.011	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1311.480	.131		1213.685	.066	1996	HORIZONTAL ADJUSTMENT	2003 GPS1770
1311.480	.131		1213.685	.066	1996	GPS - STATIC	2002 HI90

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.038 09 = -97.926 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 20.44797	92 13 03.93424	684056.856	145179.322	.131	3	GPS - RTRN	2016	RTRN2016
43 57 20.44686	92 13 03.93429	684056.854	145179.209	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 20.44675	92 13 03.93544	684056.770	145179.197	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 20.44658	92 13 03.93450	684056.839	145179.181	.033	C	ADJUSTMENT	2003	GPS1770
43 57 20.44658	92 13 03.93450	684056.837	145179.181	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3093947.397	681583.644	1846328.906	15968628.567	.131	3	GPS - RTRN	2016	RTRN2016
3093947.396	681583.531	1846328.903	15968628.454	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3093947.312	681583.518	1846328.819	15968628.442	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3093947.381	681583.503	1846328.888	15968628.426	.033	C	ADJUSTMENT	2003	GPS1770
3093947.381	681583.503	1846328.888	15968628.426	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BR-OO0108-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BR-OO0108-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BR-OO0108-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BS

NGS Name: 5580 BS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0107](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	25	106 N	12 W	435717.61	921240.64	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2006)

Stamping: 5580 BS 1970

2.4 MILES SOUTHEAST OF EYOTA, 1.4 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (COUNTY ROAD 7) (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 225.45, 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, DIRECTLY UNDER A RIGHT-OF-WAY FENCE, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1312.635	.016	2/1					VERTICAL ADJUSTMENT	2019 00000938
1312.589	.016	2/1					VERTICAL CONTROL SURVEY	2017 VI90D6
1312.560	.016	2/1					VERTICAL ADJUSTMENT	2011 00000690
1312.556	.016	2/1					VERTICAL CONTROL SURVEY	2008 VEYOT
1312.435	.016	2					VERTICAL ADJUSTMENT	1991 00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1312.392	.016	2/0					UNKNOWN/APPROXIMATE	1992 UNCHECKD
1312.392	.016	2					VERTICAL CONTROL SURVEY	1972 L105 MINN
1312.392	.016	2					VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1312.560	.262			1214.519	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.044 09 = -97.933 03 = -97.831

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>					<u>Acc</u> <u>Order</u> <u>Determination Method</u>		
43 57 17.61387	92 12 40.63960			685763.334	144906.843	.131 3 GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>			<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>					<u>Acc</u> <u>Order</u> <u>Determination Method</u>		
3095657.210	681333.955			1848034.968	15968357.907	.131 3 GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS-OO0107-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS-OO0107-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS-OO0107-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BS 1

NGS Name: 5580 BS 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM4455](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	25	106 N	12 W	435720.24	921219.40	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2016)

Stamping: 5580 BS 1 2006

2.5 MILES SOUTHEAST OF EYOTA, 1.7 MILES EAST OF THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 MILEPOINT 225.75, 88.7 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 68.2 FEET WEST OF AN ENTRANCE, 65.8 FEET WEST OF A ROAD WEATHER INFORMATION SITE (RWIS) TOWER, TOP OF A CONCRETE PILLAR.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1312.947	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1312.901	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1312.868	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1312.865	.016	2/1				VERTICAL CONTROL SURVEY	2008	VEYOT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1312.776	.262		1214.725	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.23977	92 12 19.40015	687314.744	145186.093	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3097204.629	681633.832	1849585.473	15968638.597	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS_1-DM4455-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS_1-DM4455-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BS_1-DM4455-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BT

NGS Name: 5580 BT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0106](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	25	106 N	12 W	435720.34	921220.14	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (1970)

Stamping: 5580 BT 1970

2.5 MILES SOUTHEAST OF EYOTA, 1.65 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 225.75, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 99.0 FEET WEST OF A RIGHT-OF-WAY MARKER, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1313.304	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1313.262	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1313.226	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1313.226	.016	2/1				VERTICAL CONTROL SURVEY	2008	VEYOT
1313.226	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1313.183	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1313.183	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1313.183	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1313.127	.262		1215.080	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 20.33562	92 12 20.14324	687260.303	145195.330	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097150.074	681642.342	1849531.045	15968647.776	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BT-OO0106-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BT-OO0106-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BT-OO0106-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BU

NGS Name: 5580 BU

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0105](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	25	106 N	12 W	435720.29	921158.29	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BU 1970

2.6 MILES SOUTHEAST OF EYOTA, 2.0 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 AND COUNTY ROAD 7 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 226.05, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.341	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1289.295	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1289.263	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.223	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1289.233	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1289.223	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.200	.262		1191.146	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.064 12B = -98.054 09 = -97.943 03 = -97.841

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.28890	92 11 58.29434	688858.609	145204.439	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3098747.981	681672.752	1851128.699	15968658.481	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BU-OO0105-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BU-OO0105-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BU-OO0105-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BV

NGS Name: 5580 BV

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	30	106 N	11 W	435720.45	921135.04	2	3

NGS ACRN: [OO0104](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BV 1970

2.9 MILES SOUTHEAST OF EYOTA, 2.3 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 7 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 226.35, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.2 FOOT NORTH OF A FENCE, 0.6 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1295.184	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1295.138	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6
1295.096	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025
NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1295.056	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1295.056	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1295.056	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1295.020	.262			1196.963	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.071 12B = -98.061 09 = -97.953 03 = -97.848

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position				X		Y		Year	Reference
Latitude	Longitude								
43 57 20.45019	92 11 35.03810			690559.678		145235.632	.131 3	GPS - RTRN	2016 RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X		Y		Year	Reference
X	Y								
3100448.338	681726.614			1852829.054		15968691.365	.131 3	GPS - RTRN	2016 RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BV-OO0104-3N-10AUG2016.jpg	N	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BV-OO0104-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BV-OO0104-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BW

NGS Name: 5580 BW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000103](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	30	106 N	11 W	435720.63	921113.18	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5580 BW 1970

3.0 MILES SOUTHEAST OF EYOTA, 2.65 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 7 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 226.7, 98.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 100.0 FEET EAST OF AN EMERGENCY CROSSOVER, 0.3 FOOT NORTH OF A RIGHT-OF-WAY FENCE, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.722	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1310.677	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1310.637	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.598	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1310.598	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1310.598	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1310.604	.262		1212.540	.197	2011	GPS - RTRN	2016	RTRN2016
			1212.586	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1212.678	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1310.627	.131		1212.806	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1310.627	.131		1212.806	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.064 09 = -97.959 03 = -97.854

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.62985	92 11 13.17889	692158.533	145267.914	.131	3	GPS - RTRN	2016	RTRN2016
43 57 20.62947	92 11 13.17979	692158.467	145267.875	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.62941	92 11 13.18085	692158.390	145267.868	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.62920	92 11 13.17996	692158.455	145267.848	.033	C	ADJUSTMENT	2003	GPS1770
43 57 20.62920	92 11 13.17996	692158.455	145267.849	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3102046.485	681780.202	1854427.236	15968725.235	.131	3	GPS - RTRN	2016	RTRN2016
3102046.420	681780.162	1854427.170	15968725.196	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3102046.342	681780.154	1854427.093	15968725.189	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3102046.408	681780.135	1854427.158	15968725.168	.033	C	ADJUSTMENT	2003	GPS1770
3102046.408	681780.134	1854427.158	15968725.168	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BW-OO0103-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BW-OO0103-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BW-OO0103-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BX

NGS Name: 5580 BX

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0102](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	30	106 N	11 W	435720.52	921052.63	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 BX 1970

2.5 MILES SOUTHWEST OF DOVER, 2.1 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 226.98, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.1 FOOT NORTH OF A FENCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1313.370	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1313.327	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1313.288	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1313.249	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1313.249	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1313.249	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1313.255	.262		1215.185	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.084 12B = -98.071 09 = -97.969 03 = -97.861

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.52189	92 10 52.63237	693661.620	145270.333	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3103549.278	681802.657	1855929.720	15968729.157	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BX-OO0102-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BX-OO0102-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BX-OO0102-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BY

NGS Name: 5580 BY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0098](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	29	106 N	11 W	435717.62	921044.51	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES	55813	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5580 BY 1970

2.4 MILES SOUTHWEST OF DOVER, 0.5 MILE SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), THEN 3.0 MILES EAST ON COUNTY ROAD 129, THEN 0.5 MILE NORTH ON COUNTY ROAD 32, IN THE SOUTHEAST CORNER OF COUNTY ROAD 32 BRIDGE NUMBER 55813 OVER INTERSTATE HIGHWAY 90, 18.1 FEET EAST OF COUNTY ROAD 32.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1327.025	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1326.979	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1326.949	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1326.910	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1326.910	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1326.910	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1326.815	.262		1228.741	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.087 12B = -98.074 09 = -97.976 03 = -97.864

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 17.62113	92 10 44.50986	694258.414	144981.903	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3104149.814	681522.233	1856526.564	15968441.440	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BY-OO0098-3E-10AUG2016.jpg	E	Aug 10, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BY-OO0098-2-10AUG2016.jpg		Aug 10, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BY-OO0098-1-10AUG2016.jpg		Aug 10, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 BZ

NGS Name: 5580 BZ

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	29	106 N	11 W	435720.31	921030.82	2	3

NGS ACRN: [OO0097](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 BZ 1970

2.1 MILES SOUTHWEST OF DOVER, 1.8 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 227.30, 119.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1293.675	.016	2/1					2019	00000938
1293.629	.016	2/1					2017	VI90D6
1293.570	.016	2/0					1991	00000025
NGVD29				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1293.531	.016	2/0					1992	UNCHECKD
1293.531	.016	2					1972	L105 MINN
1293.531	.016	2					1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1280.762	.262			1182.681	.197	2011	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.094 12B = -98.081 09 = -97.982 03 = -97.867

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County			Project Info	
Latitude	Longitude			X	Y	Acc	Year	Reference
43 57 20.30844	92 10 30.81743			695257.589	145263.007	.131	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15			Project Info	
MN State Plane - South Zone				X	Y	Acc	Year	Reference
3105145.068	681816.608			1857525.059	15968723.432	.131	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BZ-OO0097-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BZ-OO0097-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_BZ-OO0097-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 C

NGS Name: 5580 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0367](#)

[Get Map](#)

NGS Quad / Sta Num : 43092412/

USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	104 N	14 W	435038.41	923231.41	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2016	GOOD	Horz=NO Vert=NO	YES	9857	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1984)

Stamping: 5580 C 1966

2.9 MILES WEST OF STEWARTVILLE, 3.0 MILES WEST AND SOUTH ON COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.25 MILE NORTHEAST ON INTERSTATE HIGHWAY 90, IN THE SOUTHEAST CORNER OF WESTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 9857 OVER THE ROOT RIVER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1225.647	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1225.641	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1225.719	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1225.631	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1225.631	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1225.631	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1225.555	.262		1127.321	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.235 09 = -98.172 03 = -97.959

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 50 38.41226	92 32 31.41187	598838.558	103911.741	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3009292.420	639188.687	1761187.753	15927293.547	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_C-OO0367-3NE-03AUG2016.jpg	NE	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_C-OO0367-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_C-OO0367-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CA

NGS Name: 5580 CA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0096](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	106 N	11 W	435719.80	921003.46	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5580 CA 1970

1.8 MILES SOUTHWEST OF DOVER, 1.4 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 227.65, 119.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1267.442	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1267.396	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1267.209	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1267.169	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1267.169	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1267.169	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1267.324	.262		1169.230	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.094 09 = -97.995 03 = -97.880

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.80010	92 10 03.45756	697259.447	145229.618	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107147.023	681809.913	1859526.153	15968692.060	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CA-OO0096-3N-24AUG2010.jpg	N	Aug 24, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CA-OO0096-2-24AUG2010.jpg		Aug 24, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CA-OO0096-1-24AUG2010.jpg		Aug 24, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CB

NGS Name: 5580 CB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0095](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	29	106 N	11 W	435719.22	920933.43	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5580 CB 1970

1.6 MILES SOUTHWEST OF DOVER, 1.0 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 228.10, 119.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.2 FOOT SOUTH OF A FENCE, 0.4 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.526	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1230.477	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1230.431	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.395	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1230.395	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1230.395	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.110 09 = -98.008 03 = -97.894

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CB-OO0095-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CB-OO0095-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CB-OO0095-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CC

NGS Name: 5580 CC

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO0094 NGS Quad / Sta Num : 43092114/ USGS Quad: EYOTA	Get Map
NW	28	106 N	11 W	435719.21	920923.86	2	3		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 CC 1970

1.5 MILES SOUTHWEST OF DOVER, 0.9 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 228.20, 119.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 1.0 FOOT SOUTH OF A FENCE, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1207.245	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1207.196	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6
1207.015	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1206.979	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1206.979	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1206.979	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1207.143	.262			1109.030	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.130 12B = -98.113 09 = -98.015 03 = -97.897

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								<u>Reference</u>
43 57 19.21067	92 09 23.85802			700156.730	145196.436	.131	3	GPS - RTRN	2016 RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								<u>Reference</u>
3110044.245	681815.365			1862422.320	15968661.790	.131	3	GPS - RTRN	2016 RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CC-OO0094-3N-24AUG2010.jpg	N	Aug 24, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CC-OO0094-2-24AUG2010.jpg		Aug 24, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CC-OO0094-1-24AUG2010.jpg		Aug 24, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CD

NGS Name: 5580 CD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0093](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	106 N	11 W	435716.44	920912.91	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5580 CD 1970

1.45 MILES SOUTHWEST OF DOVER, 0.7 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 228.40, 75.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90, IN THE EAST END OF THE SOUTH HEADWALL OF AN EASTBOUND INTERSTATE HIGHWAY 90 BOX CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.622	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1191.569	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1191.546	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.513	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1191.513	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1191.513	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1191.376	.262		1093.259	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.120 09 = -98.018 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 16.44085	92 09 12.91312	700959.954	144923.354	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3110850.971	681553.040	1863225.499	15968389.620	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CD-OO0093-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CD-OO0093-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CD-OO0093-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CE

NGS Name: 5580 CE

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	28	106 N	11 W	435719.00	920903.00	2	

NGS ACRN: 000092	Get Map
NGS Quad / Sta Num : 43092114/	
USGS Quad: EYOTA	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) **Stamping:** 5580-CE 1970

1.3 MILES SOUTHWEST OF DOVER, 0.6 MILE WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10, 250.0 FEET NORTHEAST OF A CROSSOVER, 119.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 1248+00, 2.0 FEET NORTHWEST OF A WITNESS POST.

Station Notes

8-24-2010 SEARCHED ALONG FENCE ABOUT 250.0 FEET EAST AND WEST OF A POSITION 100.0 FEET EAST OF A CROSSOVER. FOUND NO WITNESS POST OR THE STATION.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1226.369	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1226.333	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1226.333	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.140 12B = -98.126 09 = -98.025 03 = -97.907

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 CF

NGS Name: 5580 CF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000091](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SE	28	106 N	11 W	
	435717.00	920839.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580-CF 1970

1.3 MILES SOUTH OF DOVER, 1400.0 FEET WEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 IN DOVER, 184.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 1264+00, 150.0 FEET EAST OF A SMALL CREEK, 3.0 FEET NORTHEAST OF A RIGHT-OF-WAY SIGN, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1232.130	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1232.094	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1232.094	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.136 09 = -98.035 03 = -97.916

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 CF RESET

NGS Name: 5580 CF RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8164](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	28	106 N	11 W	435716.26	920838.71	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1980	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 CF RESET

1.3 MILES SOUTH OF DOVER, 0.25 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 228.85, 100.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 3.0 FEET NORTHEAST OF A RIGHT-OF-WAY CAST IRON MONUMENT, 2.5 FEET EAST OF A 2.0 INCH DIAMETER ANGLE IRON FENCE POST, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference	
1231.562	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938	
1231.513	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference	
1231.435	.262		1133.298	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.136 09 = -98.035 03 = -97.916

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 16.25605	92 08 38.70648	703462.404	144927.939	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3113352.925	681590.992	1865726.955	15968396.707	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CF_RESET-DQ8164-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CF_RESET-DQ8164-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CF_RESET-DQ8164-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CG

NGS Name: 5580 CG

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000090](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	106 N	11 W	435717.00	920819.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	NO	55816		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SURVEY DISK	MNDT

Description: (1982)

Stamping: 5580-CG 1970

0.7 MILE SOUTH OF DOVER, IN THE SOUTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55816 OVER COUNTY ROAD 10, AT INTERSTATE HIGHWAY 90 STATION 1278+00.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1220.500	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1220.463	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1220.463	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.146 09 = -98.044 03 = -97.926

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 CG RESET

NGS Name: 5580 CG RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1622](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	27	106 N	11 W	435716.97	920819.15	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1982	2016	GOOD	Horz=NO Vert=NO	YES	55816	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1982)

Stamping: 5580 CG 1982 1970

0.7 MILE SOUTH OF DOVER, IN THE SOUTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55816 OVER COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 229.15, 25.0 FEET SOUTH OF EASTBOUND OF INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.496	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1220.447	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.486	.016	2				VERTICAL CONTROL SURVEY	1982	L105 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.352	.262		1122.206	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.146 09 = -98.044 03 = -97.926

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 16.97079	92 08 19.14614	704892.593	145013.767	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3114781.721	681695.876	1867156.495	15968483.932	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CG_RESET-OO1622-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CG_RESET-OO1622-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CG_RESET-OO1622-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CH

NGS Name: 5580 CH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0089](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	27	106 N	11 W	435716.27	920757.74	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (1996)

Stamping: 5580 CH 1970

1.3 MILES SOUTH OF DOVER, 0.3 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 229.4, 98.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 2.2 FEET WEST OF A FENCE CORNER, 0.3 FOOT NORTH OF A FENCE, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1225.956	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1225.906	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1225.808	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1225.772	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1225.772	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1225.772	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1225.680	.262		1127.524	.197	2011	GPS - RTRN	2016	RTRN2016
			1127.704	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1127.796	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1225.818	.131		1127.928	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1225.818	.131		1127.928	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.156 09 = -98.054 03 = -97.936

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 16.26854	92 07 57.74023	706459.142	144957.486	.131	3	GPS - RTRN	2016	RTRN2016
43 57 16.26227	92 07 57.73837	706459.284	144956.852	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 16.26225	92 07 57.73942	706459.207	144956.850	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 16.26200	92 07 57.73858	706459.269	144956.825	.033	C	ADJUSTMENT	2003	GPS1770
43 57 16.26200	92 07 57.73858	706459.269	144956.826	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3116348.749	681660.496	1868722.484	15968429.240	.131	3	GPS - RTRN	2016	RTRN2016
3116348.899	681659.864	1868722.626	15968428.607	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3116348.822	681659.860	1868722.550	15968428.604	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3116348.884	681659.836	1868722.611	15968428.579	.033	C	ADJUSTMENT	2003	GPS1770
3116348.884	681659.836	1868722.611	15968428.579	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CH-OO0089-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CH-OO0089-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CH-OO0089-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CJ

NGS Name: 5580 CJ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0088](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	11 W	435719.34	920734.47	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: 5580 CJ 1970

1.4 MILES SOUTHEAST OF DOVER, 0.6 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 229.75, 129.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.5 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1259.440	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1259.391	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1259.368	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1259.331	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1259.331	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1259.331	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1259.358	.262		1161.189	.197	2011	GPS - RTRN	2016 RTRN2016
1259.312	.262		1161.143	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.169 09 = -98.071 03 = -97.946

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 19.33823	92 07 34.47434	708158.100	145284.572	.131	3	GPS - RTRN	2016	RTRN2016
43 57 19.33897	92 07 34.47407	708158.119	145284.647	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3118043.049	682010.183	1870420.447	15968757.897	.131	3	GPS - RTRN	2016	RTRN2016
3118043.067	682010.258	1870420.467	15968757.973	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CJ-OO0088-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CJ-OO0088-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CJ-OO0088-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CK

NGS Name: 5580 CK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000084](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	11 W	435719.00	920704.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1970)

Stamping: 5580-CK 1970

1.6 MILES SOUTHEAST OF DOVER, 1.0 MILE EAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 IN DOVER, 1300.0 FEET WEST OF A CREEK, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 1330+00, 5.0 FEET WEST OF A REFERENCE POST (BEGINNING OF CURVE), 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1266.818	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1266.782	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1266.782	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.182 09 = -98.090 03 = -97.962

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 CK RESET

NGS Name: 5580 CK RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8166](#)

[Get Map](#)

NGS Quad / Sta Num : 43092111/

USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	106 N	11 W	435719.01	920708.54	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES		RECESSED 15 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping:

1.6 MILES SOUTHEAST OF DOVER, 1.0 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 230.2, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 7.0 FEET WEST OF A REFERENCE POST MARKING THE EAST LINE OF SECTION 27, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1264.709	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1264.660	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1264.548	.262		1166.366	.197	2011	GPS - RTRN	2016	RTRN2016
1264.551	.262		1166.372	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.179 09 = -98.087 03 = -97.959

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.00931	92 07 08.53761	710055.707	145269.534	.131	3	GPS - RTRN	2016	RTRN2016
43 57 19.01245	92 07 08.53767	710055.700	145269.852	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3119940.527	682020.455	1872317.327	15968744.763	.131	3	GPS - RTRN	2016	RTRN2016
3119940.515	682020.773	1872317.319	15968745.081	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CK_RESET-DQ8166-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CK_RESET-DQ8166-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CK_RESET-DQ8166-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CL

NGS Name: 5580 CL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0083](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	26	106 N	11 W	435716.18	920637.35	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 CL 1970

1.9 MILES SOUTHEAST OF DOVER, 1.4 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 230.6, 100.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.3 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1234.541	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1234.489	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6
1234.427	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1234.394	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1234.394	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1234.394	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1234.414	.262			1136.215	.197	2011	GPS - RTRN	2016	RTRN2016
1234.407	.262			1136.208	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.208 12B = -98.199 09 = -98.107 03 = -97.976

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
43 57 16.17842	92 06 37.34975			712339.919	145005.061	.131	3	GPS - RTRN	2016	RTRN2016
43 57 16.17861	92 06 37.34888			712339.982	145005.081	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3122227.869	681786.495			1874600.911	15968482.678	.131	3	GPS - RTRN	2016	RTRN2016
3122227.932	681786.515			1874600.974	15968482.698	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CL-OO0083-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CL-OO0083-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CL-OO0083-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CM

NGS Name: 5580 CM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0082](#)

[Get Map](#)

NGS Quad / Sta Num : 43092111/

USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	26	106 N	11 W	435715.77	920607.05	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** 5580 CM 1970

2.0 MILES SOUTHEAST OF DOVER, 1.8 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), 135.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, AT EASTBOUND INTERSTATE HIGHWAY 90 MILEPOINT 231.0, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1223.643	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1223.590	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1223.554	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1223.518	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1223.518	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1223.518	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1223.574	.262		1125.355	.197	2011	GPS - RTRN	2016 RTRN2016
1223.488	.262		1125.270	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.228 12B = -98.218 09 = -98.123 03 = -97.992

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
43 57 15.77484	92 06 07.05010	714556.786	144985.979	.131	3	GPS - RTRN
43 57 15.77476	92 06 07.05032	714556.770	144985.971	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method
3124444.605	681796.985	1876816.934	15968465.820	.131	3	GPS - RTRN
3124444.590	681796.977	1876816.918	15968465.812	.131	3	GPS - RTRN

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CM-OO0082-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CM-OO0082-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CM-OO0082-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CN

NGS Name: 5580 CN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0081](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	25	106 N	11 W	435719.16	920551.94	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 CN 1970

1.93 MILES SOUTHWEST OF ST. CHARLES, 1.65 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 74 (THE JUNCTION IS 1.5 MILES SOUTH OF ST. CHARLES), 0.9 MILE WEST OF THE EAST OLMSTED COUNTY LINE, AT INTERSTATE HIGHWAY 90 MILEPOINT 231.2, 129.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 0.6 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1239.131	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1239.079	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1238.980	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1238.948	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1238.948	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1238.948	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1239.131			1140.795	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3722
1239.131	.131		1141.028	.066	1996	GPS - STATIC	2024	HWHIT2
1239.131			1140.795	.010	2011	GPS - STATIC	2024	HWHIT2
1239.059	.262		1140.821	.197	2011	GPS - OPUS	2021	GPSBM
1239.059	.262		1140.824	.197	2011	GPS - RTRN	2021	RTRN2021
1238.944	.262		1140.716	.197	2011	GPS - RTRN	2016	RTRN2016
1238.994	.262		1140.765	.197	2011	GPS - RTRN	2013	RTRN2013
			1140.795	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1140.884	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1238.974	.131		1141.028	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1238.974	.131		1141.028	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.231 09 = -98.136 03 = -98.002

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.15658	92 05 51.94140	715658.610	145339.364	.007		ADJUSTMENT	2024	GPS3722
43 57 19.15658	92 05 51.94140	715658.610	145339.364	.007	C	GPS - STATIC	2024	HWHIT2
43 57 19.15636	92 05 51.94187	715658.576	145339.341	.131	3	GPS - OPUS	2021	GPSBM
43 57 19.15629	92 05 51.94081	715658.653	145339.335	.131	3	GPS - RTRN	2021	RTRN2021
43 57 19.15701	92 05 51.94185	715658.576	145339.407	.131	3	GPS - RTRN	2016	RTRN2016
43 57 19.15670	92 05 51.94092	715658.644	145339.376	.131	3	GPS - RTRN	2013	RTRN2013
43 57 19.15658	92 05 51.94140	715658.610	145339.364	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.15660	92 05 51.94241	715658.536	145339.365	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 19.15628	92 05 51.94166	715658.591	145339.333	.033	C	GPS - STATIC	2024	HWHIT2
43 57 19.15628	92 05 51.94166	715658.591	145339.333	.033	C	ADJUSTMENT	2003	GPS1770
43 57 19.15628	92 05 51.94166	715658.592	145339.332	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3125541.524	682165.006	1877917.976	15968820.170	.007		ADJUSTMENT	2024	GPS3722
3125541.524	682165.006	1877917.976	15968820.170	.007	C	GPS - STATIC	2024	HWHIT2
3125541.490	682164.983	1877917.942	15968820.147	.131	3	GPS - OPUS	2021	GPSBM
3125541.568	682164.978	1877918.020	15968820.141	.131	3	GPS - RTRN	2021	RTRN2021
3125541.490	682165.049	1877917.943	15968820.213	.131	3	GPS - RTRN	2016	RTRN2016
3125541.559	682165.019	1877918.011	15968820.182	.131	3	GPS - RTRN	2013	RTRN2013
3125541.524	682165.006	1877917.976	15968820.170	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3125541.450	682165.007	1877917.902	15968820.171	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3125541.506	682164.976	1877917.958	15968820.139	.033	C	GPS - STATIC	2024	HWHIT2
3125541.506	682164.976	1877917.958	15968820.139	.033	C	ADJUSTMENT	2003	GPS1770
3125541.506	682164.976	1877917.958	15968820.139	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CN-OO0081-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CN-OO0081-2-19AUG2010.jpg		Aug 19, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CN-OO0081-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CP

NGS Name: 5580 CP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0080](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	25	106 N	11 W	435715.57	920537.40	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** 5580 CP 1970

2.4 MILES SOUTHEAST OF DOVER, 2.3 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT TRUNK HIGHWAY 90 MILEPOINT 231.45, 135.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 1.0 FOOT NORTH OF A FENCE, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.669	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1248.616	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1248.593	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.560	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1248.560	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1248.560	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1248.508	.262		1150.270	.197	2011	GPS - RTRN	2016	RTRN2016
1248.534	.262		1150.300	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.245 12B = -98.238 09 = -98.143 03 = -98.008

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 15.57283	92 05 37.39829	716726.064	144987.060	.131	3	GPS - RTRN	2016	RTRN2016
43 57 15.57264	92 05 37.39862	716726.040	144987.041	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3126613.493	681827.004	1878985.369	15968469.071	.131	3	GPS - RTRN	2016	RTRN2016
3126613.469	681826.984	1878985.345	15968469.051	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CP-OO0080-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CP-OO0080-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CP-OO0080-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CQ

NGS Name: 5580 CQ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0079](#)

[Get Map](#)

NGS Quad / Sta Num : 43092111/

USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	25	106 N	11 W	435715.86	920517.82	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 CQ 1970

1.5 MILES SOUTHWEST OF ST. CHARLES, 1.15 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 74 (THE JUNCTION IS 1.5 MILES SOUTH OF ST. CHARLES), AT INTERSTATE HIGHWAY 90 MILEPOINT 231.70, 99.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 1.0 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1282.862	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1282.812	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1282.721	.016	2/1				VERTICAL ADJUSTMENT	2005	00000472
1282.721	.016	2/1				VERTICAL CONTROL SURVEY	2001	VWHIT
1282.721	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1282.688	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1282.688	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1282.688	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1282.766	.262		1184.519	.197	2011	GPS - RTRN	2016	RTRN2016
1282.704	.262		1184.456	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.254 12B = -98.251 09 = -98.159 03 = -98.021

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 15.85801	92 05 17.82094	718157.887	145030.277	.131	3	GPS - RTRN	2016	RTRN2016
43 57 15.85837	92 05 17.82059	718157.912	145030.313	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3128044.490	681889.314	1880416.594	15968513.702	.131	3	GPS - RTRN	2016	RTRN2016
3128044.515	681889.351	1880416.620	15968513.738	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CQ-OO0079-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CQ-OO0079-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CQ-OO0079-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CR

NGS Name: 5580 CR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0078](#)

[Get Map](#)

NGS Quad / Sta Num : 43092111/

USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	25	106 N	11 W	435708.25	920501.15	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 558 CR 1970

1.5 MILES SOUTHWEST OF ST. CHARLES, 0.8 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 74 (THE JUNCTION IS 1.5 MILES SOUTH OF ST. CHARLES), AT INTERSTATE HIGHWAY 90 MILEPOINT 231.95, 120.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 60.0 FEET EAST OF A FENCE CORNER, 1.3 FEET NORTH OF A RIGHT-OF-WAY POST, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1311.178	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1311.126	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1311.067	.016	2/1				VERTICAL ADJUSTMENT	2005 00000472
1311.067	.016	2/1				VERTICAL CONTROL SURVEY	2001 VWHIT
1311.067	.016	2/1				VERTICAL ADJUSTMENT	1991 00000025

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1311.031	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1311.031	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1311.031	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1311.011	.262		1212.753	.197	2011	GPS - RTRN	2016 RTRN2016
1311.014	.262		1212.757	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.264 12B = -98.258 09 = -98.169 03 = -98.031

Lat/Lon and County Coordinates (Feet)

NAD83(2011)			Olmsted County			Project Info	
Latitude	Longitude		X	Y	Acc Order	Determination Method	Year Reference
43 57 08.24866	92 05 01.15294		719384.958	144272.032	.131 3	GPS - RTRN	2016 RTRN2016
43 57 08.24830	92 05 01.15276		719384.971	144271.995	.131 3	GPS - RTRN	2013 RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)			UTM - Zone 15			Project Info	
MN State Plane - South Zone			X	Y	Acc Order	Determination Method	Year Reference
3129281.464	681147.570		1881643.949	15967756.976	.131 3	GPS - RTRN	2016 RTRN2016
3129281.477	681147.534		1881643.962	15967756.940	.131 3	GPS - RTRN	2013 RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CR-OO0078-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CR-OO0078-2-18AUG2010.jpg		Aug 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CR-OO0078-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CS

NGS Name: 5580 CS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8142](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	6	104 N	14 W	435003.50	923306.89	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: 5580 CS 2016

3.4 MILES SOUTHWEST OF STEWARTVILLE, 0.6 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 204.75, 95.6 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 3.1 FEET NORTHWEST OF A RIGHT-OF-WAY POST, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference			
1263.656	.016	2/1				VERTICAL ADJUSTMENT			2019	00000938			
1263.649	.016	2/1				VERTICAL CONTROL SURVEY			2017	VI90D6			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference			
1263.688	.262		1165.473	.197	2011	GPS - RTRN			2016	RTRN2016			

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.212 09 = -98.156 03 = -97.936

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order			Year	Reference	
43 50 03.49657	92 33 06.89058	596253.965	100364.413	.131	3	GPS - RTRN		2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order			Year	Reference	
3006755.379	635607.559	1758607.821	15923745.212	.131	3	GPS - RTRN		2016	RTRN2016	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CS-DQ8142-3SE-09JUL2024.jpg	SE	Jul 9, 2024
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CS-DQ8142-2-09JUL2024.jpg		Jul 9, 2024
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CS-DQ8142-1-09JUL2024.jpg		Jul 9, 2024

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CT

NGS Name: 5580 CT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8143](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	104 N	14 W	435036.73	923232.52	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 CT 2016

2.9 MILES WEST-SOUTHWEST OF STEWARTVILLE, 0.2 MILE NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 205.5, 53.6 FEET SOUTHEAST OF WESTBOUND INTERSTATE HIGHWAY 90, 31.0 FEET NORTHWEST OF EASTBOUND INTERSTATE HIGHWAY 90, 2.9 FEET SOUTHWEST OF THE NOSE OF A GUARDRAIL, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1223.961	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1223.954	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1223.958	.262			1125.726	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.212 12B = -98.231 09 = -98.172 03 = -97.956

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info				
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 50 36.73061	92 32 32.52081	598758.057	103741.083	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Project Info				
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3009214.200	639016.985	1761107.456	15927122.884	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CT-DQ8143-3NE-30AUG2016.jpg	NE	Aug 30, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CT-DQ8143-2-30AUG2016.jpg		Aug 30, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CT-DQ8143-1-30AUG2016.jpg		Aug 30, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CU

NGS Name: 5580 CU

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8144](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	29	105 N	14 W	435147.52	923118.48	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: 5580 CU 2016

1.7 MILES WEST OF STEWARTVILLE, 2.3 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 207.25, 96.2 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 3.4 FEET NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj				Year	Reference			
1274.902	.016	2/1				VERTICAL ADJUSTMENT			2019	00000938			
1274.899	.016	2/1				VERTICAL CONTROL SURVEY			2017	VI90D6			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj				Year	Reference			
1274.771	.262		1176.517	.197	2011	GPS - RTRN			2016	RTRN2016			

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.254 09 = -98.195 03 = -97.985

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference		
43 51 47.52060	92 31 18.48060	604150.172	110934.806	.131	3	GPS - RTRN	2016	RTRN2016		

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference		
3014509.836	646281.249	1766490.056	15934318.814	.131	3	GPS - RTRN	2016	RTRN2016		

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CU-DQ8144-3SE-13SEP2016.jpg	SE	Sep 13, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CU-DQ8144-2-13SEP2016.jpg		Sep 13, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CU-DQ8144-1-13SEP2016.jpg		Sep 13, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CV

NGS Name: 5580 CV

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8145](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	28	105 N	14 W	435219.19	923044.44	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 CV 2016

1.5 MILES NORTHWEST OF STEWARTVILLE, 1.55 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 208.0, 95.8 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 66.2 FEET SOUTH-SOUTHEAST OF MILEPOST 208, 3.5 FEET NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1270.726	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938	
1270.726	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1270.782	.262			1172.524	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.258 09 = -98.199 03 = -97.992

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
43 52 19.18792	92 30 44.44240	606628.300	114153.627	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
3016944.774	649532.499	1768963.898	15937538.696	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CV-DQ8145-3SE-13SEP2016.jpg	SE	Sep 13, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CV-DQ8145-2-13SEP2016.jpg		Sep 13, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CV-DQ8145-1-13SEP2016.jpg		Sep 13, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CW

NGS Name: 5580 CW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8146](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	21	105 N	14 W	435253.58	922953.73	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 CW 2016

1.7 MILE NORTH-NORTHWEST OF STEWARTVILLE, 0.6 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 209.0, 93.0 FEET SOUTH-SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 66.4 FEET SOUTH OF INTERSTATE HIGHWAY 90 MILEPOST 209, 6.1 FEET NORTH NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1291.149	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1291.156	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1291.198	.262			1192.954	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.248 09 = -98.185 03 = -97.985

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
43 52 53.57748	92 29 53.72746			610325.773	117654.560	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3020595.102	653082.028			1772656.276	15941041.787	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CW-DQ8146-3S-13SEP2016.jpg	S	Sep 13, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CW-DQ8146-2-13SEP2016.jpg		Sep 13, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CW-DQ8146-1-13SEP2016.jpg		Sep 13, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CX

NGS Name: 5580 CX

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8149](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	7	105 N	13 W	435503.45	922517.62	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 33 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 CX 2016

5.5 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 213.7, 95.5 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 3.2 FEET NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1277.625	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938	
1277.619	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1277.616	.262			1179.473	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.136 12B = -98.140 09 = -98.074 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 55 03.45496	92 25 17.62477	630469.519	130918.364	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Determination Method			Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order		Year	Reference
3040559.105	666611.569	1792778.116	15954319.969	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CX-DQ8149-3SE-31AUG2016.jpg	SE	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CX-DQ8149-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CX-DQ8149-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CY

NGS Name: 5580 CY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8150](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	8	105 N	13 W	435514.42	922427.75	2	3	2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: 5580 CY 2016

6.0 MILES SOUTHEAST OF ROCHESTER, 3.6 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 214.45, 45.4 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 142.7 FEET EAST OF THE SOUTHEAST CORNER OF AN EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1255.910	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1255.896	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1255.890	.262		1157.777	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.117 09 = -98.048 03 = -97.890

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 55 14.42246	92 24 27.75405	634113.146	132051.193	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
<u>X</u> <u>Y</u>						
3044187.047	667792.687	1796419.059	15955455.953	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CY-DQ8150-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CY-DQ8150-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CY-DQ8150-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 CZ

NGS Name: 5580 CZ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8152](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	3	105 N	13 W	435555.41	922233.93	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 CZ 2016

6.2 MILES SOUTHEAST OF ROCHESTER, 1.7 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 216.3, 108.9 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 4.0 FEET SOUTHEAST OF A RIGHT-OF-WAY FENCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference			
1253.889	.016	2/1						VERTICAL ADJUSTMENT	2019	00000938			
1253.866	.016	2/1						VERTICAL CONTROL SURVEY	2017	VI90D6			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference			
1253.856	.262		1155.762	.197	2011			GPS - RTRN	2016	RTRN2016			

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.094 09 = -98.018 03 = -97.880

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order			Year	Reference	
43 55 55.41377	92 22 33.93263	642417.098	136255.117	.131	3	GPS - RTRN		2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	X	Y	Acc	Order		Year	Reference
3052433.649	672106.409	1804715.291	15959666.393	.131	3	GPS - RTRN			2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CZ-DQ8152-3NW-13SEP2016.jpg	NW	Sep 13, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CZ-DQ8152-2-13SEP2016.jpg		Sep 13, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_CZ-DQ8152-1-13SEP2016.jpg		Sep 13, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 D

NGS Name: 5580 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0366](#)

[Get Map](#)

NGS Quad / Sta Num : 43092412/

USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	105 N	14 W	435058.96	923208.86	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2016	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5580 D 1966

2.7 MILES WEST OF STEWARTVILLE, 3.0 MILES WEST AND SOUTH ALONG COUNTY ROAD 6 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 6 SOUTHWEST AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.75 MILE NORTHEAST ALONG INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 MILEPOINT 206.05, IN THE SOUTHEAST CORNER OF AN INTERSTATE HIGHWAY 90 BOX CULVERT AT A CREEK, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1212.196	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1212.189	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1212.284	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1212.202	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1212.202	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1212.202	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1212.209	.262		1113.964	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.222 12B = -98.245 09 = -98.182 03 = -97.969

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
43 50 58.96433	92 32 08.86259	600481.581	106000.478	.131	3	GPS - RTRN 2016 RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u> <u>Year</u> <u>Reference</u>
3010907.420	641298.936	1762827.978	15929382.999	.131	3	GPS - RTRN 2016 RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_D-OO0366-3SE-25MAY2010.jpg	SE	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_D-OO0366-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_D-OO0366-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DA

NGS Name: 5580 DA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8153](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	34	106 N	13 W	435634.99	922210.46	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 DA 2016

6.0 MILES SOUTHEAST OF ROCHESTER, 0.8 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 217.15, 32.0 FEET EAST-SOUTHEAST OF WESTBOUND INTERSTATE HIGHWAY 90, 39.4 FEET WEST-NORTHWEST OF THE EASTBOUND INTERSTATE HIGHWAY 90 FOG LINE, 1.5 FEET EAST-SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1231.205	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938	
1231.195	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1231.179	.262			1133.055	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.123 09 = -98.041 03 = -97.903

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 56 34.99466	92 22 10.45790	644108.410	140274.536	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Determination Method			Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order		Year	Reference
3054071.174	676147.653	1806401.868	15963685.810	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DA-DQ8153-3N-12SEP2016.jpg	N	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DA-DQ8153-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DA-DQ8153-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DB

NGS Name: 5580 DB

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8155](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	30	106 N	12 W	435719.00	921848.03	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 DB 2016

7.0 MILES EAST SOUTHEAST OF ROCHESTER, 2.3 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 220.3, 95.6 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 4.0 FEET NORTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1258.433	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938	
1258.406	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1258.354	.262		1160.293	.197	2011	GPS - OPUS	2021	GPSBM	
1258.433	.262		1160.372	.197	2011	GPS - OPUS	2021	GPSBM	
1258.449	.262		1160.388	.197	2011	GPS - RTRN	2021	RTRN2021	
1258.455	.262		1160.398	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.058 09 = -97.953 03 = -97.841

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 19.00336	92 18 48.03484	658886.543	144834.294	.131	3	GPS - OPUS	2021	GPSBM
43 57 19.00328	92 18 48.03444	658886.573	144834.286	.131	3	GPS - OPUS	2021	GPSBM
43 57 19.00320	92 18 48.03429	658886.584	144834.279	.131	3	GPS - RTRN	2021	RTRN2021
43 57 19.00314	92 18 48.03377	658886.622	144834.273	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Determination Method			Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order		Year	Reference
3068786.051	680903.370	1821169.253	15968258.464	.131	3	GPS - OPUS	2021	GPSBM
3068786.081	680903.363	1821169.282	15968258.456	.131	3	GPS - OPUS	2021	GPSBM
3068786.092	680903.355	1821169.293	15968258.449	.131	3	GPS - RTRN	2021	RTRN2021
3068786.130	680903.350	1821169.331	15968258.443	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DB-DQ8155-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DB-DQ8155-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DB-DQ8155-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DC

NGS Name: 5580 DC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8158](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	106 N	12 W	435713.86	921420.83	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5080 DC 2016

2.1 MILES SOUTH OF EYOTA, 0.1 MILE SOUTH ALONG TRUNK HIGHWAY 42(COUNTY ROAD 7) FROM THE JUNCTION OF TRUNK HIGHWAY 42 (COUNTY ROAD 7) AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 46.3 FEET WEST OF COUNTY ROAD 7, 3.1 FEET EAST OF THE SOUTHEAST END OF A RIGHT-OF-WAY FENCE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1291.766	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1291.720	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1291.664	.262			1193.636	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.028 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County						Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 57 13.86345	92 14 20.83199	678437.189	144465.612	.131	3	GPS - RTRN	2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15						Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3088338.216	680795.174	1840712.232	15967909.519	.131	3	GPS - RTRN	2016	RTRN2016	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DC-DQ8158-3W-12SEP2016.jpg	W	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DC-DQ8158-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DC-DQ8158-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DD

NGS Name: 5580 DD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8162](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	30	106 N	11 W	435717.95	921105.96	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 DD 2016

3.0 MILES SOUTHEAST OF EYOTA, 2.7 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 226.8, 94.4 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 4.3 FEET NORTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order / (Class)		Height	Acc	Adj	Determination Method	Year	Reference
1313.918	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1313.872	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order / (Class)		Height	Acc	Adj	Determination Method	Year	Reference
1313.800	.262			1215.732	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.081 12B = -98.067 09 = -97.962 03 = -97.854

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County						Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 57 17.94505	92 11 05.95919	692689.070	145000.726	.131	3	GPS - RTRN	2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15						Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3102580.492	681520.132	1854957.828	15968458.684	.131	3	GPS - RTRN	2016	RTRN2016	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DD-DQ8162-3S-29SEP2016.jpg	S	Sep 29, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DD-DQ8162-2-29SEP2016.jpg		Sep 29, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DD-DQ8162-1-29SEP2016.jpg		Sep 29, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DE

NGS Name: 5580 DE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8163](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	29	106 N	11 W	435717.48	921035.77	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 DE 2016

2.5 MILES SOUTHWEST OF DOVER, 1.85 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.0 MILE SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 227.25, 93.3 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 5.9 FEET NORTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1295.027	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938
1294.984	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1295.007	.262			1196.930	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.077 09 = -97.979 03 = -97.867

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 17.48236	92 10 35.76984	694897.886	144973.579	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3104789.285	681522.436	1857165.789	15968433.760	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DE-DQ8163-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DE-DQ8163-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DE-DQ8163-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 DF

NGS Name: 5580 DF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8167](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	26	106 N	11 W	435718.95	920706.27	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** 5580 DF 2016

1.3 MILES SOUTHEAST OF DOVER, 1.05 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.0 MILE SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 230.2, 90.9 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 7.1 FEET SOUTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1256.562	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1256.513	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1256.543	.262		1158.351	.197	2011	GPS - OPUS	2021	GPSBM
1256.474	.262		1158.282	.197	2011	GPS - OPUS	2021	GPSBM
1256.523	.262		1158.331	.197	2011	GPS - RTRN	2021	RTRN2021
1256.471	.262		1158.288	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.182 09 = -98.087 03 = -97.959

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 18.94702	92 07 06.26891	710221.725	145264.832	.131	3	GPS - OPUS	2021	GPSBM
43 57 18.94730	92 07 06.26880	710221.733	145264.860	.131	3	GPS - OPUS	2021	GPSBM
43 57 18.94714	92 07 06.26812	710221.783	145264.845	.131	3	GPS - RTRN	2021	RTRN2021
43 57 18.94666	92 07 06.26852	710221.754	145264.796	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3120106.579	682017.968	1872483.284	15968740.229	.131	3	GPS - OPUS	2021	GPSBM
3120106.586	682017.997	1872483.292	15968740.258	.131	3	GPS - OPUS	2021	GPSBM
3120106.636	682017.982	1872483.342	15968740.242	.131	3	GPS - RTRN	2021	RTRN2021
3120106.608	682017.933	1872483.313	15968740.193	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DF-DQ8167-3N-12SEP2016.jpg	N	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DF-DQ8167-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_DF-DQ8167-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 E

NGS Name: 5580 E

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	32	105 N	14 W	435125.00	923146.00	2	

NGS ACRN: [000365](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2010	NOT FOUND	Horz=? Vert=YES	NO		PROJECTS 2 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1970) Stamping: 5580-E 1966

2.0 MILES WEST OF STEWARTVILLE, 1.3 MILES NORTHEAST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 IN STEWARTVILLE, 0.4 MILE SOUTH OF COUNTY ROAD 35, 98.0 FEET WEST OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 103+00, 2.0 FEET EAST OF A FENCE, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

5-26-2010 FOUND THE RIGHT-OF-WAY POST FOR STATION 102+75. THE FENCE HAS BEEN MOVED TO A WIDER RIGHT-OF-WAY. THE STATION MAY HAVE BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.175	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.090	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1236.090	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1236.090	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.254 09 = -98.195 03 = -97.982

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 F

NGS Name: 5580 F

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0364](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	105 N	14 W	435145.81	923120.96	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=NO	YES	9859	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (1970)

Stamping: 5580 F 1966

2.0 MILES WEST OF STEWARTVILLE, 1.7 MILES WEST ALONG COUNTY ROAD 35 FROM THE JUNCTION OF COUNTY ROAD 35 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT INTERSTATE HIGHWAY 90 MILEPOINT 207.20, IN THE SOUTHEAST CORNER OF COUNTY ROAD 35 BRIDGE NUMBER 9859 OVER INTERSTATE HIGHWAY 90.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1288.449	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1288.449	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1288.518	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1288.432	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1288.432	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1288.432	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1288.478	.262		1190.224	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.254 09 = -98.199 03 = -97.989

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 51 45.80800	92 31 20.95541	603969.681	110760.515	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3014331.691	646104.586	1766309.817	15934144.420	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_F-OO0364-3SW-03AUG2016.jpg	SW	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_F-OO0364-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_F-OO0364-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 G

NGS Name: 5580 G

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0363](#)

[Get Map](#)

NGS Quad / Sta Num : 43092412/

USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	29	105 N	14 W	435204.75	923100.69	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

CULVERT - ANY SIZE, ANY TYPE

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: 5580 G 1966

IN STEWARTVILLE, 1.5 MILES WEST OF STEWARTVILLE, 2.3 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 207.65, IN THE SOUTHWEST CORNER OF A DOUBLE BOX CULVERT UNDER INTERSTATE HIGHWAY 90, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1238.183	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1238.180	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1238.259	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1238.173	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1238.173	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1238.173	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1238.134	.262		1139.876	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.258 09 = -98.199 03 = -97.992

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 52 04.74791	92 31 00.68816	605445.299	112685.581	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3015781.481	648048.962	1767782.875	15936070.113	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_G-OO0363-3E-25MAY2010.jpg	E	May 25, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_G-OO0363-2-25MAY2010.jpg		May 25, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_G-OO0363-1-25MAY2010.jpg		May 25, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 H

NGS Name: 5580 H

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0362](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	28	105 N	14 W	435211.57	923052.60	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2010) **Stamping:** 5580 H 1966

2.0 MILES NORTHWEST OF STEWARTVILLE, 2.0 MILES SOUTHWEST ON INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, 98.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 2.0 FEET WEST OF A FENCE, 1.0 FOOT NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1247.602	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1247.602	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1247.645	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1247.560	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1247.560	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1247.560	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.258 09 = -98.199 03 = -97.992

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_H-OO0362-3SE-03AUG2016.jpg	SE	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_H-OO0362-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_H-OO0362-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 J

NGS Name: 5580 J

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0361](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	21	105 N	14 W	435237.83	923029.21	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 J 1966

2.0 MILES NORTHWEST OF STEWARTVILLE, 1.1 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 208.40, 98.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 215.0 FEET NORTHEAST OF A DEAD END ROAD NORTH, 1.5 FEET EAST OF A FENCE, 1.0 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1276.644	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1276.648	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1276.648	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1276.559	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1276.559	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1276.559	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1276.526	.262		1178.262	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.245 12B = -98.264 09 = -98.205 03 = -97.998

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 37.82972	92 30 29.21081	607734.744	116046.857	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3018025.868	651440.135	1770067.975	15939432.203	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_J-OO0361-3W-08AUG2016.jpg	W	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_J-OO0361-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_J-OO0361-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 K

NGS Name: 5580 K

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0357](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	22	105 N	14 W	435256.16	922954.90	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1966	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 K 1966

2.0 MILES NORTHWEST OF STEWARTVILLE, AT INTERSTATE HIGHWAY 90 MILEPOINT 209.0, 0.7 MILE SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 209, 97.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 3.0 FEET SOUTH OF A FENCE, 1.0 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.561	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1289.568	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1289.587	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.502	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1289.502	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1289.502	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.774	.262		1191.523	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.228 12B = -98.251 09 = -98.189 03 = -97.989

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 56.16283	92 29 54.90009	610238.558	117915.925	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3020504.426	653342.191	1772568.838	15941302.952	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_K-OO0357-3NW-08AUG2016.jpg	NW	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_K-OO0357-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_K-OO0357-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 L

NGS Name: 5580 L

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	105 N	14 W	435302.37	922935.11	2	C

NGS ACRN: [000356](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2004)

Stamping: 5580 L 1966

2.0 MILES NORTHWEST OF STEWARTVILLE, 0.3 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 209.25, 97.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 243+25, AT THE WEST END OF AN ENTRANCE RAMP, 0.9 FOOT SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1258.570	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1258.580	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1258.580	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1258.580	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1258.580	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1258.580	.016	2/1				VERTICAL ADJUSTMENT	2008	00000533
1258.580	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY
1258.580	.016	2/1				VERTICAL CONTROL SURVEY	2005	VSTEW
1258.580	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1258.498	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1258.498	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1258.498	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1258.462	.262		1160.224	.197	2011	GPS - RTRN	2016	RTRN2016
			1160.339	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1258.570	.262		1160.391	.197	2007	GPS - RTRN	2011	RTRN2011
1258.593	.131		1160.418	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1258.593	.131		1160.418	.066	2007	GPS - STATIC	2011	HFRON
1258.593	.131		1160.572	.066	1996	GPS - STATIC	2010	HFRON
			1160.418	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1258.593	.131		1160.572	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1258.593	.131		1160.572	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.218 12B = -98.238 09 = -98.176 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 02.36890	92 29 35.10684	611685.041	118551.771	.131	3	GPS - RTRN	2016	RTRN2016
43 53 02.36979	92 29 35.10669	611685.052	118551.861	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 02.37010	92 29 35.10751	611684.992	118551.892	.131	3	GPS - RTRN	2011	RTRN2011
43 53 02.37001	92 29 35.10765	611684.981	118551.883	.033	C	ADJUSTMENT	2011	GPS2814
43 53 02.37001	92 29 35.10765	611684.981	118551.883	.033	C	GPS - STATIC	2011	HFRON
43 53 02.37001	92 29 35.10765	611684.981	118551.883	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 02.36959	92 29 35.10692	611685.035	118551.841	.033	C	GPS - STATIC	2010	HFRON
43 53 02.36959	92 29 35.10692	611685.035	118551.841	.033	C	ADJUSTMENT	2003	GPS1770
43 53 02.36959	92 29 35.10692	611685.036	118551.840	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3021942.219	653997.167	1774014.060	15941939.963	.131	3	GPS - RTRN	2016	RTRN2016
3021942.228	653997.258	1774014.070	15941940.052	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3021942.168	653997.288	1774014.010	15941940.084	.131	3	GPS - RTRN	2011	RTRN2011
3021942.158	653997.279	1774014.000	15941940.074	.033	C	ADJUSTMENT	2011	GPS2814
3021942.158	653997.279	1774014.000	15941940.074	.033	C	GPS - STATIC	2011	HFRON
3021942.158	653997.279	1774014.000	15941940.074	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3021942.212	653997.237	1774014.053	15941940.032	.033	C	GPS - STATIC	2010	HFRON
3021942.212	653997.237	1774014.053	15941940.032	.033	C	ADJUSTMENT	2003	GPS1770
3021942.212	653997.237	1774014.053	15941940.032	.033	C	GPS - STATIC	2002	HI90

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_L-OO0356-3N-04AUG2016.jpg	N	Aug 4, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_L-OO0356-2-04AUG2016.jpg		Aug 4, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_L-OO0356-1-04AUG2016.jpg		Aug 4, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 M

NGS Name: 5580 M

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0347](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	22	105 N	14 W	435305.60	922916.47	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1966	2016	GOOD	Horz=NO Vert=NO	YES	9890	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2012)

Stamping: 5580 M 1966

2.0 MILES NORTH OF STEWARTVILLE, 2.0 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, IN THE SOUTHEAST CORNER OF NORTHBOUND TRUNK HIGHWAY 63 BRIDGE NUMBER 9890 OVER INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 30.70, 2.3 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1271.638	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1271.638	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH
1271.638	.016	2/1				VERTICAL ADJUSTMENT	2009 00000425-33
1271.638	.016	2/1				VERTICAL ADJUSTMENT	2008 00000533
1271.638	.016	2/1				VERTICAL CONTROL SURVEY	2007 VALOY
1271.638	.016	2/1				VERTICAL CONTROL SURVEY	2005 VSTEW
1271.638	.016	2/1				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1271.556	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1271.556	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1271.556	.016	2				VERTICAL CONTROL SURVEY	1971 L22211
1271.510	.016	2				VERTICAL CONTROL SURVEY	1971 L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1271.592	.262		1173.364	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.205 12B = -98.225 09 = -98.159 03 = -97.966

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 53 05.59724	92 29 16.47031	613048.292	118885.737	.131	3	GPS - RTRN
						2013 RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3023300.807	654349.207	1775376.386	15942275.142	.131	3	GPS - RTRN
						2013 RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_M-OO0347-3NE-02APR2013.jpg	NE	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_M-OO0347-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_M-OO0347-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 N

NGS Name: 5580 N

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0175](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	22	105 N	14 W	435312.45	922854.66	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES	91113	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 N 1970

2.0 MILES NORTH OF STEWARTVILLE, IN THE SOUTHEAST CORNER OF A BOX CULVERT, 0.35 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 209.9, 35.0 FEET SOUTH OF THE EASTBOUND INTERSTATE HIGHWAY 90 FOG LINE, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.693	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1220.716	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1220.716	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.637	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1220.637	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1220.637	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1220.598	.262		1122.383	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.212 09 = -98.146 03 = -97.953

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 12.45162	92 28 54.66360	614641.743	119588.197	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024884.657	655072.742	1776968.447	15942978.885	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_N-OO0175-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_N-OO0175-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_N-OO0175-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 Q

NGS Name: 5580 Q

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000174](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	23	105 N	14 W	435318.58	922833.74	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 15 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 Q 1970

2.7 MILES NORTH OF STEWARTVILLE, 0.7 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 210.20, 99.0 FEET SOUTH-SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 0.4 FOOT NORTH OF A FENCE, 0.5 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1243.337	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1243.357	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1243.308	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1243.232	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1243.232	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1243.232	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1243.416	.262		1145.218	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.176 12B = -98.199 09 = -98.130 03 = -97.943

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 18.58341	92 28 33.74075	616170.754	120217.255	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3026405.053	655722.032	1778496.169	15943609.195	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Q-000174-3S-28JUL2010.jpg	S	Jul 28, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Q-000174-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Q-000174-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 R

NGS Name: 5580 R

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000173](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	23	105 N	14 W	435327.90	922815.64	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 R 1970

3.0 MILES NORTH OF STEWARTVILLE, 0.95 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 210.55, 100.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 35.7 FEET NORTHEAST OF A RIGHT-OF-WAY POST, 0.6 FOOT SOUTHEAST OF A RIGHT-OF-WAY FENCE AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.191	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1280.207	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1280.178	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.099	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1280.099	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1280.099	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.145	.262		1181.956	.197	2011	GPS - RTRN	2016	RTRN2016
1280.280			1182.006	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3050
1280.286	.131		1182.242	.066	1996	GPS - STATIC	2014	HMOWE
1280.280			1182.009	.010	2011	GPS - STATIC	2014	HMOWE
			1182.006	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1182.091	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1280.214	.131		1182.242	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1280.214	.131		1182.242	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.189 09 = -98.123 03 = -97.936

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89853	92 28 15.64044	617491.232	121167.659	.131	3	GPS - RTRN	2016	RTRN2016
43 53 27.89923	92 28 15.64143	617491.159	121167.729	.010		ADJUSTMENT	2014	GPS3050
43 53 27.89916	92 28 15.64139	617491.162	121167.722	.010	C	GPS - STATIC	2014	HMOWE
43 53 27.89923	92 28 15.64143	617491.159	121167.729	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89942	92 28 15.64220	617491.103	121167.748	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89900	92 28 15.64148	617491.155	121167.705	.033	C	GPS - STATIC	2014	HMOWE
43 53 27.89900	92 28 15.64148	617491.155	121167.705	.033	C	ADJUSTMENT	2003	GPS1770
43 53 27.89900	92 28 15.64148	617491.157	121167.707	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3027712.675	656689.840	1779815.130	15944560.503	.131	3	GPS - RTRN	2016	RTRN2016
3027712.601	656689.910	1779815.057	15944560.573	.010		ADJUSTMENT	2014	GPS3050
3027712.604	656689.903	1779815.059	15944560.566	.010	C	GPS - STATIC	2014	HMOWE
3027712.601	656689.910	1779815.057	15944560.573	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3027712.545	656689.928	1779815.000	15944560.592	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3027712.598	656689.887	1779815.053	15944560.550	.033	C	GPS - STATIC	2014	HMOWE
3027712.598	656689.887	1779815.053	15944560.550	.033	C	ADJUSTMENT	2003	GPS1770
3027712.598	656689.887	1779815.053	15944560.550	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_R-OO0173-3SE-28JUL2010.jpg	SE	Jul 28, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_R-OO0173-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_R-OO0173-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 S

NGS Name: 5580 S

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000172](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	14	105 N	14 W	435348.00	922757.00	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES		RECESSED 6 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 S 1970

2.5 MILES NORTHEAST OF STEWARTVILLE, 1.4 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 211.0, 100.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 331+00, 2.0 FEET EAST OF A RIGHT-OF-WAY POST, 0.3 FOOT SOUTH OF A WITNESS POST.

Station Notes

8-5-2010 THE STATION IS DIRECTLY BELOW A 2.0 INCH FENCE REINFORCEMENT ANGLE IRON RENDERING IT UNUSABLE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1244.545	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1244.469	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1244.469	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1244.469	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1244.532	.262			1146.340	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.172 12B = -98.192 09 = -98.126 03 = -97.939

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position									
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 53 47.13027	92 27 56.07334	618913.512	123122.919	.131	3	GPS - RTRN	2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone									
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3029108.718	658663.697	1781234.847	15946516.338	.131	3	GPS - RTRN	2016	RTRN2016	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_S-000172-3NW-05AUG2010.jpg	NW	Aug 5, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_S-000172-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_S-000172-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 T

NGS Name: 5580 T

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000171](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	14	105 N	14 W	435357.45	922737.46	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 T 1970

3.75 MILES SOUTHWEST OF SIMPSON, 1.7 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 211.3, 98.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 3.6 FEET SOUTHWEST OF A RIGHT-OF-WAY POST, 0.5 FOOT SOUTHEAST OF A RIGHT-OF-WAY FENCE, 0.3 FOOT NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1251.005	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1251.011	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1250.952	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1250.880	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1250.880	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1250.880	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1251.041	.262		1152.855	.197	2011	GPS - RTRN	2016	RTRN2016
			1152.816	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1152.901	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1251.047	.131		1153.052	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1251.047	.131		1153.052	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.189 09 = -98.120 03 = -97.936

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 57.44739	92 27 37.45790	620270.851	124175.165	.131	3	GPS - RTRN	2016	RTRN2016
43 53 57.44867	92 27 37.45751	620270.879	124175.295	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 57.44885	92 27 37.45827	620270.823	124175.312	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 57.44845	92 27 37.45755	620270.876	124175.272	.033	C	ADJUSTMENT	2003	GPS1770
43 53 57.44845	92 27 37.45755	620270.876	124175.273	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030451.837	659733.822	1782590.551	15947569.483	.131	3	GPS - RTRN	2016	RTRN2016
3030451.863	659733.952	1782590.579	15947569.613	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030451.807	659733.969	1782590.523	15947569.630	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030451.861	659733.930	1782590.576	15947569.590	.033	C	ADJUSTMENT	2003	GPS1770
3030451.861	659733.930	1782590.576	15947569.590	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_T-000171-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_T-000171-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_T-000171-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 U

NGS Name: 5580 U

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0170](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	12	105 N	14 W	435423.00	922659.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2001	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1981)

Stamping: 5580-U- 1970

2.3 MILES SOUTHWEST OF SIMPSON, 2.3 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 1 IN SIMPSON.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1265.942	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1265.867	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1265.867	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.166 12B = -98.182 09 = -98.113 03 = -97.936

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 V

NGS Name: 5580 V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000169](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	12	105 N	14 W	435428.61	922643.00	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) **Stamping:** 5580 V 1970

3.6 MILES NORTHEAST OF STEWARTVILLE, 2.7 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 212.30, 99.0 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 0.3 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.3 FOOT NORTH OF A WITNESS POST.

Station Notes

THE MARK IS TOO CLOSE TO A FENCE FOR GPS USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.490	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1271.490	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1271.500	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.428	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1271.428	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1271.428	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.356	.262		1173.180	.197	2011	GPS - RTRN	2016	RTRN2016
			1173.305	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1173.397	.012	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1271.487	.131		1173.544	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1271.487	.131		1173.544	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.176 09 = -98.103 03 = -97.930

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 28.61129	92 26 42.99845	624240.420	127353.353	.131	3	GPS - RTRN	2016	RTRN2016
43 54 28.61173	92 26 42.99871	624240.401	127353.398	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 28.61192	92 26 42.99953	624240.341	127353.417	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 28.61152	92 26 42.99880	624240.395	127353.377	.033	C	ADJUSTMENT	2003	GPS1770
43 54 28.61152	92 26 42.99880	624240.395	127353.377	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3034378.475	662964.285	1786555.243	15950750.265	.131	3	GPS - RTRN	2016	RTRN2016
3034378.455	662964.329	1786555.224	15950750.309	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3034378.394	662964.347	1786555.164	15950750.328	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3034378.449	662964.308	1786555.218	15950750.288	.033	C	ADJUSTMENT	2003	GPS1770
3034378.449	662964.307	1786555.218	15950750.288	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_V-000169-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_V-000169-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_V-000169-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 W

NGS Name: 5580 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000168](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	7	105 N	13 W	435434.52	922624.18	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 5 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016) Stamping: 5580 W 1970

4.0 MILES NORTHEAST OF STEWARTVILLE, 3.0 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), 100.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 1.6 FEET EAST OF A RIGHT-OF-WAY POST, 0.3 FOOT NORTHWEST OF A WITNESS POST.

Station Notes

MARK HAS BEEN PROVEN TO NOT HOLD AN ELEVATION, PLEASE DESTROY AND SET NEW MARK IF NECESSARY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1272.465	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1272.458	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1271.605	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.533	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1271.533	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1271.533	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1272.281	.262		1174.122	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.163 09 = -98.094 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Reference
43 54 34.51925	92 26 24.18349	625614.424	127959.531	.131	3	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Project Info		
X	Y	X	Y	Acc	Order	Reference
3035744.185	663588.639	1787928.052	15951357.553	.131	3	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_W-000168-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_W-000168-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_W-000168-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 X

NGS Name: 5580 X

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000167](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	7	105 N	13 W	435437.38	922617.60	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=NO	YES	55804	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 X 1970

4.05 MILES NORTHEAST OF STEWARTVILLE, 3.1 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 212.7, IN THE SOUTHEAST END OF THE EAST ABUTMENT OF AN EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE OVER COUNTY ROAD 20.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.388	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1280.385	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1280.385	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.309	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1280.309	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1280.309	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1280.362	.262		1182.202	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.159 09 = -98.090 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 37.38098	92 26 17.60074	626094.658	128252.110	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036220.448	663887.558	1788407.788	15951650.486	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_X-000167-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_X-000167-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_X-000167-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 5580 Y

NGS Name: 5580 Y

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000166](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	7	105 N	13 W	435444.00	922603.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2016	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	SURVEY DISK	MNDT

Description: (1970)

Stamping: 5580-Y 1970

1.5 MILES SOUTHWEST OF SIMPSON, 0.2 MILE NORTHEAST ON INTERSTATE HIGHWAY 90 FROM THE INTERSTATE HIGHWAY 90 BRIDGE OVER COUNTY ROAD 20 IN SIMPSON, 94.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 STATION 431+00, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1273.934	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1273.866	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1273.866	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.153 09 = -98.087 03 = -97.916

* No Horizontal Positions in the Database *



Mn/DOT Name: 5580 Z

NGS Name: 5580 Z

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000165](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	7	105 N	13 W	435450.00	922542.91	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=NO Vert=YES	YES		RECESSED 4 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE POST (PREFABRICATED)	BENCH MARK DISK	MNDT

Description: (2016)

Stamping: 5580 Z 1970

4.6 MILES NORTHEAST, 3.65 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 213.25, 99.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 0.4 FOOT SOUTH OF A RIGHT-OF-WAY FENCE, 0.6 FOOT NORTH OF A RIGHT-OF-WAY POST, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.399	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1277.402	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1277.402	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.330	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1277.330	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1277.330	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.330	.262		1179.191	.197	2011	GPS - RTRN	2016	RTRN2016
			1179.233	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1179.328	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1277.392	.131		1179.473	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1277.392	.131		1179.473	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.136 12B = -98.143 09 = -98.077 03 = -97.910

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 49.99520	92 25 42.91124	628626.643	129544.350	.131	3	GPS - RTRN	2016	RTRN2016
43 54 49.99578	92 25 42.91226	628626.568	129544.408	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 49.99598	92 25 42.91311	628626.506	129544.428	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 49.99560	92 25 42.91237	628626.560	129544.390	.033	C	ADJUSTMENT	2003	GPS1770
43 54 49.99560	92 25 42.91237	628626.561	129544.390	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3038734.818	665213.266	1790937.399	15952944.701	.131	3	GPS - RTRN	2016	RTRN2016
3038734.742	665213.324	1790937.324	15952944.759	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3038734.680	665213.343	1790937.262	15952944.779	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3038734.735	665213.305	1790937.316	15952944.741	.033	C	ADJUSTMENT	2003	GPS1770
3038734.735	665213.305	1790937.317	15952944.741	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Z-000165-3SE-08AUG2016.jpg	SE	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Z-000165-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/5580_Z-000165-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6 DRL

NGS Name: 6 DRL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [Get Map](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	107 N	11 W	440442.00	920817.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SEE DESCRIPTION	USGS

Description: (1972) **Stamping:** 6 DRL 1972

1.0 MILE SOUTH AND 6.0 MILES WEST OF ELBA, 1.45 MILES SOUTHWEST ALONG TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND HILL STREET IN ELBA, THEN 5.35 MILES WEST ON COUNTY ROAD 39/COUNTY ROAD 2 NORTHEAST, 21.0 FEET NORTH AND 63.0 FEET EAST OF A TEE DRIVE NORTH TO A FARM, IN THE NORTH END OF A ROUND CULVERT.

Station Notes

5-11-2010 FOUND A 5/8 INCH HOLE ON THE TOP OF A CULVERT AND SOME RESIDUAL CEMENT. MAY HAVE BEEN A DISK THERE AT ONE TIME.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1105.464	.033	3				VERTICAL CONTROL SURVEY	1984	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.290 12B = -98.307 09 = -98.156 03 = -98.048

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/6_DRL-3NE-11MAY2010.jpg	NE	May 11, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/6_DRL-2-11MAY2010.jpg		May 11, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: 6 RDS

NGS Name: 6 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	22	105 N	11 W	435324.00	920648.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1952)

Stamping: 6 RDS 1952

3.0 MILES NORTH AND 3.2 MILES EAST OF CHATFIELD, 3.5 MILES EAST ALONG TRUNK HIGHWAY 30/TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 5/COUNTY ROAD 120 IN CHATFIELD, THEN 2.7 MILES NORTH ON COUNTY ROAD 18 SOUTHEAST, 33.0 FEET SOUTH AND 370.0 FEET EAST OF A ROAD AT A NORTH-SOUTH FENCE, AT THE SUMMIT OF A HILL, 66.0 FEET WEST OF A FENCE CORNER SOUTH AND WEST, 24.0 FEET EAST OF A GATE AND A TRAIL SOUTH.

Station Notes

ALL TIES ARE GONE, FIELDS UNIFIED. GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1160.769	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.277 12B = -98.287 09 = -98.189 03 = -98.041

* No Horizontal Positions in the Database *



Mn/DOT Name: 63 A

NGS Name: 63 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0785](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	11	106 N	14 W	435956.00	922750.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNKNOWN	NGS

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND 17TH STREET SOUTHEAST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1040.372	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.537 09 = -98.455 03 = -98.271

* No Horizontal Positions in the Database *



Mn/DOT Name: 7 RDS

NGS Name: 7 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	11	105 N	11 W	435430.00	920650.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1952) **Stamping:** 7 RDS 1952

5.8 MILES NORTHEAST OF CHATFIELD, 3.5 MILES EAST ALONG TRUNK HIGHWAY 30/TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 5/COUNTY ROAD 120 IN CHATFIELD, THEN 4.0 MILES NORTH ON COUNTY ROAD 18 SOUTHEAST, THEN 0.2 MILE NORTH AND 30.0 FEET WEST OF A GRAVEL ROAD AT THE CENTER OF A CURVE, 26.0 FEET WEST OF A FENCE CORNER NORTH AND WEST.

Station Notes

THE ROAD WAS REBUILT WITH NEWER ENTRANCES AND CULVERTS. GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1168.511	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.228 12B = -98.238 09 = -98.133 03 = -97.989

* No Horizontal Positions in the Database *



Mn/DOT Name: 8 RDS

NGS Name: 8 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	34	106 N	11 W	435602.00	920722.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1974)

Stamping: 8 RDS 1952

3.0 MILES SOUTH AND 1.0 MILE EAST OF DOVER, 2.6 MILES SOUTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND MAPLE STREET IN DOVER, THEN 0.8 MILE EAST ON 60TH STREET SOUTHEAST, 28.0 FEET NORTH OF THE ROAD, 0.2 MILE WEST OF A TEE-ROAD SOUTH, 265.0 FEET WEST OF A PRIVATE DRIVE NORTH, 1.0 FOOT SOUTH AND 1.0 FOOT EAST OF A FENCE NORTH.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1308.495	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.169 09 = -98.067 03 = -97.943

* No Horizontal Positions in the Database *



Mn/DOT Name: 86

NGS Name: 86

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2136](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	35	107 N	14 W	440150.00	922844.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	1991	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNKNOWN	NGS

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF COUNTY ROAD 33 AND 11TH AVENUE NORTHWEST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1001.547	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.569 09 = -98.487 03 = -98.317

* No Horizontal Positions in the Database *



Mn/DOT Name: 9 RDS

NGS Name: 9 RDS

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	28	106 N	11 W	435657.00	920824.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974) Stamping: 9 RDS 1952

2.0 MILES SOUTH OF DOVER, 1.5 MILES SOUTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND MAPLE STREET IN DOVER, 378.0 FEET NORTH AND 34.0 FEET WEST OF A CROSSROADS, 3.0 FEET NORTH AND 1.0 FOOT WEST OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1258.475	.033	3				VERTICAL CONTROL SURVEY		1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.153 12B = -98.143 09 = -98.038 03 = -97.920

* No Horizontal Positions in the Database *



Mn/DOT Name: A 243

NGS Name: A 243

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0025](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	10	105 N	14 W	435442.00	922932.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1963	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE/BITUMINOUS SLAB	BENCH MARK DISK	NGS

Description: (2016)

Stamping: A 243 1963

5.0 MILES SOUTH OF ROCHESTER, AT THE AIRPORT, AT THE SOUTHWEST CORNER OF THE OPERATIONS BUILDING AND CONTROL TOWER.

Station Notes

CONTACT THE AIRPORT MANAGER BEFORE USE. ROCHESTER INTERNATIONAL AIRPORT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1291.172	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1291.172	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB
1291.172	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1291.133	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1291.133	.007	1				VERTICAL CONTROL SURVEY	1963	L100 MINN

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.353 09 = -98.297 03 = -98.087

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/A_243-OO0025-3SE-03NOV2008.jpg	SE	Nov 3, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/A_243-OO0025-2-03NOV2008.jpg		Nov 3, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/A_243-OO0025-1-23JUN2009.jpg		Jun 23, 2009

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ACE MNDT

NGS Name: ACE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2291](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	20	108 N	13 W	440826.82	922454.54	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARK IS STEEL PIPE

Monument Type	Disk Type	Mon. Agency
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MNDT

Description: (2016) **Stamping:** ACE 1977

9.25 MILES NORTHEAST OF ROCHESTER, 1.7 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, ON THE EAST RIGHT-OF-WAY OF TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 49.5, 118.0 FEET EAST OF TRUNK HIGHWAY 63, 3.6 FEET WEST OF A NORTH-SOUTH FENCE LINE, 6.6 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1101.527	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1101.527	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1101.504	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1101.527			1003.108	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1101.504	.131		1003.335	.066	1996	GPS - STATIC	2014	HOLMS
1101.527			1003.108	.010	2011	GPS - STATIC	2014	HOLMS
			1003.108	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1101.507	.131		1003.216	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1101.507	.131		1003.216	.066	2007	GPS - STATIC	2011	HFRON
1101.507	.131		1003.335	.066	1996	GPS - STATIC	2010	HFRON
1101.540	.197		1003.482	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1101.474						LEVELING	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.395 09 = -98.281 03 = -98.172

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 26.82043	92 24 54.53747	631664.741	212281.593	.007		ADJUSTMENT	2014	GPS3018
44 08 26.82042	92 24 54.53746	631664.742	212281.592	.007	C	GPS - STATIC	2014	HOLMS
44 08 26.82043	92 24 54.53747	631664.741	212281.593	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 26.82053	92 24 54.53820	631664.688	212281.603	.033	C	ADJUSTMENT	2011	GPS2814
44 08 26.82053	92 24 54.53820	631664.688	212281.603	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 26.82019	92 24 54.53754	631664.736	212281.569	.033	C	GPS - STATIC	2014	HOLMS
44 08 26.82019	92 24 54.53754	631664.736	212281.569	.033	C	GPS - STATIC	2010	HFRON
44 08 26.82004	92 24 54.53584	631664.860	212281.554	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 26.80971	92 24 54.53511	631664.920	212280.509	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 08 26.93106	92 24 53.88713			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040671.578	747975.695	1793890.420	16035649.739	.007		ADJUSTMENT	2014	GPS3018
3040671.579	747975.694	1793890.420	16035649.738	.007	C	GPS - STATIC	2014	HOLMS
3040671.578	747975.695	1793890.420	16035649.739	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040671.524	747975.705	1793890.366	16035649.749	.033	C	ADJUSTMENT	2011	GPS2814
3040671.524	747975.705	1793890.366	16035649.749	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040671.573	747975.671	1793890.415	16035649.715	.033	C	GPS - STATIC	2014	HOLMS
3040671.573	747975.671	1793890.415	16035649.715	.033	C	GPS - STATIC	2010	HFRON
3040671.698	747975.658	1793890.539	16035649.700	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040671.771	747974.614	1793890.600	16035648.655	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2416064.156	419900.094			.100	2	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ACE-PP2291-3NE-29MAR2010.jpg	NE	Mar 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ACE-PP2291-2-29MAR2010.jpg		Mar 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ACE-PP2291-1-29MAR2010.jpg		Mar 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ADAM

NGS Name: ADAM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1755](#)
NGS Quad / Sta Num : 44092231/
USGS Quad: MILLVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	11	108 N	13 W	440957.06	922048.14	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 22 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: ADAM 2010

0.4 MILE WEST OF POTSDAM, 3.6 MILES EAST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 247 MILEPOINT 3.6, 65.7 FEET NORTH OF TRUNK HIGHWAY 247, 6.9 FEET SOUTH OF A POWER POLE WITH A GUY WIRE, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1117.524	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1117.524	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1117.514	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1019.178	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1117.517	.131		1019.302	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1117.517	.131		1019.302	.066	2007	GPS - STATIC	2011	HFRON
1117.517	.131		1019.391	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.343 09 = -98.202 03 = -98.103

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 57.05709	92 20 48.13925	649570.095	221536.336	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 57.05723	92 20 48.13997	649570.043	221536.350	.033	C	ADJUSTMENT	2011	GPS2814
44 09 57.05723	92 20 48.13997	649570.043	221536.350	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 57.05690	92 20 48.13930	649570.092	221536.317	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3058450.129	757466.856	1811778.630	16044918.988	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3058450.076	757466.870	1811778.577	16044919.001	.033	C	ADJUSTMENT	2011	GPS2814
3058450.076	757466.870	1811778.577	16044919.001	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3058450.126	757466.837	1811778.626	16044918.968	.033	C	GPS - STATIC	2010	HFRON



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ADAM-DN1755-3N-20MAY2010.jpg	N	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ADAM-DN1755-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ADAM-DN1755-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: AIRPORT BEACON

NGS Name: AIRPORT BEACON

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AA9048](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	105 N	14 W	435441.00	922931.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	AIRPORT BEACON	CGS

Description:

Stamping:

IN THE ROCHESTER MUNICIPAL AIRPORT ATOP THE FAA CONTROL TOWER JUST WEST OF THE TERMINAL BUILDING.
THE STATION IS A STANDARD GREEN AND WHITE DOUBLE LENS ROTATING BEACON.

Station Notes

THE POINT OBSERVED UPON WAS THE SPINDLE OF THE BEACON. THE CONTROL TOWER WAS RECONSTRUCTED IN THE 1980'S. THE SURVEY MARK IS ON AIRPORT PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.330 12B = -98.353 09 = -98.294 03 = -98.084



Mn/DOT Name: ANDY

NGS Name: ANDY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1756](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	107 N	12 W	440245.82	921428.13	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: ANDY 2010

4.0 MILES NORTH OF EYOTA, 3.25 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, TO TRUNK HIGHWAY 42 MILEPOINT 3.35, THEN 0.4 MILE EAST ALONG 23RD STREET NORTHEAST, 26.7 FEET SOUTH OF 23RD STREET NORTHEAST, 2.5 FEET NORTH OF AN EAST-WEST FENCE LINE, 1.7 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1308.944	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1308.944	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1308.944	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1308.938	.262		1210.874	.197	2011	GPS - OPUS	2021 GPSBM
1308.993	.262		1210.929	.197	2011	GPS - RTRN	2021 RTRN2021
			1210.870	.010	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1308.954	.131		1210.975	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1308.954	.131		1210.975	.066	2007	GPS - STATIC	2011 HFRON
1308.954	.131		1211.107	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.064 12B = -98.058 09 = -97.933 03 = -97.844

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 45.82136	92 14 28.12693	677628.183	178076.342	.131	3	GPS - OPUS
44 02 45.82072	92 14 28.12648	677628.217	178076.277	.131	3	GPS - RTRN
44 02 45.82106	92 14 28.12700	677628.178	178076.311	.007		ADJUSTMENT
						2012 GPS2800
<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 45.82116	92 14 28.12803	677628.103	178076.321	.033	C	ADJUSTMENT
44 02 45.82116	92 14 28.12803	677628.103	178076.321	.033	C	GPS - STATIC
						2011 HFRON
<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 45.82089	92 14 28.12722	677628.162	178076.294	.033	C	GPS - STATIC
						2010 HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3087081.522	714389.063	1839869.643	16001505.767	.131	3	GPS - OPUS	2021	GPSBM
3087081.556	714388.999	1839869.676	16001505.702	.131	3	GPS - RTRN	2021	RTRN2021
3087081.517	714389.033	1839869.638	16001505.736	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3087081.442	714389.041	1839869.563	16001505.746	.033	C	ADJUSTMENT	2011	GPS2814
3087081.442	714389.041	1839869.563	16001505.746	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3087081.502	714389.015	1839869.622	16001505.719	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ANDY-DN1756-3S-20MAY2010.jpg	S	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ANDY-DN1756-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ANDY-DN1756-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: AP 1963 STA A

NGS Name: ROCHESTER MUN APT AP ST A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000023](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	15	105 N	14 W	435413.00	922910.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1963	2010	NOT FOUND	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

Monument Type
UNKNOWN

Disk Type
TOPOGRAPHIC STATION DISK

Mon. Agency
NGS

Description: (2010)

Stamping: AP 1963 STA A

AT THE ROCHESTER AIRPORT, 3.5 MILES NORTH OF STEWARTVILLE, IN THE SOUTHEAST PART OF THE ROCHESTER MUNICIPAL AIRPORT, 140.78 FEET SOUTHWEST OF RUNWAY 31 END, 56.7 FEET SOUTHWEST OF A THRESHOLD LIGHT. STATION AP 1963 STA A IS WITHIN THE SECURED AND FENCED AREA OF THE ROCHESTER MUNICIPAL AIRPORT. PERMISSION TO ACCESS AND OCCUPY STATION AP 1963 STA A SHOULD BE SOUGHT IN ADVANCE AS AN ESCORT WILL BE REQUIRED FOR THE ENTIRE VISIT. A SEARCH OR INSPECTION MAY ALSO BE CONDUCTED. CONTACT THE OPERATIONS MANAGER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1301.303	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1301.267	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1301.267	.016	2				VERTICAL CONTROL SURVEY	1963	L100 MINN

Geoid Separations(ft): GEOID18 = -98.277 12B = -98.294 09 = -98.238 03 = -98.035

* No Horizontal Positions in the Database *



Mn/DOT Name: ARP 1963

NGS Name: ROCHESTER MUN APT ARP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000024](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	10	105 N	14 W	435432.26	922947.48	2	B

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1963	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TOPOGRAPHIC STATION DISK	NGS

Description: (2012)

Stamping: ARP 1963

3.5 MILES NORTH OF STEWARTVILLE, AT THE ROCHESTER AIRPORT, 1456.6 FEET SOUTHWEST OF THE CONTROL TOWER, 191.6 FEET SOUTHWEST OF THE SOUTHWEST EDGE OF RUNWAY 13-31, 100.0 FEET SOUTHEAST OF THE SOUTHEAST EDGE OF RUNWAY 2-20, 82.9 FEET NORTHWEST OF THE NORTHWEST EDGE OF A CONCRETE SEWER BASE. CONTACT THE AIRPORT MANAGER BEFORE USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.144	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1289.144	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB
1289.144	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1289.105	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1289.105	.016	2				VERTICAL CONTROL SURVEY	1963	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1190.769	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1190.854	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1289.144	.131		1191.011	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1526-14
1289.144	.098		1191.011	.049	1996	HORIZONTAL ADJUSTMENT	2002	GPS1526-13

Geoid Separations(ft): GEOID18 = -98.336 12B = -98.356 09 = -98.300 03 = -98.087

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 32.26062	92 29 47.47521	610732.799	127649.894	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 32.26077	92 29 47.47598	610732.742	127649.909	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 32.26038	92 29 47.47550	610732.778	127649.870	.016	B	ADJUSTMENT	2002	GPS1526-13
43 54 32.26038	92 29 47.47550	610732.778	127649.870	.033	C	ADJUSTMENT	2002	GPS1526-14

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020869.156	663081.132	1773053.153	15951033.190	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020869.100	663081.146	1773053.096	15951033.204	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020869.135	663081.107	1773053.132	15951033.165	.016	B	ADJUSTMENT	2002	GPS1526-13
3020869.135	663081.107	1773053.132	15951033.165	.033	C	ADJUSTMENT	2002	GPS1526-14

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MUN_APT_ARP-OO0024-3SE-03NOV2008.jpg	SE	Nov 3, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MUN_APT_ARP-OO0024-2-03NOV2008.jpg		Nov 3, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MUN_APT_ARP-OO0024-1-03NOV2008.jpg		Nov 3, 2008

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ASSISSY HTS CONVENT CEN SPIRE

NGS Name: ASSISSY HTS CONVENT CEN SPIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/1032
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	107 N	14 W	440228.00	922850.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SPIRE	MNDT

Description: (1967)

Stamping:

ON A HIGH HILL, IN THE NORTHWEST PART OF ROCHESTER, AT THE JUNCTION OF 14TH STREET AND 11TH AVENUE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.556 12B = -98.560 09 = -98.474 03 = -98.317



Mn/DOT Name: ATITLAN

NGS Name: ATITLAN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7533](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	31	105 N	13 W	435118.99	922531.51	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: ATITLAN 2013

3.0 MILES EAST OF STEWARTVILLE, 3.2 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 227.05, 54.7 FEET SOUTH OF TRUNK HIGHWAY 30, 12.8 FEET WEST OF A FIELD ENTRANCE, 16.5 FEET NORTH OF A FENCE, 1.5 FEET EAST OF A WITNESS POST.

Station Pair: TOLIMAN - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1275.316	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1275.319	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1275.319	.262		1177.422	.197	2011	GPS - OPUS	2021	GPSBM
1275.204	.262		1177.307	.197	2011	GPS - OPUS	2021	GPSBM
1275.316	.262		1177.416	.197	2011	GPS - RTRN	2021	RTRN2021
1275.273	.262		1177.357	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.897 12B = -97.920 09 = -97.851 03 = -97.693

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 18.99497	92 25 31.51247	629588.351	108182.802	.131	3	GPS - OPUS	2021	GPSBM
43 51 18.99479	92 25 31.51279	629588.327	108182.783	.131	3	GPS - OPUS	2021	GPSBM
43 51 18.99428	92 25 31.51241	629588.356	108182.732	.131	3	GPS - RTRN	2021	RTRN2021
43 51 18.99414	92 25 31.51164	629588.412	108182.718	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3039980.569	643867.992	1791919.942	15931593.260	.131	3	GPS - OPUS	2021	GPSBM
3039980.546	643867.973	1791919.919	15931593.242	.131	3	GPS - OPUS	2021	GPSBM
3039980.575	643867.922	1791919.947	15931593.191	.131	3	GPS - RTRN	2021	RTRN2021
3039980.632	643867.909	1791920.004	15931593.177	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ATITLAN-DP7533-3S-16APR2013.jpg	S	Apr 16, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ATITLAN-DP7533-2-16APR2013.jpg		Apr 16, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ATITLAN-DP7533-1-16APR2013.jpg		Apr 16, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: AYOTA

NGS Name: AYOTA

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	7	106 N	12 W	440005.92	921902.14	2	C

NGS ACRN: [DO8782](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: AYOTA 2012

3.5 MILES WEST OF EYOTA, 3.2 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 221.1, 45.7 FEET NORTH-NORTHEAST OF TRUNK HIGHWAY 14, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1195.772	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1195.772	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1195.775	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1195.775			1097.682	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1195.775	.131		1097.911	.066	1996	GPS - STATIC	2014	HOLMS
1195.775			1097.685	.013	2011	GPS - STATIC	2014	HOLMS
1195.775			1097.682	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1195.775	.131		1097.911	.066	1996	GPS - STATIC	2013	HCHES
1195.775			1097.682	.012	2011	GPS - STATIC	2013	HCHES
1195.660	.262		1097.695	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.087 12B = -98.097 09 = -97.962 03 = -97.867

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 05.91967	92 19 02.14469	657731.523	161729.298	.016		ADJUSTMENT	2014	GPS3018
44 00 05.91945	92 19 02.14470	657731.523	161729.276	.016	C	GPS - STATIC	2014	HOLMS
44 00 05.91967	92 19 02.14469	657731.523	161729.298	.016		ADJUSTMENT	2013	GPS2950
44 00 05.91967	92 19 02.14469	657731.523	161729.298	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 05.91969	92 19 02.14547	657731.466	161729.300	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 05.91940	92 19 02.14481	657731.515	161729.271	.033	C	GPS - STATIC	2014	HOLMS
44 00 05.91940	92 19 02.14481	657731.515	161729.271	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3067406.261	697780.004	1819997.720	15985145.292	.016		ADJUSTMENT	2014	GPS3018
3067406.260	697779.981	1819997.719	15985145.270	.016	C	GPS - STATIC	2014	HOLMS
3067406.261	697780.004	1819997.720	15985145.292	.016		ADJUSTMENT	2013	GPS2950
3067406.261	697780.004	1819997.720	15985145.292	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3067406.203	697780.005	1819997.662	15985145.293	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3067406.252	697779.976	1819997.711	15985145.265	.033	C	GPS - STATIC	2014	HOLMS
3067406.252	697779.976	1819997.711	15985145.265	.033	C	GPS - STATIC	2013	HCHES

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/AYOTA-DO8782-3NE-14NOV2012.jpg	NE	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/AYOTA-DO8782-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/AYOTA-DO8782-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BAKKAN MNDT

NGS Name: BAKKAN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0890](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1081
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	30	104 N	13 W	435722.99	922525.48		2	1973	2022	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (1973) Stamping: BAKKAN 1973

4.0 MILES SOUTH OF ROCHESTER, 3.8 MILES SOUTH ON COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 (11TH AVENUE SOUTHEAST) AND TRUNK HIGHWAY 14 (12TH STREET SOUTHEAST) IN ROCHESTER, 180.65 FEET EAST-SOUTHEAST OF BAKKAN MNDT RM 1, 102.83 FEET SOUTH OF BAKKAN MNDT RM 2, 57.6 FEET SOUTH OF COUNTY ROAD 1, 23.4 FEET EAST OF A FIELD ROAD, 6.9 FEET EAST-NORTHEAST OF A FENCE CORNER, 3.0 FEET NORTH OF A FENCE LINE, 2.5 FEET NORTH OF A WITNESS POST.

Station Notes

THE STATION WAS REMOVED EARLIER THIS YEAR 2022 OR LAST FALL 2021 DUE TO UTILITY WORK FOR COUNTY ROAD 101 CONSTRUCTION PROJECT, NO PICTURES, NO DISK SAVED.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1216.533	.197			1118.600	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1216.992							RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.313 12B = -98.323 09 = -98.241 03 = -98.064

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 57 22.98615	92 25 25.47782			629810.230	145044.365	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 57 22.97489	92 25 25.47922			629810.134	145043.224	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>Geodetic Position</u>									<u>Year</u> <u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
43 57 23.10521	92 25 24.84809					.100	2	CLASSICAL SURVEY	1977 16059

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3039711.987	680726.388			1792104.966	15968439.285	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3039711.907	680725.246			1792104.871	15968438.144	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>MN State Plane - South Zone</u>									<u>Year</u> <u>Reference</u>
<u>X</u>	<u>Y</u>								
2415103.111	352652.266					.100	2	CLASSICAL SURVEY	1977 16059



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN-OO0890-3S-18MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN-OO0890-2-18MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN-OO0890-1-18MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	May 18, 2010
	May 18, 2010
	May 18, 2010



Mn/DOT Name: BAKKAN MNDT AZ MK

NGS Name: BAKKAN AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000892](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1081
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	26	106 N	14 W	435740.15	922749.79		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2006	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (1973)

Stamping: BAKKAN 1973

5.0 MILES SOUTH-SOUTHWEST OF ROCHESTER, 3.8 MILES SOUTH AND 0.1 MILE WEST ON COUNTY ROAD 1 (11TH AVENUE SOUTHEAST) FROM THE JUNCTION OF COUNTY ROAD 1 (11TH AVENUE SOUTHEAST) AND TRUNK HIGHWAY 14 (12TH STREET SOUTHEAST) IN ROCHESTER, THEN WEST ON COUNTY ROAD 101 FOR 1.7 MILES, THEN 0.4 MILE NORTHWEST ON COUNTY ROAD 20, NORTH OF COUNTY ROAD 20, 94.5 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 24.5 FEET NORTHEAST OF A POWER POLE, 3.2 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1046.586	.262			948.528	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1046.914							DIGITIZED FROM MAP	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.474 09 = -98.395 03 = -98.192

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 40.15033	92 27 49.79024			619244.023	146721.951	.131	3	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 40.13934	92 27 49.79143			619243.942	146720.837	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>								<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 40.27019	92 27 49.15565					.100	3	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
3029125.302	682263.126			1781541.597	15970105.542	.131	3	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
3029125.236	682262.012			1781541.517	15970104.429	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>								<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2404516.478	354189.047					.100	3	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: BAKKAN MNDT RM 1

NGS Name: BAKKAN RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5067](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	30	104 N	13 W	435723.27	922527.92		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2022	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) Stamping: BAKKAN NO 1 1973

4.0 MILES SOUTH OF ROCHESTER, 1.65 MILES EAST ALONG COUNTY ROAD 101 FROM THE JUNCTION OF COUNTY ROAD 101 AND COUNTY ROAD 20 IN ROCHESTER, 180.65 FEET WEST-NORTHWEST OF STATION BAKKAN MNDT, 44.0 FEET SOUTH OF THE CENTERLINE OF COUNTY ROAD 1, 2.0 FEET NORTH OF A FENCE, 3.6 FEET EAST OF A STEEL WITNESS POST.

Station Notes

THE STATION WAS REMOVED EARLIER THIS YEAR 2022 OR LAST FALL 2021 DUE TO UTILITY WORK FOR COUNTY ROAD 101 CONSTRUCTION PROJECT, NO PICTURES, NO DISK SAVED.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.317 12B = -98.323 09 = -98.241 03 = -98.067

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_1-CI5067-3S-18MAY2010.jpg	S	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_1-CI5067-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_1-CI5067-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BAKKAN MNDT RM 2

NGS Name: BAKKAN RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5068](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	30	104 N	13 W	435724.00	922525.46		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2022	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** BAKKAN NO 2 1973

4.0 MILES SOUTH OF ROCHESTER, 1.65 MILES EAST ALONG COUNTY ROAD 101 FROM THE JUNCTION OF COUNTY ROAD 101 AND COUNTY ROAD 20 IN ROCHESTER, 102.83 FEET NORTH OF STATION BAKKAN MNDT, 45.1 FEET NORTH OF THE CENTERLINE OF COUNTY ROAD 1, 29.5 FEET EAST OF A POWER POLE WITH AN ANCHOR, 2.0 FEET SOUTH OF A STEEL WITNESS POST.

Station Notes

THE STATION WAS REMOVED EARLIER THIS YEAR 2022 OR LAST FALL 2021 DUE TO UTILITY WORK FOR COUNTY ROAD 101 CONSTRUCTION PROJECT, NO PICTURES, NO DISK SAVED.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.313 12B = -98.323 09 = -98.241 03 = -98.067

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_2-CI5068-3NW-18MAY2010.jpg	NW	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_2-CI5068-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BAKKAN_RM_2-CI5068-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BEAR

NGS Name: BEAR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CU7857](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	106 N	12 W	435730.00	921421.00		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	1967	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	MNDT

Description: **Stamping:** BEAR 1935

1.3 MILES SOUTH OF EYOTA, 1.3 MILES SOUTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA.

Leveling-Derived Orthometric Heights (Feet)

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order/(Class)		Height	Acc	Adj	Determination Method	Year	Reference
1313.068	.033	3					VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD27								Project Info	
Geodetic Position		X	Y	Acc	Order	Determination Method	Year	Reference	
Latitude	Longitude								
43 57 30.41100	92 14 20.19900			.100	3	CLASSICAL SURVEY	1964	USGS-HORZ	

State Plane and UTM Coordinates (Feet)

NAD27								Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference	
				.100	3	CLASSICAL SURVEY	1964	USGS-HORZ	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR-CU7857-3N-20MAY2010.jpg	N	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR-CU7857-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR-CU7857-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BEAR AZ MK

NGS Name: BEAR AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5088](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	12 W	435756.00	921420.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

UNKNOWN

Mon. Agency

MNDT

Description:

Stamping: BEAR 1935

1.3 MILES SOUTH OF EYOTA, 1.3 MILES SOUTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.021 09 = -97.910 03 = -97.811



Mn/DOT Name: BEAR AZ MK 2

NGS Name: BEAR AZ MK 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000116](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1019
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	22	106 N	12 W	435747.36	921420.96	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1970	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 14 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2016) **Stamping:** BEAR 1935 1970

1.9 MILES SOUTH-SOUTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 83.5 FEET NORTH OF COUNTY ROAD 23 (40TH STREET SOUTHEAST), 30.5 FEET WEST OF TRUNK HIGHWAY 42, 16.3 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.373	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1302.333	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1302.333	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1302.320	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1302.320	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1302.320	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.274	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1302.274	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1302.274	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1302.264	.262		1204.243	.197	2011	GPS - RTRN	2016	RTRN2016
			1204.328	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1302.327	.131		1204.414	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1302.327	.131		1204.414	.066	2007	GPS - STATIC	2011	HFRON
1302.327	.131		1204.538	.066	1996	GPS - STATIC	2010	HFRON
			1204.427	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1302.327	.131		1204.551	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1302.327	.131		1204.551	.066	1996	GPS - STATIC	2002	HI90
1302.327	.262		1204.591	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.021 09 = -97.910 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 47.35814	92 14 20.95919	678400.019	147857.290	.131	3	GPS - RTRN	2016	RTRN2016
43 57 47.35809	92 14 20.95948	678399.998	147857.284	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 47.35819	92 14 20.96071	678399.908	147857.294	.033	C	ADJUSTMENT	2011	GPS2814
43 57 47.35819	92 14 20.96071	678399.908	147857.294	.033	C	GPS - STATIC	2011	HFRON
43 57 47.35806	92 14 20.96035	678399.934	147857.281	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 47.35802	92 14 20.95976	678399.978	147857.277	.033	C	GPS - STATIC	2010	HFRON
43 57 47.35790	92 14 20.95939	678400.005	147857.265	.033	C	ADJUSTMENT	2003	GPS1770
43 57 47.35790	92 14 20.95939	678400.005	147857.267	.033	C	GPS - STATIC	2002	HI90
43 57 47.35829	92 14 20.95951	678399.996	147857.305	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 47.34674	92 14 20.96047	678399.935	147856.134	.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 57 47.47890	92 14 20.36803			.100	3	CLASSICAL SURVEY	1980	16259

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088255.861	684185.765	1840671.678	15971299.780	.131	3	GPS - RTRN	2016	RTRN2016
3088255.840	684185.760	1840671.657	15971299.775	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088255.749	684185.768	1840671.567	15971299.784	.033	C	ADJUSTMENT	2011	GPS2814
3088255.749	684185.768	1840671.567	15971299.784	.033	C	GPS - STATIC	2011	HFRON
3088255.776	684185.755	1840671.594	15971299.772	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088255.819	684185.752	1840671.637	15971299.768	.033	C	GPS - STATIC	2010	HFRON
3088255.846	684185.740	1840671.664	15971299.756	.033	C	ADJUSTMENT	2003	GPS1770
3088255.846	684185.740	1840671.664	15971299.756	.033	C	GPS - STATIC	2002	HI90
3088255.837	684185.780	1840671.655	15971299.795	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088255.792	684184.609	1840671.595	15971298.626	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2463645.527	356111.862			.100	3	CLASSICAL SURVEY	1980	16259

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_AZ_MK_2-000116-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_AZ_MK_2-000116-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_AZ_MK_2-000116-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BEAR RESET

NGS Name: BEAR RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0113](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1019
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	27	106 N	12 W	435730.29	921420.79	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 13 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2016) **Stamping:** BEAR 1935 1967

2.0 MILES SOUTH OF EYOTA, 0.2 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA) IN THE DITCH, 36.0 FEET WEST OF TRUNK HIGHWAY 42, 90.94 FEET WEST OF BEAR RM 3, 78.78 FEET NORTH OF BEAR RM 4, 23.0 FEET NORTH OF AN ENTRANCE, 2.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1309.827	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1309.787	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1309.787	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1309.774	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1309.774	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1309.774	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1309.732	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1309.732	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1309.735	.262		1211.710	.197	2011	GPS - RTRN	2016	RTRN2016
			1211.779	.006	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1309.774			1211.779	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1309.774			1211.759	.006	2011	GPS - STATIC	2013	HPRED
1309.774	.131		1211.992	.066	1996	GPS - STATIC	2013	HPRED
			1211.779	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1309.689	.262		1211.776	.197	2007	GPS - RTRN	2011	RTRN2011
1309.774	.131		1211.874	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1309.774	.131		1211.874	.066	2007	GPS - STATIC	2011	HFRON
1309.774	.131		1211.992	.066	1996	GPS - STATIC	2010	HFRON
			1211.874	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1309.774	.131		1211.992	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1309.774	.131		1211.992	.066	1996	GPS - STATIC	2002	HI90
1309.774	.131		1212.045	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648
1309.774	.131		1211.992	.066	1996	GPS - STATIC	1997	GPS805-C

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 30.28986	92 14 20.79035	678426.569	146129.015	.131	3	GPS - RTRN	2016	RTRN2016
43 57 30.29052	92 14 20.79030	678426.572	146129.082	.003		ADJUSTMENT	2014	GPS2902-B
43 57 30.29052	92 14 20.79030	678426.572	146129.082	.003		ADJUSTMENT	2013	GPS2902
43 57 30.29043	92 14 20.79033	678426.570	146129.073	.003	C	GPS - STATIC	2013	HPRED
43 57 30.29052	92 14 20.79030	678426.572	146129.082	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 30.29094	92 14 20.79034	678426.569	146129.124	.131	3	GPS - RTRN	2011	RTRN2011
43 57 30.29059	92 14 20.79151	678426.484	146129.088	.033	C	ADJUSTMENT	2011	GPS2814
43 57 30.29059	92 14 20.79151	678426.484	146129.088	.033	C	GPS - STATIC	2011	HFRON
43 57 30.29059	92 14 20.79151	678426.484	146129.088	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	GPS - STATIC	2013	HPRED
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	GPS - STATIC	2010	HFRON
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	ADJUSTMENT	2003	GPS1770
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	GPS - STATIC	2002	HI90
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	ADJUSTMENT	1999	17648
43 57 30.29047	92 14 20.79051	678426.557	146129.077	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 30.27895	92 14 20.79138	678426.503	146127.910	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 57 30.41100	92 14 20.19900			.100	2	CLASSICAL SURVEY	1962	12959

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088305.434	682458.146	1840699.950	15969572.235	.131	3	GPS - RTRN	2016	RTRN2016
3088305.436	682458.213	1840699.953	15969572.302	.003		ADJUSTMENT	2014	GPS2902-B
3088305.436	682458.213	1840699.953	15969572.302	.003		ADJUSTMENT	2013	GPS2902
3088305.434	682458.203	1840699.951	15969572.293	.003	C	GPS - STATIC	2013	HPRED
3088305.436	682458.213	1840699.953	15969572.302	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088305.432	682458.255	1840699.949	15969572.344	.131	3	GPS - RTRN	2011	RTRN2011
3088305.348	682458.218	1840699.864	15969572.308	.033	C	ADJUSTMENT	2011	GPS2814
3088305.348	682458.218	1840699.864	15969572.308	.033	C	GPS - STATIC	2011	HFRON
3088305.348	682458.218	1840699.864	15969572.308	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088305.421	682458.207	1840699.938	15969572.297	.033	C	GPS - STATIC	2013	HPRED
3088305.421	682458.207	1840699.938	15969572.297	.033	C	GPS - STATIC	2010	HFRON
3088305.421	682458.207	1840699.938	15969572.297	.033	C	ADJUSTMENT	2003	GPS1770
3088305.421	682458.207	1840699.938	15969572.297	.033	C	GPS - STATIC	2002	HI90
3088305.421	682458.207	1840699.938	15969572.297	.033	C	ADJUSTMENT	1999	17648
3088305.421	682458.207	1840699.938	15969572.297	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3088305.382	682457.040	1840699.885	15969571.130	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2463695.117	354384.299			.100	2	CLASSICAL SURVEY	1962	12959

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RESET-000113-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RESET-000113-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RESET-000113-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BEAR RM 1

NGS Name: BEAR RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5089](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	12 W	435731.75	921419.90		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: Stamping: BEAR 1935

1.3 MILES SOUTH OF EYOTA, 1.3 MILES SOUTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811



Mn/DOT Name: BEAR RM 2

NGS Name: BEAR RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5090](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	106 N	12 W	435729.63	921419.92		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: Stamping: BEAR NO 2 1935

1.3 MILES SOUTH OF EYOTA, 1.3 MILES SOUTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1314.161	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811

* No Horizontal Positions in the Database *



Mn/DOT Name: BEAR RM 3

NGS Name: BEAR RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000114](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	26	106 N	12 W	435730.16	921419.56	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 4 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016)

Stamping: BEAR NO 3 1935 1970

2.0 MILES SOUTH OF EYOTA, 0.2 MILE NORTH ON TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 114.0 FEET NORTHEAST OF BEAR RM 4, 90.94 FEET EAST OF STATION BEAR RESET, 55.0 FEET EAST OF TRUNK HIGHWAY 42, 25.0 FEET SOUTH OF A FIELD ENTRANCE, 1.5 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1315.089	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1315.043	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1315.083	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1315.070	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1315.070	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON
1315.083	.016	2				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1315.037	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1315.037	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1315.037	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1315.079	.262		1217.055	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 30.16342	92 14 19.55908	678516.739	146116.952	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3088395.749	682447.286	1840790.095	15969560.267	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_3-000114-3S-09AUG2016.jpg	S	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_3-000114-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_3-000114-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BEAR RM 4

NGS Name: BEAR RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000115](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	27	106 N	12 W	435729.51	921420.83	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016) **Stamping:** BEAR NO 4 1935 1970

2.0 MILES SOUTH OF EYOTA, 0.2 MILE NORTH ON TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), 114.0 FEET SOUTHWEST OF BEAR RM 3, 78.78 FEET SOUTH OF STATION BEAR RESET, 55.0 FEET SOUTH OF A FIELD ENTRANCE, 40.0 FEET WEST OF TRUNK HIGHWAY 42, 2.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1310.401	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1310.358	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1310.358	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1310.339	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1310.339	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1310.339	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1310.293	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1310.293	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1310.293	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1310.299	.262		1212.274	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.913 03 = -97.811

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 29.51288	92 14 20.83269	678424.118	146050.311	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3088304.032	682379.422	1840697.579	15969493.560	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_4-000115-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_4-000115-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BEAR_RM_4-000115-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BERNARD

NGS Name: BERNARD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7530](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	34	105 N	14 W	435119.61	922856.29	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: BERNARD 2013

IN STEWARTVILLE, 0.3 MILE EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 224.2, 33.2 FEET NORTH OF TRUNK HIGHWAY 30 (1ST STREET EAST), 52.1 FEET EAST OF 4TH AVENUE SOUTHEAST, 14.9 FEET NORTH OF THE NORTHEAST CORNER OF A SIGN BASE FOR THE ST. BERNARD CATHOLIC CHURCH.

Station Pair: HONOR - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1243.291	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1243.295	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1243.259	.262		1145.158	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.100 09 = -98.031 03 = -97.848

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 19.60965	92 28 56.28920	614582.875	108160.837	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024977.764	643646.437	1776920.969	15931556.423	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNARD-DP7530-3S-15APR2013.jpg	S	Apr 15, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNARD-DP7530-2-15APR2013.jpg		Apr 15, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNARD-DP7530-1-15APR2013.jpg		Apr 15, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BERNTSEN

NGS Name: BERNTSEN

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DP7537	Get Map
NW	35	105 N	13 W	435144.89	922037.23	2	3	NGS Quad / Sta Num : 43092142/ USGS Quad: WASHINGTON	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: BERNTSEN 2013

7.0 MILES EAST OF STEWARTVILLE, 7.25 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 231.4, 51.0 FEET SOUTH OF TRUNK HIGHWAY 30, 24.3 FEET WEST OF A FIELD ENTRANCE, 61.0 FEET EAST OF A POWER POLE, 1.5 FEET EAST OF A WITNESS POST.

Station Pair: DITTRICH - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1309.285	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1309.289	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1309.279	.262		1211.438	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.818 12B = -97.844 09 = -97.759 03 = -97.611

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 51 44.88708	92 20 37.23423	651133.453	110943.824	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
<u>X</u>	<u>Y</u>					
3061485.498	646915.316	1813453.147	15934374.440	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNTSEN-DP7537-3S-16APR2013.jpg	S	Apr 16, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNTSEN-DP7537-2-16APR2013.jpg		Apr 16, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BERNTSEN-DP7537-1-16APR2013.jpg		Apr 16, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BIDSLER MNDT

NGS Name: BIDSLER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0812](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	14	105 N	12 W	435332.46	921308.48		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	MARK IS STEEL PIPE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MNDT

Description: (2016) **Stamping:** BIDSLER 1978

3.0 MILES NORTH-NORTHWEST OF CHATFIELD, 2.7 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD TO TRUNK HIGHWAY 52 MILEPOINT 37.45, THEN 0.8 MILE EAST AND NORTH ON 130TH AVENUE SOUTHEAST (GRAVEL ROAD), 67.0 FEET NORTH OF A FIELD ENTRANCE, 47.0 FEET WEST OF 130TH AVENUE SOUTHEAST, OPPOSITE THE ENTRANCE TO 8876, 8.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1247.238	.262			1149.122	.197	2011	GPS - OPUS	2021	GPSBM
1247.212	.262			1149.095	.197	2011	GPS - OPUS	2021	GPSBM
1247.274	.262			1149.161	.197	2011	GPS - RTRN	2021	RTRN2021
				1149.115	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1247.265				1149.115	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1247.274				1149.115	.009	2011	GPS - STATIC	2013	HPRED
1247.274	.131			1149.368	.066	1996	GPS - STATIC	2013	HPRED
1247.222	.262			1149.210	.197	2007	GPS - RTRN	2011	RTRN2011
1248.029	.197			1150.221	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1247.996							RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.123 09 = -98.012 03 = -97.897



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 32.45568	92 13 08.47808	683919.780	122089.624	.131	3	GPS - OPUS	2021	GPSBM
43 53 32.45568	92 13 08.47830	683919.764	122089.623	.131	3	GPS - OPUS	2021	GPSBM
43 53 32.45526	92 13 08.47762	683919.815	122089.581	.131	3	GPS - RTRN	2021	RTRN2021
43 53 32.45580	92 13 08.47795	683919.790	122089.636	.020		ADJUSTMENT	2014	GPS2902-B
43 53 32.45569	92 13 08.47784	683919.798	122089.625	.013		ADJUSTMENT	2013	GPS2902
43 53 32.45569	92 13 08.47784	683919.798	122089.625	.013	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 32.45538	92 13 08.47944	683919.681	122089.592	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 32.45568	92 13 08.47819	683919.772	122089.623	.033	C	GPS - STATIC	2013	HPRED
43 53 32.45587	92 13 08.47579	683919.948	122089.644	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 32.44461	92 13 08.47643	683919.911	122088.504	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 53 32.57616	92 13 07.88846			.100	2	CLASSICAL SURVEY	1980	16259

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3094118.052	658496.022	1846214.882	15945548.079	.131	3	GPS - OPUS	2021	GPSBM
3094118.036	658496.021	1846214.866	15945548.079	.131	3	GPS - OPUS	2021	GPSBM
3094118.086	658495.980	1846214.916	15945548.037	.131	3	GPS - RTRN	2021	RTRN2021
3094118.061	658496.034	1846214.891	15945548.091	.020		ADJUSTMENT	2014	GPS2902-B
3094118.069	658496.023	1846214.899	15945548.080	.013		ADJUSTMENT	2013	GPS2902
3094118.069	658496.023	1846214.899	15945548.080	.013	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3094117.953	658495.989	1846214.782	15945548.047	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3094118.044	658496.021	1846214.874	15945548.079	.033	C	GPS - STATIC	2013	HPRED
3094118.219	658496.045	1846215.049	15945548.100	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3094118.197	658494.903	1846215.013	15945546.960	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2469507.802	330422.364			.100	2	CLASSICAL SURVEY	1980	16259

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIDSLER-OO0812-3W-16JUN2010.jpg	W	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIDSLER-OO0812-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIDSLER-OO0812-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BIEL MNDT

NGS Name: BIEL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2281](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	30	108 N	13 W	440726.76	922509.51	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2010	GOOD	Horz=NO Vert=NO	YES		RECESSED 6 IN.	STEEL SPIKE ADJ TO MON

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

HORIZONTAL CONTROL DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: BIEL 1977

5.5 MILES NORTHEAST OF ROCHESTER, 2.9 MILES SOUTHEAST ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, AT TRUNK HIGHWAY 63 MILEPOINT 48.35, 120.0 FEET EAST OF TRUNK HIGHWAY 63, 80.0 FEET SOUTH OF AN ENTRANCE, 60.67 FEET SOUTH OF BIEL MNDT RM 1, 59.6 FEET SOUTHWEST OF A POWER POLE, 50.0 FEET EAST-SOUTHEAST OF A POWER POLE, 47.66 FEET EAST OF BIEL MNDT RM 2, 59.5 FEET EAST OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1062.511	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1062.511	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1062.485	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			964.129	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1062.498	.131		964.227	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1062.498	.131		964.227	.066	2007	GPS - STATIC	2011	HFRON
1062.498	.131		964.358	.066	1996	GPS - STATIC	2010	HFRON
1059.709	.197		961.655	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1062.695						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.386 09 = -98.281 03 = -98.169

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 26.76093	92 25 09.51353	630609.295	206192.916	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 26.76099	92 25 09.51432	630609.237	206192.921	.033	C	ADJUSTMENT	2011	GPS2814
44 07 26.76099	92 25 09.51432	630609.237	206192.921	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 26.76071	92 25 09.51365	630609.286	206192.893	.033	C	GPS - STATIC	2010	HFRON
44 07 26.76076	92 25 09.51181	630609.421	206192.899	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 26.75051	92 25 09.51127	630609.466	206191.861	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 07 26.87294	92 25 08.86507			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039697.351	741874.192	1792841.672	16029562.583	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039697.293	741874.197	1792841.614	16029562.588	.033	C	ADJUSTMENT	2011	GPS2814
3039697.293	741874.197	1792841.614	16029562.588	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039697.343	741874.169	1792841.663	16029562.561	.033	C	GPS - STATIC	2010	HFRON
3039697.477	741874.177	1792841.797	16029562.566	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039697.536	741873.140	1792841.844	16029561.529	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2415089.766	413798.776			.100	2	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL-PP2281-3E-03MAY2010.jpg	E	May 3, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL-PP2281-2-03MAY2010.jpg		May 3, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL-PP2281-1-03MAY2010.jpg		May 3, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BIEL MNDT AZ MK

NGS Name: BIEL AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2293](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	30	108 N	13 W	440744.93	922509.45	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2010) **Stamping:** BIEL 1977

5.9 MILES NORTHEAST OF ROCHESTER, 2.4 MILES SOUTHWEST ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, THEN 0.2 MILE SOUTH ON 30TH AVENUE NORTHEAST, 144.9 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF A HOUSE, 16.0 FEET WEST OF 30TH AVENUE NORTHEAST, 10.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1070.103	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1070.103	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719
1070.077	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1070.536	.262			972.478	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1069.584							RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.402 12B = -98.392 09 = -98.284 03 = -98.172

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 07 44.93276	92 25 09.44595			630603.126	208033.155	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 07 44.92248	92 25 09.44536			630603.175	208032.114	.131	3	ADJUSTMENT	1986	17289

NAD27								Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 07 45.04503	92 25 08.79823					.100	3	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3039666.700	743713.983			1792833.619	16031402.029	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3039666.763	743712.944			1792833.669	16031400.989	.131	3	ADJUSTMENT	1986	17289

NAD27								Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2415059.061	415638.576					.100	3	CLASSICAL SURVEY	1980	16253



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_AZ_MK-PP2293-3SW-29MAR2010.jpg	SW	Mar 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_AZ_MK-PP2293-2-29MAR2010.jpg		Mar 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_AZ_MK-PP2293-1-29MAR2010.jpg		Mar 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BIEL MNDT RM 1

NGS Name: BIEL RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3856](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	30	108 N	13 W	440727.36	922509.57	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 6 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** BIEL NO 1 1977

5.5 MILES NORTHEAST OF ROCHESTER, 3.0 MILES SOUTHWEST ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, 95.5 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63, 66.1 FEET NORTHEAST OF A POWER POLE, 60.67 FEET SOUTH OF STATION BIEL MNDT, 56.3 FEET NORTHWEST OF A POWER POLE, 20.0 FEET SOUTH OF AN ENTRANCE, 85.8 FEET NORTHEAST OF A STEEL WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.619	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1061.619	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1061.589	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.386 09 = -98.281 03 = -98.169

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_1-CJ3856-3NE-03MAY2010.jpg	NE	May 3, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_1-CJ3856-2-03MAY2010.jpg		May 3, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_1-CJ3856-1-03MAY2010.jpg		May 3, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BIEL MNDT RM 2

NGS Name: BIEL RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3857](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	30	108 N	13 W	440726.73	922510.17	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=NO	YES		RECESSED 9 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** BIEL NO 2 1977

5.5 MILES NORTHEAST OF ROCHESTER, 3.0 MILES SOUTHWEST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, 102.6 FEET SOUTHWEST OF A POWER POLE, 87.5 FEET SOUTH OF THE CENTER OF AN ENTRANCE, 75.0 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63, 47.66 FEET WEST OF STATION BIEL MNDT, 14.9 FEET SOUTH OF A POWER POLE, 11.9 FEET EAST OF A STEEL WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1061.953	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1061.953	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1061.924	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.386 09 = -98.281 03 = -98.169

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_2-CJ3857-3W-03MAY2010.jpg	W	May 3, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_2-CJ3857-2-03MAY2010.jpg		May 3, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BIEL_RM_2-CJ3857-1-03MAY2010.jpg		May 3, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BILL

NGS Name: BILL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9075](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	108 N	14 W	440657.46	923103.98	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: BILL 2012

6.5 MILES NORTHWEST OF ROCHESTER, 0.5 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 (75TH STREET NORTHWEST), 0.5 MILE NORTHWEST OF THE NORTH EDGE OF ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 62.20, 80.2 FEET NORTHEAST OF NORTHBOUND TRUNK HIGHWAY 52, 5.9 FEET SOUTHWEST OF A RIGHT-OF-WAY FENCE LINE, 1.5 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1068.850	.016	2/1					VERTICAL CONTROL SURVEY	2024	VHAVA	
1068.850	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1068.850	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825	
1068.850	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1068.886	.262			970.343	.197	2011	GPS - RTRN	2023	RTRN2023	
1068.850				970.326	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1068.850	.131			970.572	.066	1996	GPS - STATIC	2014	HOLMS	
1068.850				970.326	.011	2011	GPS - STATIC	2014	HOLMS	
1068.754	.262			970.310	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.543 09 = -98.441 03 = -98.307

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 06 57.45806	92 31 03.97597	604767.165	203084.978	.131	3	GPS - RTRN	2023	RTRN2023
44 06 57.45800	92 31 03.97556	604767.195	203084.972	.020		ADJUSTMENT	2014	GPS3018
44 06 57.45800	92 31 03.97556	604767.195	203084.972	.020	C	GPS - STATIC	2014	HOLMS

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 06 57.45641	92 31 03.97587	604767.173	203084.810	.131	3	GPS - RTRN	2012	RTRN2012

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 06 57.45776	92 31 03.97592	604767.169	203084.947	.033	C	GPS - STATIC	2014	HOLMS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013901.668	738423.186	1767013.878	16026429.546	.131	3	GPS - RTRN	2023	RTRN2023
3013901.699	738423.181	1767013.908	16026429.540	.020		ADJUSTMENT	2014	GPS3018
3013901.699	738423.181	1767013.908	16026429.540	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013901.679	738423.020	1767013.887	16026429.379	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013901.673	738423.156	1767013.882	16026429.516	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BILL-DO9075-3NE-19APR2023.jpg	NE	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BILL-DO9075-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BILL-DO9075-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BLIND MNDT

NGS Name: BLIND

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2287](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	13	107 N	14 W	440438.16	922702.59	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2012) **Stamping:** BLIND 1977

2.0 MILES NORTH-NORTHEAST OF ROCHESTER, 0.35 MILE NORTH ALONG COUNTY ROAD 33 FROM THE JUNCTION OF COUNTY ROAD 333 AND COUNTY ROAD 22 (37TH STREET) IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 44.55, 119.5 FEET WEST OF COUNTY ROAD 33 (BROADWAY AVENUE NORTH), 56.4 FEET SOUTHWEST OF A POWER POLE, 55.26 FEET WEST-SOUTHWEST OF LUND MNDT RM 2, 47.0 FEET SOUTH-SOUTHEAST OF A POWER POLE, 42.13 FEET SOUTHEAST OF BLIND MNDT RM 2, 2.6 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1034.007	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1034.007	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1034.007	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1034.007	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1034.007	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1034.007			935.562	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1034.007	.131		935.815	.066	1996	GPS - STATIC	2024	HTH63
1034.007			935.562	.010	2011	GPS - STATIC	2024	HTH63
1034.007			935.562	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1034.007	.131		935.815	.066	1996	GPS - STATIC	2014	HOLMS
1034.007			935.556	.010	2011	GPS - STATIC	2014	HOLMS
1033.955	.262		935.595	.197	2007	GPS - RTRN	2012	RTRN2012
			935.562	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1034.020	.131		935.664	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1034.020	.131		935.664	.066	2007	GPS - STATIC	2011	HFRON
1034.020	.131		935.815	.066	1996	GPS - STATIC	2010	HFRON
1034.119	.197		936.005	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1034.414						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.461 12B = -98.464 09 = -98.359 03 = -98.231



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 38.16205	92 27 02.58924	622457.402	189071.262	.007		ADJUSTMENT	2024	GPS3721
44 04 38.16205	92 27 02.58924	622457.402	189071.262	.007	C	GPS - STATIC	2024	HTH63
44 04 38.16205	92 27 02.58924	622457.402	189071.262	.007		ADJUSTMENT	2014	GPS3018
44 04 38.16203	92 27 02.58925	622457.401	189071.260	.007	C	GPS - STATIC	2014	HOLMS
44 04 38.16205	92 27 02.58924	622457.402	189071.262	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 38.16094	92 27 02.58999	622457.348	189071.149	.131	3	GPS - RTRN	2012	RTRN2012
44 04 38.16207	92 27 02.59005	622457.343	189071.264	.033	C	ADJUSTMENT	2011	GPS2814
44 04 38.16207	92 27 02.59005	622457.343	189071.264	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 38.16179	92 27 02.58943	622457.388	189071.236	.033	C	GPS - STATIC	2024	HTH63
44 04 38.16179	92 27 02.58943	622457.388	189071.236	.033	C	GPS - STATIC	2014	HOLMS
44 04 38.16179	92 27 02.58943	622457.388	189071.236	.033	C	GPS - STATIC	2010	HFRON
44 04 38.16322	92 27 02.58844	622457.460	189071.381	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 38.15316	92 27 02.58820	622457.483	189070.362	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 04 38.28435	92 27 01.94765			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3031774.817	724647.434	1784710.762	16012439.935	.007		ADJUSTMENT	2024	GPS3721
3031774.817	724647.434	1784710.762	16012439.935	.007	C	GPS - STATIC	2024	HTH63
3031774.817	724647.434	1784710.762	16012439.935	.007		ADJUSTMENT	2014	GPS3018
3031774.816	724647.432	1784710.761	16012439.932	.007	C	GPS - STATIC	2014	HOLMS
3031774.817	724647.434	1784710.762	16012439.935	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3031774.764	724647.320	1784710.708	16012439.822	.131	3	GPS - RTRN	2012	RTRN2012
3031774.758	724647.435	1784710.703	16012439.936	.033	C	ADJUSTMENT	2011	GPS2814
3031774.758	724647.435	1784710.703	16012439.936	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3031774.804	724647.407	1784710.748	16012439.908	.033	C	GPS - STATIC	2024	HTH63
3031774.804	724647.407	1784710.748	16012439.908	.033	C	GPS - STATIC	2014	HOLMS
3031774.804	724647.407	1784710.748	16012439.908	.033	C	GPS - STATIC	2010	HFRON
3031774.873	724647.553	1784710.820	16012440.053	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3031774.910	724646.535	1784710.844	16012439.035	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2407166.510	396573.204			.100	2	CLASSICAL SURVEY	1980	16253



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND-PP2287-3W-30MAR2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND-PP2287-2-30MAR2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND-PP2287-1-30MAR2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Mar 30, 2010
	Mar 30, 2010
	Mar 30, 2010



Mn/DOT Name: BLIND MNDT RM 2

NGS Name: BLIND RM 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	13	107 N	14 W	440438.55	922702.78	2	

NGS ACRN: CJ3875	Get Map
NGS Quad / Sta Num : 44092233/	
USGS Quad: ROCHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: BLIND NO 2 1977

2.0 MILES NORTH-NORTHEAST OF ROCHESTER, 1.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 (37TH STREET) IN ROCHESTER, 134.5 FEET WEST OF THE CENTERLINE OF TRUNK HIGHWAY 63, 65.0 FEET WEST OF A POWER POLE NUMBER 704, 4.5 FEET SOUTHEAST OF A POWER POLE, 42.13 FEET NORTHWEST STATION BLIND MNDT, 45.4 FEET NORTHWEST OF A STEEL WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1035.087	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1035.087	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1035.090	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.461 12B = -98.464 09 = -98.359 03 = -98.231

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND_RM_2-CJ3875-3W-30MAR2010.jpg	W	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND_RM_2-CJ3875-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BLIND_RM_2-CJ3875-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BONNIE

NGS Name: BONNIE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5539](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	105 N	12 W	435353.08	921414.62	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: BONNIE 2011

4.3 MILES NORTHWEST OF CHATFIELD, 4.1 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 38.95, 64.5 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 51.0 FEET SOUTHEAST OF EXTENDED COUNTY ROAD 7, 34.1 FEET NORTHWEST OF A FIELD ENTRANCE, 15.1 FEET SOUTHWEST OF A POWER POLE WITH 8 GUY WIRES, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1070.050	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1070.050	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1070.047	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
			971.930	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1070.047			971.930	.007	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1070.044			971.930	.007	2011	GPS - STATIC	2013 HPRED
1070.044	.131		972.180	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.081 12B = -98.090 09 = -97.976 03 = -97.861

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 53.08374	92 14 14.61692	679059.311	124138.017	.016		ADJUSTMENT	2014	GPS2902-B
43 53 53.08362	92 14 14.61679	679059.321	124138.005	.010		ADJUSTMENT	2013	GPS2902
43 53 53.08362	92 14 14.61679	679059.321	124138.005	.010	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 53.08363	92 14 14.61716	679059.294	124138.006	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3089231.087	660479.309	1841354.359	15947590.822	.016		ADJUSTMENT	2014	GPS2902-B
3089231.097	660479.297	1841354.369	15947590.809	.010		ADJUSTMENT	2013	GPS2902
3089231.097	660479.297	1841354.369	15947590.809	.010	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3089231.070	660479.297	1841354.342	15947590.810	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BONNIE-DO5539-3SW-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BONNIE-DO5539-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BONNIE-DO5539-1-09APR2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SW	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012

NGS Name: BOOBOO

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>	NGS ACRN: DC28100 Get Map
NW	25	106 N	12 W	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>	NGS Quad / Sta Num : 43092114/ USGS Quad: EYOTA
				435720.33	921301.58	2	3	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type

ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)

Disk Type

METAL ROD (WITH REMOVABLE ID DISK)

Mon. Agency

MNDT

Description: (2016)

Stamping: BOOBOO 2016

2.2 MILES SOUTH OF EYOTA, 1.1 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 225.2, 86.7 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 11.5 FEET SOUTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET SOUTH OF A WITNESS POST.

Station Pair: RUBIN - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1305.004	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1304.958	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1304.958	.262		1206.920	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.038 09 = -97.926 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Project Info				
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 20.32677	92 13 01.57522	684229.525	145168.512	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Project Info				
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3094120.180	681575.137	1846501.516	15968617.934	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BOOBOO-DQ8160-3N-12SEP2016.jpg	N	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BOOBOO-DQ8160-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BOOBOO-DQ8160-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 4238

NGS Name: BR 4238

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	6	107 N	13 W	440555.00	922614.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2010	BURIED	Horz=? Vert=YES	NO	4238	FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	SURVEY DISK	MNDT

Description: (1957)

Stamping:

3.0 MILES NORTH OF ROCHESTER, 3.0 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER, AT TRUNK HIGHWAY 63 STATION 241+71, IN THE HEADWALL OF TRUNK HIGHWAY 63 BOX CULVERT NUMBER 4238.

Station Notes

THE HEADWALL EXTENDED ON BOTH ENDS. THE MARK IS ASSUMED BURIED.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
982.888	.033	3				VERTICAL CONTROL SURVEY	1957 CS5510

Geoid Separations(ft): GEOID18 = -98.432 12B = -98.428 09 = -98.317 03 = -98.202

* No Horizontal Positions in the Database *



Mn/DOT Name: BR 55028 SE

NGS Name: BR 55028 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8065](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	105 N	12 W	435310.73	921332.60	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1982	2011	GOOD	Horz=NO Vert=YES	YES	55028	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2011)

Stamping: BR 55028 SE 1982

3.4 MILES NORTHWEST OF CHATFIELD, 2.9 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 10 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 37.7, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 52 BRIDGE NUMBER 55028 OVER MILL CREEK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1031.793	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1031.793	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1031.793	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1031.770	.262		933.758	.197	2007	GPS - RTRN	2011 RTRN2011

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.126 09 = -98.012 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
43 53 10.73098	92 13 32.59696	682172.018	119874.884	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Project Info		
X	Y	X	Y	Acc	Order	Determination Method
3092400.090	656258.353	1844470.022	15943332.508	.131	3	GPS - RTRN

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55028_SE-DO8065-3NW-30JUN2010.jpg	NW	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55028_SE-DO8065-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55028_SE-DO8065-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55515 SE

NGS Name: BR 55515 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	15	106 N	15 W	435843.90	923629.20		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	2010	GOOD	Horz=NO Vert=YES	YES	55515	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55515 SE 1967

5.0 MILES SOUTHEAST OF BYRON, 1.0 MILE SOUTH OF SALEM CORNERS, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 3 BRIDGE NUMBER 55515 OVER SALEM CREEK, 3.5 MILES SOUTH ON COUNTY ROAD 3 FROM THE JUNCTION WITH TRUNK HIGHWAY 14, NORTH OF RIVERSIDE CEMETERY.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.615 12B = -98.625 09 = -98.550 03 = -98.336

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55515_SE-3N-09JUN2010.jpg	N	Jun 9, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55515_SE-2-15SEP2010.jpg		Sep 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55515_SE-1-15SEP2010.jpg		Sep 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55516 SE

NGS Name: BR 55516 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	105 N	12 W	435545.50	921419.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1968	2010	GOOD	Horz=NO Vert=YES	YES	55516	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: BR 55516 SE

6.4 MILES NORTHWEST OF CHATFIELD, 4.5 MILES SOUTH OF EYOTA, 2.1 MILES NORTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND TRUNK HIGHWAY 52, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 7 BRIDGE NUMBER 55516 OVER MILL CREEK AND AN ABANDONED RAILROAD.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.051 09 = -97.930 03 = -97.818

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55516_SE-3N-16JUN2010.jpg	N	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55516_SE-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55516_SE-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55525 SE

NGS Name: BR 55525 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	105 N	13 W	435517.40	922156.70		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES	55525	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

BENCH MARK DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55525 SE 1977

1.6 MILES SOUTHWEST OF MARION, 0.4 MILE SOUTH ALONG 65TH AVENUE SOUTHEAST FROM THE JUNCTION OF 65TH AVENUE SOUTHEAST AND TRUNK HIGHWAY 52 IN MARION, THEN 1.7 MILES WEST AND SOUTH ALONG COUNTY ROAD 16, THEN 0.7 MILE EAST AND SOUTHEAST ALONG COUNTY ROAD 116, IN THE BRIDGE WING WALL IN THE SOUTHEAST CORNER OF COUNTY ROAD 116 BRIDGE NUMBER 55525 OVER THE NORTH BRANCH OF THE ROOT RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.054 12B = -98.041 09 = -97.959 03 = -97.834

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55525_SE-3NW-16SEP2010.jpg	NW	Sep 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55525_SE-2-16SEP2010.jpg		Sep 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55525_SE-1-16SEP2010.jpg		Sep 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55531 SE

NGS Name: BR 55531 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092413/
USGS Quad: HIGH FOREST SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	104 N	15 W	435045.30	924011.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1980	2010	GOOD	Horz=NO Vert=YES	YES	55531	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2016)

Stamping: BR 55531 SE 1980

6.2 MILES WEST OF HIGH FOREST, 6.2 MILES WEST ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND INTERSTATE HIGHWAY 90 IN HIGH FOREST, THEN 0.4 MILE NORTH ALONG COUNTY ROAD 149, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 149 BRIDGE NUMBER 55531 OVER THE NORTH BRANCH OF THE ROOT RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.166 12B = -98.172 09 = -98.120 03 = -97.867

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55531_SE-3N-15SEP2010.jpg	N	Sep 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55531_SE-2-15SEP2010.jpg		Sep 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55531_SE-1-15SEP2010.jpg		Sep 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55540 SE

NGS Name: BR 55540 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092222/
USGS Quad: ELBA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	10	106 N	11 W	440021.50	920715.90		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2000	2010	GOOD	Horz=NO Vert=YES	YES	55540	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55540 SE

2.3 MILES NORTHEAST OF DOVER, 1.9 MILES NORTH ON COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 14 IN DOVER, THEN 0.9 MILE EAST ON 10TH STREET SOUTHEAST, IN THE ABUTMENT IN THE SOUTHEAST CORNER OF 10TH STREET SOUTHEAST BRIDGE NUMBER 55540 OVER CROW SPRING, 19.0 FEET SOUTH OF 10TH STREET SOUTHEAST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.245 09 = -98.130 03 = -98.005

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55540_SE-3W-12MAY2010.jpg	W	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55540_SE-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55540_SE-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55545 SE

NGS Name: BR 55545 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	105 N	15 W	435115.60	923553.80		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1988	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MN-109

Description: (2010)

Stamping: BR 55545 SE

5.0 MILES SOUTHEAST OF ROCK DELL, 5.5 MILES WEST OF STEWARTVILLE, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 115 BRIDGE NUMBER 55545 OVER THE NORTH BRANCH OF THE ROOT RIVER, 2.7 MILES WEST ALONG COUNTY ROAD 6 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 6 SOUTHWEST AND INTERSTATE HIGHWAY 90, THEN 1.0 MILE NORTH ON COUNTY ROAD 115 SOUTHWEST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.323 12B = -98.340 09 = -98.284 03 = -98.044

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55545_SE-3N-09JUN2010.jpg	N	Jun 9, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55545_SE-2-09JUN2010.jpg		Jun 9, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55545_SE-1-09JUN2010.jpg		Jun 9, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55550 SE

NGS Name: BR 55550 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	15 W	440527.30	923807.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1992	2010	GOOD	Horz=NO Vert=YES	YES	55550	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

VERTICAL CONTROL DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55550 SE

4.1 MILES NORTH OF BYRON, 2.8 MILES NORTH ON COUNTY ROAD 5 (2ND AVENUE NORTHWEST) FROM THE JUNCTION OF COUNTY ROAD 5 AND TRUNK HIGHWAY 14 IN BYRON, THEN 1.4 MILES NORTH AND EAST ON COUNTY ROAD 105, IN THE SOUTHEAST ABUTMENT OF BRIDGE NUMBER 55550 OVER THE MIDDLE BRANCH OF THE ZUMBRO RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.425 12B = -98.425 09 = -98.327 03 = -98.156

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55550_SE-3W-05MAY2010.jpg	W	May 5, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55550_SE-2-05MAY2010.jpg		May 5, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55550_SE-1-05MAY2010.jpg		May 5, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55555 SE

NGS Name: BR 55555 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	18	106 N	14 W	435843.90	923328.70		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2010	GOOD	Horz=NO Vert=YES	YES	55555	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55555 SE 1996

4.0 MILES SOUTHWEST OF ROCHESTER, 4.6 MILES WEST ALONG SALEM ROAD SOUTHWEST FROM THE JUNCTION OF SALEM ROAD SOUTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.6 MILE SOUTH ALONG 60TH AVENUE SOUTHWEST, IN THE BRIDGE WING WALL IN THE SOUTHEAST CORNER OF COUNTY ROAD 104 (60TH AVENUE SOUTHWEST) BRIDGE NUMBER 55555 OVER THE SOUTH FORK OF THE ZUMBRO RIVER.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.665 12B = -98.678 09 = -98.605 03 = -98.392

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55555_SE-3N-15SEP2010.jpg	N	Sep 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55555_SE-2-15SEP2010.jpg		Sep 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55555_SE-1-15SEP2010.jpg		Sep 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55569 SE

NGS Name: BR 55569 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7545](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	105 N	12 W	435059.87	921327.74	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2013	GOOD	Horz=NO Vert=NO	YES	55569	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	HORIZONTAL CONTROL DISK	MNDT

Description: (2007)

Stamping: BR 55569 SE

1.8 MILES WEST OF CHATFIELD, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 138 BRIDGE NUMBER 55569 OVER THE NORTH BRANCH OF THE ROOT RIVER, 0.4 MILE SOUTH ALONG COUNTY ROAD 138 FROM THE JUNCTION OF COUNTY ROAD 138 AND TRUNK HIGHWAY 30 IN CHATFIELD.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
985.743	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
985.746	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
985.598	.262		887.406	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.192 09 = -98.100 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 50 59.87423	92 13 27.74004	682638.958	106627.190	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3093043.494	643019.011	1844949.842	15930090.672	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55569_SE-DP7545-3NE-07APR2009.jpg	NE	Apr 7, 2009
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55569_SE-DP7545-2-07APR2009.jpg		Apr 7, 2009
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55569_SE-DP7545-1-07APR2009.jpg		Apr 7, 2009

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55570 SE

NGS Name: BR 55570 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8064](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	31	105 N	11 W	435054.49	921143.84	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2003	2013	GOOD	Horz=NO Vert=NO	YES	55570	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
BRIDGE ABUTMENT	SURVEY DISK	MNDT

Description: (2016)

Stamping: BR 55570 SE

IN CHATFIELD, 0.15 MILE WEST ON DIVISION STREET NORTHWEST FROM THE JUNCTION OF DIVISION STREET NORTHWEST AND TRUNK HIGHWAY 52 IN CHATFIELD, IN DIVISION STREET BRIDGE NUMBER 55570 OVER THE MILL CREEK, 27.6 FEET SOUTH OF DIVISION STREET NORTHWEST, IN THE SOUTHEAST CORNER OF THE BRIDGE ABUTMENT.

Station Notes

THE SURVEY MARK HAS BEEN DEEMED UNSAFE DUE TO FALL RISK AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj	Year	Reference
975.398	.016	2/1				2017	00000900
975.398	.016	2/1				2015	00000851
975.398	.016	2/1				2014	VSTCH
975.398	.016	2/1				2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj	Year	Reference
975.247	.262		876.967	.197	2011	2013	RTRN2013
975.336	.262		877.147	.197	2007	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.277 12B = -98.281 09 = -98.189 03 = -98.054

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Year	Reference	
43 50 54.48954	92 11 43.84483	690257.234	106147.181	2013	RTRN2013	

NAD83(2007)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Year	Reference	
43 50 54.49008	92 11 43.84689	690257.082	106147.234	2011	RTRN2011	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Project Info		
MN State Plane - South Zone		X	Y	Year	Reference	
3100666.964	642640.612	1852565.493	15929618.346	2013	RTRN2013	

NAD83(2007)		UTM - Zone 15		Project Info		
MN State Plane - South Zone		X	Y	Year	Reference	
3100666.812	642640.663	1852565.342	15929618.399	2011	RTRN2011	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55570_SE-DO8064-3W-07APR2009.jpg	W	Apr 7, 2009
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55570_SE-DO8064-2-07APR2009.jpg		Apr 7, 2009
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55570_SE-DO8064-1-07APR2009.jpg		Apr 7, 2009

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55577 SE

NGS Name: BR 55577 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	2	105 N	15 W	435537.90	923553.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2010	GOOD	Horz=NO Vert=YES	YES	55577	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE ABUTMENT

Disk Type

SURVEY DISK

Mon. Agency

MN-109

Description: (2010)

Stamping: BR 55577 SE

2.1 MILES NORTHEAST OF ROCK DELL, IN THE BRIDGE ABUTMENT IN THE SOUTHEAST CORNER OF COUNTY ROAD 126
BRIDGE NUMBER 55577 OVER THE SOUTH FORK OF THE ZUMBRO RIVER, 5.5 MILES WEST ALONG TRUNK HIGHWAY 30
FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 NORTH OF STEWARTVILLE, THEN 2.4 MILES
NORTH ON COUNTY ROAD 126 SOUTHWEST (80TH AVENUE).

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.592 09 = -98.520 03 = -98.284

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55577_SE-3N-09JUN2010.jpg	N	Jun 9, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55577_SE-2-09JUN2010.jpg		Jun 9, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55577_SE-1-09JUN2010.jpg		Jun 9, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55580 SE

NGS Name: BR 55580 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092413/
USGS Quad: HIGH FOREST SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	6	104 N	15 W	435029.90	924121.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2010	GOOD	Horz=YES Vert=YES	YES	55580	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2010)

Stamping: BR 55580 SE 2005

7.0 MILES WEST OF HIGH FOREST AND 8.0 MILES NORTHEAST OF DEXTER, 6.2 MILES WEST ALONG COUNTY ROAD 6 FROM THE JUNCTION OF COUNTY ROAD 6 AND INTERSTATE HIGHWAY 90 IN HIGH FOREST, THEN 1.1 MILES NORTH ALONG COUNTY ROAD 149, THEN 1.5 MILES WEST ALONG 115TH STREET SOUTHWEST, THEN 0.5 MILE SOUTH ALONG MOWER COUNTY ROAD V, THEN 0.5 MILE EAST ALONG DODGE MOWER ROAD, THEN 0.5 MILE SOUTH ALONG 125TH AVENUE SOUTHWEST, IN THE BRIDGE WING WALL IN THE SOUTHEAST CORNER OF 125TH AVENUE BRIDGE NUMBER 55580 OVER A STREAM INTO THE NORTH BRANCH OF THE ROOT RIVER.

Station Notes

ALONG THE MOWER-OLMSTED COUNTY LINE.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.074 12B = -98.077 09 = -98.025 03 = -97.775

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55580_SE-3N-15SEP2010.jpg	N	Sep 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55580_SE-2-15SEP2010.jpg		Sep 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55580_SE-1-15SEP2010.jpg		Sep 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BR 55583 SE

NGS Name: BR 55583 SE

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	34	107 N	11 W	440133.20	920820.50		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2009	2010	GOOD	Horz=NO Vert=YES	YES	55583	FLUSH	NO MAG MATERIAL

Monument Type

BRIDGE WING WALL

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (2012)

Stamping: BR 55583 SE

3.4 MILES NORTH OF DOVER, 3.2 MILES NORTH ON COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 14 IN DOVER, IN THE WING WALL IN THE SOUTHEAST CORNER OF COUNTY ROAD 10 BRIDGE NUMBER 55583 OVER THE MIDDLE FORK OF THE WHITEWATER RIVER, 20.0 FEET EAST OF COUNTY ROAD 10.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.222 09 = -98.097 03 = -97.985

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55583_SE-3N-12MAY2010.jpg	N	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55583_SE-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BR_55583_SE-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BRAUN

NGS Name: BRAUN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8783](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

Reference		Reference		Vert	Horz		
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SE	5	106 N	13 W	440045.27	922429.96	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** BRAUN 2012

IN ROCHESTER, 2.8 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 216.4, 62.7 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 181.6 FEET EAST OF 36TH AVENUE SOUTHEAST, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1065.444	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1065.444	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1065.451	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1065.451			967.124	.014	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1065.451	.131		967.334	.066	1996	GPS - STATIC	2014 HOLMS
1065.451			967.117	.014	2011	GPS - STATIC	2014 HOLMS
1065.451			967.124	.014	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1065.451	.131		967.334	.066	1996	GPS - STATIC	2013 HCHES
1065.451			967.124	.014	2011	GPS - STATIC	2013 HCHES
1065.342	.262		967.085	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.359 09 = -98.258 03 = -98.117

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
44 00 45.26635	92 24 29.95592	633745.462	165552.797	.016		ADJUSTMENT
44 00 45.26654	92 24 29.95589	633745.464	165552.816	.016	C	GPS - STATIC
44 00 45.26635	92 24 29.95592	633745.462	165552.797	.016		ADJUSTMENT
44 00 45.26635	92 24 29.95592	633745.462	165552.797	.016	C	GPS - STATIC

NAD83(2007)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
44 00 45.26600	92 24 29.95720	633745.369	165552.760	.131	3	GPS - RTRN

NAD83(1996)		Olmsted County		Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method
44 00 45.26621	92 24 29.95603	633745.454	165552.782	.033	C	GPS - STATIC
44 00 45.26621	92 24 29.95603	633745.454	165552.782	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3043373.651	701283.532	1796017.870	15988942.957	.016		ADJUSTMENT	2014	GPS3018
3043373.653	701283.552	1796017.872	15988942.977	.016	C	GPS - STATIC	2014	HOLMS
3043373.651	701283.532	1796017.870	15988942.957	.016		ADJUSTMENT	2013	GPS2950
3043373.651	701283.532	1796017.870	15988942.957	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3043373.558	701283.495	1796017.776	15988942.921	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3043373.643	701283.518	1796017.862	15988942.943	.033	C	GPS - STATIC	2014	HOLMS
3043373.643	701283.518	1796017.862	15988942.943	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRAUN-DO8783-3N-14NOV2012.jpg	N	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRAUN-DO8783-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRAUN-DO8783-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: BRIDGET MNDT

NGS Name: BRIDGET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3940](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	7	105 N	13 W	435439.28	922616.36		C	1996	2014	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	SURVEY DISK	MNDT

Description: (1996)

Stamping: BRIDGET 1996

1.75 MILES SOUTHWEST OF SIMPSON, 3.0 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT INTERSTATE HIGHWAY 90 MILEPOINT 212.75, 101.8 FEET NORTHEAST OF THE NORTHEAST CORNER OF INTERSTATE HIGHWAY 90 WESTBOUND BRIDGE NUMBER 55803 OVER COUNTY ROAD 20, 30.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 3.7 FEET NORTHWEST OF A GUARD RAIL, 3.4 FEET SOUTHWEST OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
			1180.424	.010	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800
			1180.513	.011	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300
1278.606	.131		1180.660	.066	1996	HORIZONTAL ADJUSTMENT		2003	GPS1770
1278.606	.131		1180.660	.066	1996	GPS - STATIC		2002	HI90

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.159 09 = -98.094 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 39.27527	92 26 16.36176	626184.248	128444.458	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 39.27546	92 26 16.36258	626184.187	128444.477	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 39.27508	92 26 16.36185	626184.241	128444.439	.033	C	ADJUSTMENT	2003	GPS1770
43 54 39.27508	92 26 16.36185	626184.240	128444.438	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3036307.463	664081.066	1788497.147	15951842.842	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3036307.403	664081.084	1788497.087	15951842.861	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3036307.457	664081.047	1788497.141	15951842.823	.033	C	ADJUSTMENT	2003	GPS1770
3036307.457	664081.047	1788497.141	15951842.822	.033	C	GPS - STATIC	2002	HI90



<u>Station Photos</u>	
<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET-DF3940-3SW-05AUG2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET-DF3940-2-05AUG2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET-DF3940-1-05AUG2010.jpg
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **	

<u>Dir</u>	<u>Date</u>
SW	Aug 5, 2010
	Aug 5, 2010
	Aug 5, 2010



Mn/DOT Name: BRIDGET MNDT RESET

NGS Name: BRIDGET RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2836](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	7	105 N	13 W	435439.28	922616.36	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2014	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: BRIDGET 1996 2014

4.0 MILES NORTHEAST OF STEWARTVILLE, 3.0 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 212.75, 101.8 FEET NORTHEAST OF THE NORTHEAST CORNER OF INTERSTATE HIGHWAY 90 WESTBOUND BRIDGE NUMBER 55803 OVER COUNTY ROAD 20, 30.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 3.7 FEET NORTHWEST OF A GUARD RAIL, 3.4 FEET SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1278.370	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1278.367	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1278.337	.262		1180.178	.197	2011	GPS - RTRN	2016	RTRN2016
1278.354			1180.185	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1278.350	.131		1180.418	.066	1996	GPS - STATIC	2014	HOLMS
1278.354			1180.185	.016	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.159 09 = -98.094 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 39.27521	92 26 16.36123	626184.286	128444.452	.131	3	GPS - RTRN	2016	RTRN2016
43 54 39.27559	92 26 16.36176	626184.247	128444.491	.020		ADJUSTMENT	2014	GPS3018
43 54 39.27559	92 26 16.36176	626184.247	128444.491	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 39.27539	92 26 16.36173	626184.250	128444.470	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036307.502	664081.061	1788497.186	15951842.836	.131	3	GPS - RTRN	2016	RTRN2016
3036307.463	664081.098	1788497.147	15951842.874	.020		ADJUSTMENT	2014	GPS3018
3036307.463	664081.098	1788497.147	15951842.874	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036307.465	664081.078	1788497.150	15951842.854	.033	C	GPS - STATIC	2014	HOLMS



<u>Station Photos</u>			
<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET_RESET-DP2836-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET_RESET-DP2836-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/BRIDGET_RESET-DP2836-1-09AUG2016.jpg		Aug 9, 2016
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **			



Mn/DOT Name: BYRON MUNICIPAL TANK

NGS Name: BYRON MUNICIPAL TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2356](#) [Get Map](#)
NGS Quad / Sta Num : 44092323/1012
USGS Quad: BYRON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	32	107 N	15 W	440159.03	923844.19		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	TANK	NGS

Description: (1935)

Stamping:

IN NORTH BYRON, 0.3 MILE NORTH OF TRUNK HIGHWAY 52, ON THE WEST SIDE OF BYRON AVENUE, 200.0 FEET NORTH OF 4TH STREET NORTHWEST.

Station Notes

THE TANK IS GONE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.441 12B = -98.441 09 = -98.363 03 = -98.176

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01	59.03279	92 38 44.18572	571291.392	172727.846	.328	4	ADJUSTMENT		1999	17648
<u>NAD83(1986)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01	59.02452	92 38 44.18585	571291.385	172727.009	.328	4	ADJUSTMENT		1986	17289
<u>NAD27</u>		<u>Geodetic Position</u>							<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01	59.15200	92 38 43.52300			.100	4	CLASSICAL SURVEY		1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		2980835.650	707627.051	1733583.654	15996051.718	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		2980835.654	707626.213	1733583.648	15996050.881	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>		<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		2356227.478	379552.550			.100	4	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: CAIN MNDT

NGS Name: CAIN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2284](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	12	107 N	14 W	440529.98	922629.59	2	2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 3 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2016) **Stamping:** CAIN 1977

4.9 MILES NORTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, 2.3 MILES NORTHEAST ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 (37TH STREET) IN ROCHESTER, ON THE EAST RIGHT-OF-WAY OF TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 45.7, 72.0 FEET SOUTH OF 65TH STREET NORTHEAST, 39.0 FEET EAST OF TRUNK HIGHWAY 63, 41.52 FEET NORTH-NORTHEAST OF CAIN RM 2, 26.43 FEET SOUTHWEST OF CAIN RM 1, 2.7 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)		Height	Acc	Adj	Year	Reference
1046.136	.016	2/1					2017	00000900
1046.136	.016	2/1					2012	00000719
1046.107	.016	2/1					2010	VFRON
1046.107	.016	2/1					2008	00000425-32
1046.130	.016	2/1					2007	VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)		Height	Acc	Adj	Year	Reference
1046.127	.197			948.036	.131	1996	1999	17648

NGVD29				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order /(Class)		Height	Acc	Adj	Year	Reference
1046.061							1978	HORZ

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.438 09 = -98.327 03 = -98.208

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 05 29.97500	92 26 29.58922	624836.275	194331.922	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				Olmsted County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 05 29.96492	92 26 29.58883	624836.309	194330.901	.066	2	ADJUSTMENT	1986	17289

NAD27							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 05 30.09253	92 26 28.94755			.100	2	CLASSICAL SURVEY	1980	16253



State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3034083.255	729938.724	1787083.252	16017700.763	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3034083.303	729937.704	1787083.287	16017699.743	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2409475.021	401863.957			.100	2	CLASSICAL SURVEY	1980	16253

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN-PP2284-3E-30MAR2010.jpg	E	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN-PP2284-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN-PP2284-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CAIN RM 1

NGS Name: CAIN RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3926](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	12	107 N	14 W	440530.18	922629.36	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: CAIN NO 1 1977

4.9 MILES NORTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, 2.4 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER, 48.0 FEET EAST OF TRUNK HIGHWAY 63, 46.0 FEET SOUTH OF THE CENTER OF 65TH STREET NORTHEAST, 26.5 FEET NORTH OF A STEEL WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1046.822	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1046.822	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1046.789	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.438 09 = -98.330 03 = -98.212

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_1-CJ3926-3E-30MAR2010.jpg	E	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_1-CJ3926-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_1-CJ3926-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CAIN RM 2

NGS Name: CAIN RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3927](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	12	107 N	14 W	440529.63	922629.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1977)

Stamping: CAIN NO 2 1977

4.9 MILES NORTH OF THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, 2.4 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 45.70, 111.0 FEET SOUTH OF 65TH STREET NORTHEAST, 39.0 FEET EAST OF TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1045.828	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1045.828	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1045.802	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1045.802	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1045.825	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.438 09 = -98.327 03 = -98.208

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_2-CJ3927-3NE-30MAR2010.jpg	NE	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_2-CJ3927-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAIN_RM_2-CJ3927-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CAMPION MNDT

NGS Name: CAMPION

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0135](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/1007
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	25	106 N	13 W	435728.38	921924.92	2	2	1962	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) Stamping: CAMPION 1961

4.4 MILES SOUTHWEST OF EYOTA, 0.9 MILE SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA, THEN 4.2 MILES WEST ON COUNTY ROAD 23/COUNTY ROAD 123, THEN 0.3 MILE SOUTH ON 77TH AVENUE SOUTHEAST, 0.2 MILE NORTH OF INTERSTATE HIGHWAY 90, 79.45 FEET SOUTH OF CAMPION RM 2, 64.60 FEET EAST OF CAMPION RM 1, 46.0 FEET NORTH OF DRIVEWAY NUMBER 4346, 33.3 FEET EAST OF 77TH AVENUE, 5.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1265.217	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1265.168	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1265.168	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1265.168	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1265.221	.197		1167.468	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.074 09 = -97.972 03 = -97.857

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>			<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 28.37788	92 19 24.91868		656181.587	145764.017	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>			<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 28.36622	92 19 24.92003		656181.496	145762.835	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
43 57 28.49887	92 19 24.30798				.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>			<u>UTM - Zone 15</u>			<u>Project Info</u>			
<u>MN State Plane - South Zone</u>									
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3066069.184	681796.912		1818464.488	15969185.088	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>			<u>UTM - Zone 15</u>			<u>Project Info</u>			
<u>MN State Plane - South Zone</u>									
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3066069.110	681795.730		1818464.399	15969183.907	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>									
<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2441459.656	353723.024				.100	2	CLASSICAL SURVEY	1976	15739



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION-OO0135-3E-22JUN2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION-OO0135-2-22JUN2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION-OO0135-1-22JUN2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Jun 22, 2010
	Jun 22, 2010
	Jun 22, 2010



Mn/DOT Name: CAMPION RM 1

NGS Name: CAMPION RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0136](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	25	106 N	13 W	435728.34	921925.80	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: CAMPION NO 1 1961

4.4 MILES SOUTHWEST OF EYOTA, 0.9 MILE SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA, THEN 4.2 MILES WEST ON COUNTY ROAD 23/COUNTY ROAD 123, THEN 0.3 MILE SOUTH ON 77TH AVENUE SOUTHEAST, 0.2 MILE NORTH OF INTERSTATE HIGHWAY 90, 64.6 FEET WEST OF STATION CAMPION MNDT, 44.0 FEET NORTH OF DRIVEWAY NUMBER 4346 EXTENDED, 31.5 FEET WEST OF 77TH AVENUE SOUTHEAST, 5.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1263.987	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1263.938	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1263.938	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1263.938	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1264.069	.262			1165.995	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.074 09 = -97.972 03 = -97.857

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position								Year	Reference
Latitude	Longitude	X	Y	Acc	Order	Determination Method			
43 57 28.34441	92 19 25.80152	656117.032	145760.163	.131	3	GPS - RTRN		2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone								Year	Reference
X	Y	X	Y	Acc	Order	Determination Method			
3066004.692	681792.200	1818399.965	15969181.171	.131	3	GPS - RTRN		2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_1-OO0136-3W-22JUN2010.jpg	W	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_1-OO0136-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_1-OO0136-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CAMPION RM 2

NGS Name: CAMPION RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0137](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	25	106 N	13 W	435729.16	921924.92	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: CAMPION NO 2 1961

4.4 MILES SOUTHWEST OF EYOTA, 0.9 MILE SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND KNOWLEDGE ROAD SOUTHEAST IN EYOTA, THEN 4.2 MILES WEST ON COUNTY ROAD 23/COUNTY ROAD 123, THEN 0.3 MILE SOUTH ON 77TH AVENUE SOUTHEAST, 0.2 MILE NORTH OF INTERSTATE HIGHWAY 90, 125.0 FEET NORTH OF DRIVEWAY NUMBER 4346, 79.4 FEET NORTH OF STATION CAMPION MNDT, 33.0 FEET EAST OF 77TH AVENUE SOUTHEAST, 5.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1262.809	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025	

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1262.760	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD	
1262.760	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN	
1262.760	.016	2				VERTICAL CONTROL SURVEY	1971	L22211	

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.074 09 = -97.972 03 = -97.857

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_2-OO0137-3E-22JUN2010.jpg	E	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_2-OO0137-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CAMPION_RM_2-OO0137-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CANINE MNDT

NGS Name: CANINE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AC4929](#)

[Get Map](#)

NGS Quad / Sta Num : 44092323/

USGS Quad: BYRON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	17	107 N	15 W	440420.49	923855.00	2	B

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1995	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
STEEL ROD (NO SLEEVE) (DEPTH 40 FT)	METAL ROD	MNDT

Description: (2016)

Stamping: CANINE 1995

2.7 MILES NORTH OF BYRON, 2.75 MILES NORTH ALONG COUNTY ROAD 5 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5 IN BYRON, THEN 0.05 MILE EAST ON COUNTY ROAD 4 (VALLEY HIGH ROAD NORTHWEST), THEN 0.25 MILE NORTH ON COUNTY ROAD 105 (ENTRANCE TO THE ZOO), 115.0 FEET NORTH OF DRIVE NUMBER 22195, 56.0 FEET SOUTH-SOUTHEAST OF A PICNIC AREA ENTRANCE, 36.0 FEET WEST OF COUNTY ROAD 105, 33.0 FEET SOUTH-SOUTHWEST OF CANINE MNDT RM 1, 13.0 FEET SOUTH-SOUTHEAST OF A POWER POLE, 7.0 FEET NORTH OF A CORNER FENCE POST, 6.5 FEET NORTH-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1041.356	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-30
1041.356	.016	2/1				VERTICAL CONTROL SURVEY	2006	VCANI

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1041.356			942.967	.009	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
1041.356	.131		943.259	.066	1996	GPS - STATIC	2017	HMNCORS07
1041.356			942.967	.009	2011	GPS - STATIC	2017	HMNPH
1041.448	.262		943.049	.197	2011	GPS - RTRN	2015	RTRN2015
1041.356			942.967	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1041.356	.131		943.259	.066	1996	GPS - STATIC	2014	HOLMS
1041.356			942.967	.008	2011	GPS - STATIC	2014	HOLMS
			942.967	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1041.369	.131		943.049	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1041.369	.131		943.049	.066	2007	GPS - STATIC	2011	HFRON
			943.049	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2364-B
1041.369	.131		943.259	.066	1996	GPS - STATIC	2010	HFRON
1041.369	.131		943.259	.066	1996	HORIZONTAL ADJUSTMENT	2007	GPS2364
1041.369	.131		943.259	.066	1996	GPS - STATIC	2007	HWABA
			943.049	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1041.369	.098		943.259	.049	1996	GPS - STATIC	2005	GPS2036
1041.336	.131		943.259	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1745
1041.304	.131		943.259	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1041.336	.131		943.259	.066	1996	GPS - STATIC	2001	HDODG
1041.304	.131		943.259	.066	1996	GPS - STATIC	2001	HKASS
1041.422	.098		943.259	.049	1996	GPS - STATIC	1997	GPS805-B
1041.422	.131		943.259	.066	1996	GPS - STATIC	1997	GPS805-C

Geoid Separations(ft): GEOID18 = -98.399 12B = -98.399 09 = -98.304 03 = -98.123

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 20.49389	92 38 54.99669	570455.000	187050.603	.003		ADJUSTMENT	2018	GPS3119
44 04 20.49389	92 38 54.99669	570455.000	187050.603	.003	C	GPS - STATIC	2017	HMNPH
44 04 20.49390	92 38 54.99620	570455.035	187050.604	.131	3	GPS - RTRN	2015	RTRN2015
44 04 20.49389	92 38 54.99669	570455.000	187050.603	.003		ADJUSTMENT	2014	GPS3018
44 04 20.49389	92 38 54.99668	570455.000	187050.603	.003	C	GPS - STATIC	2014	HOLMS
44 04 20.49389	92 38 54.99669	570455.000	187050.603	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 20.49410	92 38 54.99764	570454.930	187050.624	.033	C	ADJUSTMENT	2011	GPS2814
44 04 20.49410	92 38 54.99764	570454.930	187050.624	.033	C	GPS - STATIC	2011	HFRON
44 04 20.49410	92 38 54.99764	570454.930	187050.624	.033	C	ADJUSTMENT	2010	GPS2364-B
44 04 20.49410	92 38 54.99764	570454.930	187050.624	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2017	HMNCORS07
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2014	HOLMS
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2010	HFRON
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	ADJUSTMENT	2007	GPS2364
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2007	HWABA
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.016	B	GPS - STATIC	2005	GPS2036
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	ADJUSTMENT	2003	GPS1745
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	ADJUSTMENT	2002	GPS1779
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2001	HDODG
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	2001	HKASS
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.016	B	GPS - STATIC	1997	GPS805-B
44 04 20.49366	92 38 54.99698	570454.979	187050.580	.033	C	GPS - STATIC	1997	GPS805-C

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2979809.204	721936.013	1732733.115	16010367.288	.003		ADJUSTMENT	2018	GPS3119
2979809.204	721936.013	1732733.115	16010367.288	.003	C	GPS - STATIC	2017	HMNPH
2979809.240	721936.015	1732733.151	16010367.289	.131	3	GPS - RTRN	2015	RTRN2015
2979809.204	721936.013	1732733.115	16010367.288	.003		ADJUSTMENT	2014	GPS3018
2979809.205	721936.013	1732733.116	16010367.288	.003	C	GPS - STATIC	2014	HOLMS
2979809.204	721936.013	1732733.115	16010367.288	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2979809.135	721936.033	1732733.046	16010367.309	.033	C	ADJUSTMENT	2011	GPS2814
2979809.135	721936.033	1732733.046	16010367.309	.033	C	GPS - STATIC	2011	HFRON
2979809.135	721936.033	1732733.046	16010367.309	.033	C	ADJUSTMENT	2010	GPS2364-B
2979809.135	721936.033	1732733.046	16010367.309	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2017	HMNCORS07
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2014	HOLMS
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2010	HFRON
2979809.183	721935.990	1732733.094	16010367.264	.033	C	ADJUSTMENT	2007	GPS2364
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2007	HWABA
2979809.183	721935.990	1732733.094	16010367.264	.016	B	GPS - STATIC	2005	GPS2036
2979809.183	721935.990	1732733.094	16010367.264	.033	C	ADJUSTMENT	2003	GPS1745
2979809.183	721935.990	1732733.094	16010367.264	.033	C	ADJUSTMENT	2002	GPS1779
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2001	HDODG
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	2001	HKASS
2979809.183	721935.990	1732733.094	16010367.264	.016	B	GPS - STATIC	1997	GPS805-B
2979809.183	721935.990	1732733.094	16010367.264	.033	C	GPS - STATIC	1997	GPS805-C

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CANINE-AC4929-3W-03NOV2008.jpg	W	Nov 3, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CANINE-AC4929-2-03NOV2008.jpg		Nov 3, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CANINE-AC4929-1-03MAY2007.jpg		May 3, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CANINE MNDT RM 1

NGS Name: CANINE RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Mon. Agency</u>
SW	17	107 N	15 W	440420.49	923855.00			1995	1995	GOOD	Horz=YES Vert=?	YES			SEE DESCRIPTION	MNDT
Monument Type STEEL ROD (NO SLEEVE)																
Disk Type METAL ROD																

Description:

Stamping:

2.7 MILES NORTH OF BYRON, 2.75 MILES NORTH ALONG COUNTY ROAD 5 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 5 IN BYRON, THEN 0.05 MILE EAST ON COUNTY ROAD 4 (VALLEY HIGH ROAD NORTHWEST), THEN 0.25 MILE NORTH ON COUNTY ROAD 105 (ENTRANCE TO THE ZOO), 115.0 FEET NORTH OF DRIVE NUMBER 22195, 56.0 FEET SOUTH-SOUTHEAST OF A PICNIC AREA ENTRANCE, 36.0 FEET WEST OF COUNTY ROAD 105, 33.0 FEET NORTH-NORTHEAST OF CANINE MNDT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.399 12B = -98.399 09 = -98.304 03 = -98.123



Mn/DOT Name: CARLA

NGS Name: CARLA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8784](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	10	106 N	13 W	440020.42	922243.60	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 65 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: CARLA 2012

4.0 MILES EAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER TO TRUNK HIGHWAY 14 MILEPOINT 217.9, THEN 0.3 MILE SOUTH ON COUNTY ROAD 11 (50TH AVENUE SOUTHEAST), 40.1 FEET EAST OF COUNTY ROAD 11, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1063.065	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1063.065	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1063.069	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1063.069			964.814	.013	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1063.069	.131		965.047	.066	1996	GPS - STATIC	2013	HCHES
1063.069			964.814	.013	2011	GPS - STATIC	2013	HCHES
1062.931	.262		964.782	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.261 12B = -98.268 09 = -98.146 03 = -98.021

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 20.42254	92 22 43.60363	641534.329	163086.302	.016		ADJUSTMENT	2013	GPS2950
44 00 20.42254	92 22 43.60363	641534.329	163086.302	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 20.42261	92 22 43.60358	641534.332	163086.310	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 20.42235	92 22 43.60375	641534.320	163086.283	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051193.927	698921.137	1803805.933	15986485.376	.016		ADJUSTMENT	2013	GPS2950
3051193.927	698921.137	1803805.933	15986485.376	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051193.931	698921.144	1803805.937	15986485.383	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051193.919	698921.118	1803805.925	15986485.357	.033	C	GPS - STATIC	2013	HCHES



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARLA-DO8784-3E-14NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARLA-DO8784-2-14NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARLA-DO8784-1-14NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Nov 14, 2012
	Nov 14, 2012
	Nov 14, 2012



Mn/DOT Name: CARRIE

NGS Name: CARRIE

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	31	105 N	11 W	435149.49	921152.06	2	C

NGS ACRN: [DQ5540](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 36 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** CARRIE 2011

1.15 MILES NORTH OF CHATFIELD, 0.95 MILE NORTH ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 35.65, 81.7 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 10.2 FEET SOUTHEAST OF A FIELD ENTRANCE, 46.0 FEET NORTH OF A POWER POLE WITH 2 GUY WIRES, 19.5 FEET NORTHEAST OF A FENCE LINE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Station Pair: KELLY - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
989.188	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
989.188	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
989.188	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
989.188	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
989.184	.262		890.953	.197	2011	GPS - RTRN	2023	RTRN2023
			890.940	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
989.047	.262		890.812	.197	2011	GPS - RTRN	2013	RTRN2013
989.188			890.940	.011	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
989.204			890.940	.011	2011	GPS - STATIC	2013	HPRED
989.204	.131		891.199	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.228 12B = -98.235 09 = -98.130 03 = -98.008

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 49.49045	92 11 52.05962	689606.684	111711.344	.131	3	GPS - RTRN	2023	RTRN2023
43 51 49.49075	92 11 52.06009	689606.650	111711.374	.016		ADJUSTMENT	2014	GPS2902-B
43 51 49.49018	92 11 52.05987	689606.666	111711.317	.131	3	GPS - RTRN	2013	RTRN2013
43 51 49.49074	92 11 52.06010	689606.649	111711.373	.010		ADJUSTMENT	2013	GPS2902
43 51 49.49074	92 11 52.06010	689606.649	111711.373	.010	C	GPS - STATIC	2013	HPRED
NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 49.49051	92 11 52.06037	689606.629	111711.350	.033	C	GPS - STATIC	2013	HPRED



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3099942.353	648195.219	1851909.734	15935179.619	.131	3	GPS - RTRN	2023	RTRN2023
3099942.318	648195.249	1851909.699	15935179.650	.016		ADJUSTMENT	2014	GPS2902-B
3099942.335	648195.192	1851909.716	15935179.592	.131	3	GPS - RTRN	2013	RTRN2013
3099942.317	648195.248	1851909.699	15935179.649	.010		ADJUSTMENT	2013	GPS2902
3099942.317	648195.248	1851909.699	15935179.649	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3099942.298	648195.224	1851909.679	15935179.625	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARRIE-DO5540-3SW-12APR2023.jpg	SW	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARRIE-DO5540-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CARRIE-DO5540-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CAS MNDT

NGS Name: CAS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2354](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	4	107 N	14 W	440604.20	923046.21		2	1978	2010	DESTROYED	Horz=NO Vert=NO	NO			MARK IS STEEL PIPE
Monument Type															
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)															
Disk Type															
PIPE CAP															
Mon. Agency															
MNDT															

Description: (2002)

Stamping: CAS 1978

1.5 MILES NORTH OF ROCHESTER, 4.75 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN NORTHWEST ROCHESTER, ON THE EAST RIGHT-OF-WAY OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 61.17, 67.0 FEET EAST OF TRUNK HIGHWAY 52, 6.0 FEET WEST-SOUTHWEST OF A FENCE CORNER, 3.6 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1075.129	.197			976.934	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648
NGVD29				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1076.113							RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.550 09 = -98.448 03 = -98.310

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>									
Geodetic Position		Olmsted County						Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 06 04.20373	92 30 46.20998	606089.706	197698.357	.066	2	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>									
Geodetic Position		Olmsted County						Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 06 04.19407	92 30 46.20903	606089.780	197697.379	.066	2	ADJUSTMENT	1986	17289	
<u>NAD27</u>									
Geodetic Position								Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 06 04.32767	92 30 45.56302			.100	2	CLASSICAL SURVEY	1980	16253	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>										
MN State Plane - South Zone		UTM - Zone 15							Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
3015295.562	733055.204	1768341.342	16021046.620	.066	2	ADJUSTMENT	1999	17648		
<u>NAD83(1986)</u>										
MN State Plane - South Zone		UTM - Zone 15							Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
3015295.649	733054.228	1768341.417	16021045.643	.066	2	ADJUSTMENT	1986	17289		
<u>NAD27</u>										
MN State Plane - South Zone									Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>		
2390687.169	404981.016			.100	2	CLASSICAL SURVEY	1980	16253		



Mn/DOT Name: CASCADE MNDT

NGS Name: CASCADE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9065](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	28	107 N	14 W	440210.69	923101.96	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2000	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2001)

Stamping: CASCADE 2000

1.5 MILES WEST OF ROCHESTER, 1.5 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 209.60, 135.0 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 56.0 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF A BRIDGE RAIL, 52.0 FEET EAST OF NORTHBOUND COUNTY ROAD 22, 13.0 FEET EAST OF A WALK PATH, 1.8 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			<u>Determination Method</u>	Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1042.265	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1042.265	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1042.265	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1042.262	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1042.291	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1042.291	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			<u>Determination Method</u>	Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1042.199	.262		943.571	.197	2011	GPS - OPUS	2021	GPSBM
1042.301	.262		943.673	.197	2011	GPS - RTRN	2021	RTRN2021
1042.291			943.669	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1042.262	.131		943.889	.066	1996	GPS - STATIC	2013	HCHES
1042.291			943.669	.009	2011	GPS - STATIC	2013	HCHES
1042.157	.262		943.604	.197	2007	GPS - RTRN	2012	RTRN2012
			943.669	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			943.745	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1042.288	.131		943.935	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1042.288	.131		943.935	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.625 12B = -98.628 09 = -98.553 03 = -98.373

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 10.68886	92 31 01.95877	605054.997	174045.493	.131	3	GPS - OPUS	2021	GPSBM
44 02 10.68885	92 31 01.95788	605055.062	174045.492	.131	3	GPS - RTRN	2021	RTRN2021
44 02 10.68862	92 31 01.95914	605054.970	174045.469	.016		ADJUSTMENT	2013	GPS2950
44 02 10.68856	92 31 01.95901	605054.979	174045.463	.016	C	GPS - STATIC	2013	HCHES
44 02 10.68862	92 31 01.95914	605054.970	174045.469	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 10.68787	92 31 01.96015	605054.896	174045.392	.131	3	GPS - RTRN	2012	RTRN2012
44 02 10.68870	92 31 01.96005	605054.903	174045.476	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 10.68835	92 31 01.95947	605054.946	174045.441	.033	C	GPS - STATIC	2013	HCHES
44 02 10.68835	92 31 01.95947	605054.946	174045.441	.033	C	ADJUSTMENT	2002	GPS1779
44 02 10.68835	92 31 01.95947	605054.945	174045.443	.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3014575.500	709393.083	1767331.126	15997402.973	.131	3	GPS - OPUS	2021	GPSBM
3014575.565	709393.083	1767331.191	15997402.973	.131	3	GPS - RTRN	2021	RTRN2021
3014575.473	709393.058	1767331.099	15997402.949	.016		ADJUSTMENT	2013	GPS2950
3014575.483	709393.052	1767331.109	15997402.943	.016	C	GPS - STATIC	2013	HCHES
3014575.473	709393.058	1767331.099	15997402.949	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3014575.401	709392.980	1767331.026	15997402.873	.131	3	GPS - RTRN	2012	RTRN2012
3014575.407	709393.064	1767331.033	15997402.957	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3014575.450	709393.030	1767331.075	15997402.921	.033	C	GPS - STATIC	2013	HCHES
3014575.450	709393.030	1767331.075	15997402.921	.033	C	ADJUSTMENT	2002	GPS1779
3014575.450	709393.030	1767331.075	15997402.921	.033	C	GPS - STATIC	2001	HKASS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CASCADE-DE9065-3E-04APR2023.jpg	E	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CASCADE-DE9065-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CASCADE-DE9065-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CC

NGS Name: CC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0318](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	16	107 N	14 W	440414.00	923012.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2005	DESTROYED	Horz=NO Vert=NO	NO			NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	CHISELED CROSS	MNDT

Description: (2010)

Stamping:

4.3 MILES SOUTHEAST OF DOUGLAS, IN THE NORTH END OF THE WEST HEADWALL OF A BOX CULVERT NUMBER W-127 UNDER TRUNK HIGHWAY 52, 3.0 MILES NORTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST IN DOUGLAS, 0.7 MILE NORTH OF 37TH STREET NORTHWEST, 1500.0 FEET SOUTHEAST OF THE MINNESOTA HIGHWAY DEPARTMENT DISTRICT 6 HEADQUARTERS, 105.0 FEET WEST OF TRUNK HIGHWAY 52 NORTHBOUND (CENTERLINE STATION 2178+80), 20.0 FEET WEST OF TRUNK HIGHWAY 52 SOUTHBOUND (CENTERLINE STATION 2178+80).

Station Notes

THE SET DATE IS UNKNOWN.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1015.018	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.474 03 = -98.330

* No Horizontal Positions in the Database *



Mn/DOT Name: CEGAL

NGS Name: CEGAL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2289](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/1001
USGS Quad: ZUMBRO LAKE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	108 N	13 W	440944.04	922508.58		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1976) **Stamping:** CEGAL 1935

6.0 MILES EAST OF ORONOCO, 5.5 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND 2ND AVENUE NORTHEAST IN ORONOCO, 102.23 FEET SOUTH-SOUTHEAST OF CEGAL RM 2, 98.12 FEET WEST OF CEGAL RM 1, 50.0 FEET EAST OF TRUNK HIGHWAY 63, 4.0 FEET NORTH OF AN EAST-WEST FENCE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1151.572	.197			1053.499	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1151.605							RECIPROCAL VERTICAL ANGLE	1935	HORZ

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 09 44.03837	92 25 08.57945	630593.547	220095.074	.066	2	ADJUSTMENT	1999	17648	

NAD83(1986)				Olmsted County				Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 09 44.02794	92 25 08.57818	630593.646	220094.018	.066	2	ADJUSTMENT	1986	17289	

NAD27								Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 09 44.15200	92 25 07.95100			.100	2	CLASSICAL SURVEY	1937	03491	

State Plane and UTM Coordinates (Feet)

NAD83(1996)				UTM - Zone 15				Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3039496.643	755773.341	1792811.648	16043458.770	.066	2	ADJUSTMENT	1999	17648	

NAD83(1986)				UTM - Zone 15				Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3039496.757	755772.287	1792811.748	16043457.715	.066	2	ADJUSTMENT	1986	17289	

NAD27								Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
2414887.573	427697.930			.100	2	CLASSICAL SURVEY	1937	03491	



Mn/DOT Name: CEGAL 2

NGS Name: CEGAL 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: PP2292	Get Map
NW	17	108 N	13 W	440944.24	922507.77	2	2	NGS Quad / Sta Num : 44092234/ USGS Quad: ZUMBRO LAKE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2010)

Stamping: CEGAL 2 1977

10.75 MILES NORTHEAST OF ROCHESTER, 0.25 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, ON THE EAST RIGHT-OF-WAY OF TRUNK HIGHWAY 63 AT MILEPOINT 50.99, 72.5 FEET EAST-SOUTHEAST OF TRUNK HIGHWAY 63, 47.03 FEET EAST-SOUTHEAST OF CEGAL RM 1, 24.14 FEET SOUTH OF CEGAL 2 RM 3, 3.2 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1161.625	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1161.625	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1161.609	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1161.415	.197		1063.341	.131	1996	HORIZONTAL ADJUSTMENT	1999 17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1161.415						RECIPROCAL VERTICAL ANGLE	1978 HORZ

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 44.24470	92 25 07.77321	630652.194	220116.324	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 44.23430	92 25 07.77208	630652.283	220115.271	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 44.35519	92 25 07.12168			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3039554.996	755795.366	1792870.249	16043480.071	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3039555.099	755794.315	1792870.339	16043479.019	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2414947.614	427719.671			.100	2	CLASSICAL SURVEY	1980	16253



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2-PP2292-3E-23MAR2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2-PP2292-2-23MAR2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2-PP2292-1-23MAR2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Mar 23, 2010
	Mar 23, 2010
	Mar 23, 2010



Mn/DOT Name: CEGAL 2 MNMT AZ MK

NGS Name: CEGAL 2 AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2294](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	18	108 N	13 W	440906.88	922510.57	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNMT

Description: (2012)

Stamping: CEGAL 2 1977

10.0 MILES NORTHEAST OF ROCHESTER, 0.95 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247 (THE JUNCTION IS 10.0 MILES NORTH OF ROCHESTER), 69.0 FEET WEST OF TRUNK HIGHWAY 63, 11.5 FEET NORTH OF A DRIVEWAY, 5.2 FEET SOUTH-SOUTHEAST OF A POWER POLE WITH AN ANCHOR AND A TRANSFORMER, 5.0 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1090.503	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1090.503	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1090.483	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1090.287	.262		991.996	.197	2007	GPS - RTRN	2012	RTRN2012
			992.068	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1090.483	.131		992.176	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1090.483	.131		992.176	.066	2007	GPS - STATIC	2011	HFRON
1090.483	.131		992.281	.066	1996	GPS - STATIC	2010	HFRON
1089.237	.262		991.166	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1089.204						RECIPROCAL VERTICAL ANGLE	1977	HORZ

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.290 03 = -98.185

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 06.87838	92 25 10.57364	630470.855	216331.085	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 06.87814	92 25 10.57565	630470.709	216331.060	.131	3	GPS - RTRN	2012	RTRN2012
44 09 06.87847	92 25 10.57437	630470.802	216331.094	.033	C	ADJUSTMENT	2011	GPS2814
44 09 06.87847	92 25 10.57437	630470.802	216331.094	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 06.87811	92 25 10.57369	630470.852	216331.058	.033	C	GPS - STATIC	2010	HFRON
44 09 06.87802	92 25 10.57191	630470.981	216331.050	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 06.86769	92 25 10.57097	630471.056	216330.004	.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 09 06.98836	92 25 09.92132			.100	3	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039424.055	752008.486	1792692.883	16039696.270	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039423.909	752008.459	1792692.736	16039696.244	.131	3	GPS - RTRN	2012	RTRN2012
3039424.002	752008.494	1792692.829	16039696.278	.033	C	ADJUSTMENT	2011	GPS2814
3039424.002	752008.494	1792692.829	16039696.278	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039424.052	752008.459	1792692.879	16039696.242	.033	C	GPS - STATIC	2010	HFRON
3039424.182	752008.452	1792693.009	16039696.234	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3039424.271	752007.407	1792693.085	16039695.189	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2414816.736	423932.779			.100	3	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_AZ_MK-PP2294-3W-23MAR2010.jpg	W	Mar 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_AZ_MK-PP2294-2-23MAR2010.jpg		Mar 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_AZ_MK-PP2294-1-23MAR2010.jpg		Mar 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CEGAL 2 RM 3

NGS Name: CEGAL 2 RM 3

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	17	108 N	13 W	440944.48	922507.74	2	

NGS ACRN: CJ8045	Get Map
NGS Quad / Sta Num : 44092234/	
USGS Quad: ZUMBRO LAKE	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: CEGAL 2 NO 3 1977

10.75 MILES NORTHEAST OF ROCHESTER, 0.25 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, 74.5 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63, 1.5 FEET WEST OF A NORTH-SOUTH FENCE LINE, 24.14 FEET NORTH OF STATION CEGAL 2, 23.9 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1161.195	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1161.195	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1161.179	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_RM_3-CJ8045-3E-23MAR2010.jpg	E	Mar 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_RM_3-CJ8045-2-23MAR2010.jpg		Mar 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_2_RM_3-CJ8045-1-23MAR2010.jpg		Mar 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CEGAL AZ MK

NGS Name: CEGAL AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3946](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	18	108 N	13 W	440907.00	922530.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description: (2007)

Stamping: CEGAL 1935

6.0 MILES EAST OF ORONOCO, 5.5 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND 2ND AVENUE NORTHEAST IN ORONOCO, THEN 0.2 MILE SOUTH ON TRUNK HIGHWAY 63.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.422 12B = -98.412 09 = -98.297 03 = -98.195



Mn/DOT Name: CEGAL RM 1

NGS Name: CEGAL RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2300](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/1001
USGS Quad: ZUMBRO LAKE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	17	108 N	13 W	440943.99	922507.24	2	2	1935	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2010)

Stamping: CEGAL NO 1 1935

10.75 MILES NORTHEAST OF ROCHESTER, 0.25 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, 47.03 FEET EAST OF STATION CEGAL 2, AT AN EAST-WEST FENCE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1163.105	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1163.105	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1163.088	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1151.572	.197		1053.499	.131	1996	HORIZONTAL ADJUSTMENT	1999 17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1151.605						RECIPROCAL VERTICAL ANGLE	1935 HORZ

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 43.98819	92 25 07.23539	630691.558	220090.584	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 43.97775	92 25 07.23419	630691.651	220089.527	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 44.10022	92 25 06.59539			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u> <u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3039594.694	755770.156	1792909.622	16043454.383	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u> <u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3039594.802	755769.100	1792909.717	16043453.327	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u> <u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2414986.471	427694.599			.100	2	CLASSICAL SURVEY	1937	03491



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_RM_1-PP2300-3W-23MAR2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_RM_1-PP2300-2-23MAR2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CEGAL_RM_1-PP2300-1-23MAR2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Mar 23, 2010
	Mar 23, 2010
	Mar 23, 2010



Mn/DOT Name: CEGAL RM 2

NGS Name: CEGAL RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ8043](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	18	108 N	13 W	440944.00	922508.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

6.0 MILES EAST OF ORONOCO, 5.5 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND 2ND AVENUE NORTHEAST IN ORONOCO, THEN 0.1 MILE SOUTH ON TRUNK HIGHWAY 63.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.405 09 = -98.287 03 = -98.189



Mn/DOT Name: CHACE

NGS Name: CHACE

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	108 N	13 W	440956.00	922131.83	2	C

NGS ACRN: [DN1760](#)
NGS Quad / Sta Num : 44092231/
USGS Quad: MILLVILLE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: CHACE 2010

1.0 MILE WEST OF POTSDAM, 1.0 MILE WEST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND COUNTY ROAD 11 NORTH IN POTSDAM, AT TRUNK HIGHWAY 247 MILEPOINT 3.0, 69.0 FEET SOUTH OF TRUNK HIGHWAY 247, 55.8 FEET EAST OF COUNTY ROAD 11, 53.8 FEET SOUTHWEST OF TRUNK HIGHWAY 247 MILEPOST 3, 8.9 FEET EAST OF CABLE BOX NUMBER 1214 9, 1.0 FOOT NORTH-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1072.019	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1072.019	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1072.006	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1072.019			973.650	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1072.006	.131		973.873	.066	1996	GPS - STATIC	2014	HOLMS
1072.019			973.653	.008	2011	GPS - STATIC	2014	HOLMS
1071.891	.262		973.679	.197	2007	GPS - RTRN	2012	RTRN2012
			973.650	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1072.012	.131		973.771	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1072.012	.131		973.771	.066	2007	GPS - STATIC	2011	HFRON
1072.012	.131		973.873	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.353 09 = -98.212 03 = -98.117

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 55.99697	92 21 31.82957	646386.071	221407.204	.007		ADJUSTMENT	2014	GPS3018
44 09 55.99696	92 21 31.82960	646386.069	221407.203	.007	C	GPS - STATIC	2014	HOLMS
44 09 55.99697	92 21 31.82957	646386.071	221407.204	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 55.99659	92 21 31.83043	646386.008	221407.165	.131	3	GPS - RTRN	2012	RTRN2012
44 09 55.99708	92 21 31.83027	646386.020	221407.214	.033	C	ADJUSTMENT	2011	GPS2814
44 09 55.99708	92 21 31.83027	646386.020	221407.214	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 09 55.99672	92 21 31.82958	646386.070	221407.178	.033	C	GPS - STATIC	2014	HOLMS
44 09 55.99672	92 21 31.82958	646386.070	221407.178	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055268.476	757295.366	1808596.086	16044786.622	.007		ADJUSTMENT	2014	GPS3018
3055268.474	757295.365	1808596.083	16044786.621	.007	C	GPS - STATIC	2014	HOLMS
3055268.476	757295.366	1808596.086	16044786.622	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055268.414	757295.326	1808596.023	16044786.583	.131	3	GPS - RTRN	2012	RTRN2012
3055268.425	757295.376	1808596.034	16044786.633	.033	C	ADJUSTMENT	2011	GPS2814
3055268.425	757295.376	1808596.034	16044786.633	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3055268.475	757295.340	1808596.085	16044786.597	.033	C	GPS - STATIC	2014	HOLMS
3055268.475	757295.340	1808596.085	16044786.597	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHACE-DN1760-3S-12SEP2012.jpg	S	Sep 12, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHACE-DN1760-2-12SEP2012.jpg		Sep 12, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHACE-DN1760-1-12SEP2012.jpg		Sep 12, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHANCE

NGS Name: CHANCE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2837](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	35	105 N	12 W	435119.54	921332.39	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 27 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: CHANCE 2013

1.5 MILES WEST OF CHATFIELD, 1.7 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 238.1, 37.7 FEET SOUTH-SOUTHWEST OF TRUNK HIGHWAY 30, 21.7 FEET EAST-SOUTHEAST OF A FIELD ENTRANCE, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: HOLLOW - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
985.585	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
985.589	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
985.520			887.344	.025	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
985.562	.131		887.616	.066	1996	GPS - STATIC	2014	HOLMS
985.520			887.344	.025	2011	GPS - STATIC	2014	HOLMS
985.493	.262		887.318	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.176 09 = -98.084 03 = -97.966

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 19.53569	92 13 32.39373	682281.250	108615.263	.026		ADJUSTMENT	2014	GPS3018
43 51 19.53569	92 13 32.39373	682281.250	108615.263	.026	C	GPS - STATIC	2014	HOLMS
43 51 19.53481	92 13 32.39316	682281.292	108615.175	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 19.53520	92 13 32.39385	682281.241	108615.214	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3092659.349	645002.003	1844590.323	15932077.583	.026		ADJUSTMENT	2014	GPS3018
3092659.349	645002.003	1844590.323	15932077.583	.026	C	GPS - STATIC	2014	HOLMS
3092659.393	645001.915	1844590.366	15932077.494	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3092659.342	645001.953	1844590.315	15932077.533	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHANCE-DP2837-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHANCE-DP2837-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHANCE-DP2837-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHATFIELD

NGS Name: CHATFIELD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000811](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1021
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	20	105 N	11 W	435236.61	921015.45		1	1927	2007	GOOD	Horz=YES Vert=YES	NO		RECESSED 12 IN.	STEEL ROD ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1994)

Stamping: CHATFIELD 1927

2.5 MILES NORTH-NORTHEAST OF CHATFIELD, 2.4 MILES EAST AND NORTH ON COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 52 IN CHATFIELD, IN A CULTIVATED FIELD, 503.0 FEET WEST OF COUNTY ROAD 10, 431.0 FEET SOUTH OF A FENCE CORNER AT THE SOUTHWEST CORNER OF A FARMYARD, 334.85 FEET NORTHWEST OF CHATFIELD RM 3, 340.08 FEET NORTHEAST OF CHATFIELD RM 4, 312.0 FEET NORTH OF A FENCE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>
1299.538	.131		1201.615	.066	1996	1999	17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>
1299.505						1927	HORZ

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.218 09 = -98.126 03 = -98.005

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 36.61228	92 10 15.45475	696641.149	116545.768	.033	1	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 36.60126	92 10 15.45571	696641.089	116544.651	.033	1	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 36.73400	92 10 14.87400			.100	1	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3106911.240	653122.636	1858936.605	15940019.033	.033	1	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3106911.195	653121.519	1858936.546	15940017.917	.033	1	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2482300.705	325049.181			.100	1	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: CHATFIELD AZ MK 2

NGS Name: CHATFIELD AZ MK 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000806](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/1021
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	105 N	11 W	435143.28	921018.70	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1927	2013	GOOD	Horz=NO Vert=YES	YES		RECESSED 3 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2010)

Stamping: CHATFIELD 1927 1979

1.4 MILES NORTHEAST OF CHATFIELD, 1.35 MILES EAST AND NORTHEAST ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 52 IN CHATFIELD, 63.5 FEET NORTH OF COUNTY ROAD 10, 3.5 FEET NORTH OF A POWER POLE, 0.9 FOOT EAST-NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1256.267	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1256.284	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1256.129	.262		1157.862	.197	2011	GPS - RTRN	2013	RTRN2013
1256.559	.262		1158.593	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1255.903						DIGITIZED FROM MAP	1980	HORZ

Geoid Separations(ft): GEOID18 = -98.264 12B = -98.268 09 = -98.182 03 = -98.051

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 43.27951	92 10 18.69640	696452.483	111143.125	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 43.28054	92 10 18.69535	696452.559	111143.230	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 43.26957	92 10 18.69619	696452.507	111142.118	.131	3	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
43 51 43.40195	92 10 18.11334			.100	3	CLASSICAL SURVEY	1981	16468



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3106794.631	647718.348	1858753.336	15934618.368	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3106794.705	647718.454	1858753.412	15934618.473	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3106794.669	647717.342	1858753.362	15934617.362	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2482184.266	319645.024			.100	3	CLASSICAL SURVEY	1981	16468

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_AZ_MK_2-OO0806-3NW-12MAY2010.jpg	NW	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_AZ_MK_2-OO0806-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_AZ_MK_2-OO0806-1-29NOV2007.jpg		Nov 29, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHATFIELD INTST POWER CO MAST

NGS Name: CHATFIELD INTST POWER CO MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0802](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	32	105 N	11 W	435100.28	921031.40		4	1978	2021	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION
<u>Monument Type</u>				<u>Disk Type</u>				<u>Mon. Agency</u>							
BLANK				MICROWAVE MAST				MNDT							

Description: (2010)

Stamping:

0.5 MILE EAST OF CHATFIELD, 0.5 MILE EAST-NORTHEAST ALONG OLD TERRITORIAL ROAD FROM THE JUNCTION OF OLD TERRITORIAL ROAD AND AVENUE B SOUTHEAST IN CHATFIELD. THE MAST IS BUILT OF STEEL, 140.0 FEET HIGH.

Station Notes

SUPPORTED BY GUY WIRES AND PAINTED ALTERNATELY RED AND WHITE.
CHATFIELD TOWER. THE OWNER IS ALLIANT ENERGY, 1-800-ALLIANT.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.300 12B = -98.307 09 = -98.218 03 = -98.087

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>									
Geodetic Position		Olmsted County					Project Info		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 51 00.27857	92 10 31.39781	695561.047	106780.454	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>									
Geodetic Position		Olmsted County					Project Info		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 51 00.26747	92 10 31.39847	695561.009	106779.329	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>									
Geodetic Position							Project Info		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 51 00.39762	92 10 30.81479			.100	4	CLASSICAL SURVEY	1980	16259	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
				3105961.498	643344.487	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
				3105961.475	643343.362	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>			
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
				2481351.120	315270.861	.100	4	CLASSICAL SURVEY	1980	16259	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_INTST_POWER_CO_MAST-OO0802-3S-12MAY2010.jpg	S	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_INTST_POWER_CO_MAST-OO0802-2-12MAY2010.jpg		May 12, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHATFIELD RM 1

NGS Name: CHATFIELD RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5254](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	20	105 N	11 W	435240.95	921009.06		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1927	1980	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

2.1 MILES NORTH OF CHATFIELD, 2.1 MILES NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND BENNET STREET NORTHEAST IN CHATFIELD.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.212 12B = -98.215 09 = -98.123 03 = -98.002



Mn/DOT Name: CHATFIELD RM 2

NGS Name: CHATFIELD RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5255](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	20	105 N	11 W	435219.00	921009.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1927	1980	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

1.7 MILES NORTH OF CHATFIELD, 1.7 MILES NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND BENNET STREET NORTHEAST IN CHATFIELD.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.238 09 = -98.149 03 = -98.021



Mn/DOT Name: CHATFIELD RM 3

NGS Name: CHATFIELD RM 3 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0814](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1021
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>				
NW	29	105 N	11 W	435233.54	921013.75		2				
<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>		<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>			
1935	2010	GOOD		Horz=YES Vert=YES	YES		PROJECTS 6 IN.	MARKER W/BAR MAGNET			

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2010)

Stamping: CHATFIELD NO 3 1935

2.5 MILES NORTH-NORTHEAST OF CHATFIELD, 0.35 MILE EAST ON COUNTY ROAD 10 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 10 IN CHATFIELD, THEN 2.1 MILES NORTH ON COUNTY ROAD 10, 335.0 FEET SOUTHEAST OF STATION CHATFIELD, 262.1 FEET EAST FROM CHATFIELD RM 4, AT A FENCE, 1.0 FOOT NORTH OF A WITNESS POST.

Station Notes

ACCESS BY WAY OF A FIELD ROAD SOUTH OF THE FENCE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1302.819	.197		1204.893	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1302.786						RECIPROCAL VERTICAL ANGLE	1935	HORZ

Geoid Separations(ft): GEOID18 = -98.218 12B = -98.222 09 = -98.130 03 = -98.008

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 52 33.54182	92 10 13.75353	696768.572	116235.978	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 52 33.53080	92 10 13.75449	696768.512	116234.862	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
43 52 33.66352	92 10 13.17281			.100	2	CLASSICAL SURVEY	1981	16468

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107042.772	652814.596	1859064.282	15939709.494	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107042.727	652813.479	1859064.223	15939708.377	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2482432.239	324741.142			.100	2	CLASSICAL SURVEY	1981	16468



<u>Station Photos</u>			
<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_3_RESET-OO0814-3N-16JUN2010.jpg	N	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_3_RESET-OO0814-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_3_RESET-OO0814-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHATFIELD RM 4

NGS Name: CHATFIELD RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5256](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	29	105 N	11 W	435235.00	921016.00			1978	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2012)

Stamping: CHATFIELD NO 4 1927 1978

2.0 MILES NORTH-NORTHEAST OF CHATFIELD, 2.1 MILES NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND BENNET STREET NORTHEAST IN CHATFIELD, 340.0 FEET SOUTH-SOUTHWEST OF STATION CHATFIELD, 262.0 FEET WEST OF CHATFIELD RM 3, 1.0 FOOT NORTH OF A FENCE, 1.3 FEET NORTH OF A WITNESS POST.

Station Notes

GOOD FIELD ROAD ALONG THE SOUTH SIDE OF A FENCE. THE FENCE IS ON THE CENTERLINE OF COUNTY ROAD 110 EXTENDED WEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.218 09 = -98.130 03 = -98.005

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_4-CI5256-3N-16JUN2010.jpg	N	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_4-CI5256-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHATFIELD_RM_4-CI5256-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHERYL

NGS Name: CHERYL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9070](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	18	108 N	14 W	440948.52	923237.17	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** CHERYL 2012

IN ORONOCO, 0.4 MILE SOUTHEAST ALONG 5TH STREET NORTHWEST FROM THE JUNCTION OF 5TH STREET NORTHWEST AND COUNTY ROAD 12 BRIDGE EAST (5TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 65.80, 26.0 FEET NORTHEAST OF 5TH STREET NORTHWEST, 43.2 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 2.1 FEET SOUTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
973.276	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
973.276	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825
973.276	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
973.276				874.765	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
973.276	.131			874.982	.066	1996	GPS - STATIC	2014	HOLMS
973.276				874.765	.018	2011	GPS - STATIC	2014	HOLMS
973.164	.262			874.742	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.533 12B = -98.533 09 = -98.425 03 = -98.281

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 09 48.52011	92 32 37.16738	597889.947	220376.315	.020		ADJUSTMENT	2014	GPS3018
44 09 48.52011	92 32 37.16738	597889.947	220376.315	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 09 48.51937	92 32 37.16721	597889.960	220376.241	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 09 48.52002	92 32 37.16766	597889.927	220376.306	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3006795.984	755619.637	1760121.970	16043706.281	.020		ADJUSTMENT	2014	GPS3018
3006795.984	755619.637	1760121.970	16043706.281	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3006795.998	755619.563	1760121.983	16043706.206	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3006795.964	755619.628	1760121.950	16043706.272	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHERYL-DO9070-3SE-13NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHERYL-DO9070-2-13NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHERYL-DO9070-1-13NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SE	Nov 13, 2012
	Nov 13, 2012
	Nov 13, 2012



Mn/DOT Name: CHESTERWOODS

NGS Name: CHESTERWOODS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8785](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	7	106 N	12 W	440002.53	921844.22	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 30 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** CHESTERWOODS 2012

3.5 MILES WEST OF EYOTA, 3.55 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 221.35, 48.8 FEET SOUTH-SOUTHWEST TRUNK OF HIGHWAY 14, 134.7 FEET WEST-NORTHWEST OF THE ENTRANCE TO CHESTER WOODS PARK, 1.7 FEET EAST-NORTHEAST OF A FENCE, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1187.655	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1187.655	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1187.655	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1187.655			1089.575	.012	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1187.655	.131		1089.798	.066	1996	GPS - STATIC	2013 HCHES
1187.655			1089.575	.012	2011	GPS - STATIC	2013 HCHES
1187.570	.262		1089.617	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.081 12B = -98.087 09 = -97.953 03 = -97.857

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 02.52906	92 18 44.22272	659044.049	161395.513	.016		ADJUSTMENT	2013 GPS2950	
44 00 02.52906	92 18 44.22272	659044.049	161395.513	.016	C	GPS - STATIC	2013 HCHES	

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 02.52836	92 18 44.22250	659044.065	161395.443	.131	3	GPS - RTRN	2012 RTRN2012	

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 02.52880	92 18 44.22285	659044.039	161395.487	.033	C	GPS - STATIC	2013 HCHES	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year Reference	
3068722.993	697463.757	1821310.037	15984812.970	.016		ADJUSTMENT	2013 GPS2950	
3068722.993	697463.757	1821310.037	15984812.970	.016	C	GPS - STATIC	2013 HCHES	

NAD83(2007)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year Reference	
3068723.011	697463.686	1821310.054	15984812.899	.131	3	GPS - RTRN	2012 RTRN2012	

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year Reference	
3068722.985	697463.730	1821310.028	15984812.944	.033	C	GPS - STATIC	2013 HCHES	



<u>Station Photos</u>		<u>Dir</u>	<u>Date</u>
<u>Type</u>	<u>File Name</u>		
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHESTERWOODS-DO8785-3S-14NOV2012.jpg	S	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHESTERWOODS-DO8785-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHESTERWOODS-DO8785-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CHIPOTLE

NGS Name: CHIPOTLE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8786](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	10	106 N	14 W	440024.55	922853.07	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: CHIPOTLE 2012

IN ROCHESTER, AT THE SOUTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 212.70, 31.8 FEET SOUTH OF EASTBOUND TRUNK HIGHWAY 14, 115.8 FEET EAST OF THE SOUTHEAST CORNER OF A BRIDGE OVER TRUNK HIGHWAY 52, 1.5 FEET WEST OF A WITNESS POST. ORIGINAL REMOVABLE DISK IS GONE, NEW DISK WAS INCORRECTLY STAMPED 2023, SHOULD BE 2012.

Station Pair: HANCOCK - OLMSTED, MN

Station Notes

NEED TO RESTAMP DISK DATE TO 2012.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1028.859	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1028.859	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1028.859	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1028.859	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1028.859	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj		Year	Reference
1028.859			930.290	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1028.859	.131		930.503	.066	1996	GPS - STATIC	2024	HTH63
1028.859			930.290	.019	2011	GPS - STATIC	2024	HTH63
1028.859			930.313	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1028.859	.131		930.543	.066	1996	GPS - STATIC	2013	HCHES
1028.859			930.313	.009	2011	GPS - STATIC	2013	HCHES
1028.837	.262		930.251	.197	2011	GPS - RTRN	2013	RTRN2013
1028.846	.262		930.339	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.586 09 = -98.507 03 = -98.317

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 24.54791	92 28 53.06739	614527.703	163344.727	.010		ADJUSTMENT	2024	GPS3721
44 00 24.54791	92 28 53.06739	614527.703	163344.727	.010	C	GPS - STATIC	2024	HTH63
44 00 24.54851	92 28 53.06801	614527.657	163344.788	.013		ADJUSTMENT	2013	GPS2950
44 00 24.54851	92 28 53.06801	614527.657	163344.788	.013	C	GPS - STATIC	2013	HCHES
44 00 24.54744	92 28 53.06799	614527.659	163344.679	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 24.54859	92 28 53.06773	614527.678	163344.796	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 24.54775	92 28 53.06762	614527.686	163344.711	.033	C	GPS - STATIC	2024	HTH63
44 00 24.54830	92 28 53.06824	614527.641	163344.766	.033	C	GPS - STATIC	2013	HCHES



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3024188.751	698820.228	1776810.562	15986716.416	.010		ADJUSTMENT	2024	GPS3721
3024188.751	698820.228	1776810.562	15986716.416	.010	C	GPS - STATIC	2024	HTH63
3024188.705	698820.288	1776810.516	15986716.477	.013		ADJUSTMENT	2013	GPS2950
3024188.705	698820.288	1776810.516	15986716.477	.013	C	GPS - STATIC	2013	HCHES
3024188.708	698820.179	1776810.518	15986716.368	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3024188.725	698820.296	1776810.536	15986716.485	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3024188.735	698820.211	1776810.545	15986716.400	.033	C	GPS - STATIC	2024	HTH63
3024188.688	698820.266	1776810.499	15986716.455	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHIPOTLE-DO8786-3S-04APR2023.jpg	S	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHIPOTLE-DO8786-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CHIPOTLE-DO8786-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CLAIRE

NGS Name: CLAIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1761](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	107 N	12 W	440249.81	921456.32	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2012	POOR	Horz=NO Vert=NO	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) **Stamping:** CLAIRE 2010

4.3 MILES NORTH OF EYOTA, 3.3 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 42 MILEPOINT 3.4, 64.8 FEET EAST OF TRUNK HIGHWAY 42, 11.6 FEET SOUTHWEST OF CABLE BOX NUMBER 8000 22, 1.6 FEET WEST OF A WITNESS POST.

Station Notes

FOUND CAP LOOSE. USE WITH CAUTION.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1286.329	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1286.329	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1286.329	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1286.362	.262		1188.298	.197	2011	GPS - RTRN	2021 RTRN2021
1286.198	.262		1188.272	.197	2007	GPS - RTRN	2012 RTRN2012
			1188.242	.009	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1286.316	.131		1188.364	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1286.316	.131		1188.364	.066	2007	GPS - STATIC	2011 HFRON
1286.316	.131		1188.515	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.058 09 = -97.926 03 = -97.841

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 49.81056	92 14 56.31658	675565.937	178463.536	.131	3	GPS - RTRN
44 02 49.81140	92 14 56.31760	675565.862	178463.620	.007		ADJUSTMENT

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 49.81212	92 14 56.31772	675565.853	178463.693	.131	3	GPS - RTRN
44 02 49.81152	92 14 56.31856	675565.792	178463.632	.033	C	ADJUSTMENT
44 02 49.81152	92 14 56.31856	675565.792	178463.632	.033	C	GPS - STATIC

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 02 49.81121	92 14 56.31777	675565.850	178463.601	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085014.504	714748.709	1837807.843	16001890.707	.131	3	GPS - RTRN	2021	RTRN2021
3085014.427	714748.792	1837807.768	16001890.791	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085014.417	714748.865	1837807.759	16001890.864	.131	3	GPS - RTRN	2012	RTRN2012
3085014.357	714748.803	1837807.698	16001890.803	.033	C	ADJUSTMENT	2011	GPS2814
3085014.357	714748.803	1837807.698	16001890.803	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085014.415	714748.773	1837807.756	16001890.772	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CLAIRE-DN1761-3E-20MAY2010.jpg	E	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CLAIRE-DN1761-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CLAIRE-DN1761-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CONDRON

NGS Name: CONDRON

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0888](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	15	106 N	13 W	435910.27	922243.43		

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	MNDT

Description: (1935) **Stamping:** CONDRON C&GS 1935

4.5 MILES SOUTHEAST OF ROCHESTER, 3.25 MILES NORTHWEST OF MARION, 2.0 MILES SOUTHWEST OF CHESTER, 4.3 MILES EAST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.65 MILES SOUTH ON COUNTY ROAD 11, 148.0 FEET SOUTH OF TIMBERIDGE COURT SOUTHEAST, 132.0 FEET NORTHEAST OF A POWER POLE, 107.3 FEET NORTH-NORTHWEST OF A POWER POLE, 35.8 FEET EAST OF COUNTY ROAD 11, 2.7 FEET WEST-SOUTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1231.625	.262		1133.735	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648	

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.241 09 = -98.143 03 = -98.005

Lat/Lon and County Coordinates (Feet)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 59 10.27351	92 22 43.42961	641593.385	155982.791	.131	3	ADJUSTMENT	1999	17648

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 59 10.26203	92 22 43.43076	641593.309	155981.628	.131	3	ADJUSTMENT	1986	17289

Geodetic Position		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Reference
43 59 10.39500	92 22 42.80900			.100	3	03491

State Plane and UTM Coordinates (Feet)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3051347.515	691819.687	1803872.129	15979384.920	.131	3	ADJUSTMENT	1999	17648

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3051347.454	691818.524	1803872.054	15979383.757	.131	3	ADJUSTMENT	1986	17289

MN State Plane - South Zone		Determination Method			Project Info	
X	Y	X	Y	Acc	Order	Reference
2426738.281	363745.721			.100	3	03491



Mn/DOT Name: CONDRON AZ MK

NGS Name: CONDRON AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6140](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	13 W	435902.00	922244.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: Stamping: CONDRON 1935

4.6 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, THEN 1.75 MILES SOUTH ON COUNTY ROAD 11.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.238 09 = -98.140 03 = -98.005



Mn/DOT Name: CONDRON RESET

NGS Name: CONDRON RESET

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	15	106 N	13 W	435910.27	922243.43	2	C

NGS ACRN: [DF3995](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1023
USGS Quad: SIMPSON

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1967	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2013)

Stamping: CONDRON CGS 1935 1967

4.5 MILES SOUTHEAST OF ROCHESTER, 3.25 MILES NORTHWEST OF MARION, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.65 MILES SOUTH ON COUNTY ROAD 11 (50TH AVENUE SOUTHEAST), 1036.2 FEET WEST-NORTHWEST OF CONDRON RM 3 RESET, 148.0 FEET SOUTH OF TIMBER RIDGE COURT SOUTHEAST, 132.0 FEET NORTHEAST OF A POWER POLE, 107.3 FEET NORTH-NORTHWEST OF A POWER POLE, 35.8 FEET EAST OF COUNTY ROAD 11, 2.7 FEET WEST-SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1233.200	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1233.200	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825	
1233.209	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1233.209				1134.968	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
				1134.968	.007	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B	
1233.209	.131			1135.204	.066	1996	GPS - STATIC	2014	HOLMS	
1233.209				1134.975	.010	2011	GPS - STATIC	2014	HOLMS	
1233.209				1134.968	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950	
1233.209	.131			1135.204	.066	1996	GPS - STATIC	2013	HCHES	
1233.209				1134.965	.008	2011	GPS - STATIC	2013	HCHES	
1233.167				1134.968	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902	
1233.232				1134.965	.008	2011	GPS - STATIC	2013	HPRED	
1233.200	.131			1135.237	.066	1996	GPS - STATIC	2013	HPRED	
				1134.968	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1233.141	.262			1134.998	.197	2007	GPS - RTRN	2011	RTRN2011	
1233.167	.131			1135.080	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814	
1233.167	.131			1135.080	.066	2007	GPS - STATIC	2011	HFRON	
1233.200	.131			1135.237	.066	1996	GPS - STATIC	2010	HFRON	
				1135.080	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1233.232	.131			1135.237	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770	
1233.232	.131			1135.237	.066	1996	GPS - STATIC	2002	HI90	

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.241 09 = -98.143 03 = -98.005

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 10.27418	92 22 43.43068	641593.307	155982.859	.007		ADJUSTMENT	2014	GPS3018
43 59 10.27418	92 22 43.43068	641593.307	155982.859	.007		ADJUSTMENT	2014	GPS2902-B
43 59 10.27420	92 22 43.43071	641593.304	155982.861	.007	C	GPS - STATIC	2014	HOLMS
43 59 10.27418	92 22 43.43068	641593.307	155982.859	.007		ADJUSTMENT	2013	GPS2950
43 59 10.27419	92 22 43.43069	641593.306	155982.860	.007	C	GPS - STATIC	2013	HCHES
43 59 10.27418	92 22 43.43068	641593.307	155982.859	.007		ADJUSTMENT	2013	GPS2902
43 59 10.27409	92 22 43.43065	641593.309	155982.850	.007	C	GPS - STATIC	2013	HPRED
43 59 10.27418	92 22 43.43068	641593.307	155982.859	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 10.27316	92 22 43.43148	641593.249	155982.755	.131	3	GPS - RTRN	2011	RTRN2011
43 59 10.27431	92 22 43.43155	641593.243	155982.871	.033	C	ADJUSTMENT	2011	GPS2814
43 59 10.27431	92 22 43.43155	641593.243	155982.871	.033	C	GPS - STATIC	2011	HFRON
43 59 10.27431	92 22 43.43155	641593.243	155982.871	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 10.27395	92 22 43.43077	641593.300	155982.835	.033	C	GPS - STATIC	2014	HOLMS
43 59 10.27395	92 22 43.43077	641593.300	155982.835	.033	C	GPS - STATIC	2013	HCHES
43 59 10.27395	92 22 43.43077	641593.300	155982.835	.033	C	GPS - STATIC	2013	HPRED
43 59 10.27395	92 22 43.43077	641593.300	155982.835	.033	C	GPS - STATIC	2010	HFRON
43 59 10.27395	92 22 43.43077	641593.300	155982.835	.033	C	ADJUSTMENT	2003	GPS1770
43 59 10.27395	92 22 43.43077	641593.300	155982.834	.033	C	GPS - STATIC	2002	HI90

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 10.26203	92 22 43.43076	641593.310	155981.627	.033	C	GPS - STATIC	1991	H1991

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 59 10.39500	92 22 42.80900			.100	C	CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051347.436	691819.753	1803872.050	15979384.987	.007		ADJUSTMENT	2014	GPS3018
3051347.436	691819.753	1803872.050	15979384.987	.007		ADJUSTMENT	2014	GPS2902-B
3051347.434	691819.755	1803872.048	15979384.989	.007	C	GPS - STATIC	2014	HOLMS
3051347.436	691819.753	1803872.050	15979384.987	.007		ADJUSTMENT	2013	GPS2950
3051347.435	691819.754	1803872.049	15979384.988	.007	C	GPS - STATIC	2013	HCHES
3051347.436	691819.753	1803872.050	15979384.987	.007		ADJUSTMENT	2013	GPS2902
3051347.438	691819.745	1803872.052	15979384.978	.007	C	GPS - STATIC	2013	HPRED
3051347.436	691819.753	1803872.050	15979384.987	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051347.380	691819.649	1803871.993	15979384.883	.131	3	GPS - RTRN	2011	RTRN2011
3051347.372	691819.766	1803871.986	15979384.999	.033	C	ADJUSTMENT	2011	GPS2814
3051347.372	691819.766	1803871.986	15979384.999	.033	C	GPS - STATIC	2011	HFRON
3051347.372	691819.766	1803871.986	15979384.999	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051347.430	691819.730	1803872.044	15979384.963	.033	C	GPS - STATIC	2014	HOLMS
3051347.430	691819.730	1803872.044	15979384.963	.033	C	GPS - STATIC	2013	HCHES
3051347.430	691819.730	1803872.044	15979384.963	.033	C	GPS - STATIC	2013	HPRED
3051347.430	691819.730	1803872.044	15979384.963	.033	C	GPS - STATIC	2010	HFRON
3051347.430	691819.730	1803872.044	15979384.963	.033	C	ADJUSTMENT	2003	GPS1770
3051347.430	691819.730	1803872.044	15979384.963	.033	C	GPS - STATIC	2002	HI90

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3051347.454	691818.524	1803872.054	15979383.757	.033	C	GPS - STATIC	1991	H1991

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2426738.280	363745.720			.100	C	CLASSICAL SURVEY	1950	UNK

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CONDON_RESET-DF3995-3E-27SEP2011.jpg	E	Sep 27, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CONDON_RESET-DF3995-2-27SEP2011.jpg		Sep 27, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CONDON_RESET-DF3995-1-27SEP2011.jpg		Sep 27, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: CONDRON RM 1

NGS Name: CONDRON RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6141](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	13 W	435910.00	922243.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1967	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description:

Stamping:

4.4 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.55 MILES SOUTH ON COUNTY ROAD 11.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.238 09 = -98.140 03 = -98.005



Mn/DOT Name: CONDRON RM 2

NGS Name: CONDRON RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6142](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	13 W	435910.00	922243.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description:

Stamping:

4.4 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.55 MILES SOUTH ON COUNTY ROAD 11.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.238 09 = -98.140 03 = -98.005



Mn/DOT Name: CONDRON RM 3

NGS Name: CONDRON RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6143](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	13 W	435907.00	922230.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description:

Stamping:

4.5 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.55 MILES SOUTH ON COUNTY ROAD 11, THEN 600.0 FEET EAST ON TIMBERIDGE COURT SOUTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.222 12B = -98.228 09 = -98.126 03 = -97.995



Mn/DOT Name: CONDRON RM 3 RESET

NGS Name: CONDRON RM 3 RESET

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	15	106 N	13 W	435910.00	922243.00		

NGS ACRN: [CI6144](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1967	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description:

Stamping:

4.4 MILES SOUTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 1.55 MILES SOUTH ON COUNTY ROAD 11.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.238 09 = -98.140 03 = -98.005



Mn/DOT Name: CONTROL POINT A 1987

NGS Name: CONTROL POINT A 1987

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AA9050](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	105 N	14 W	435401.00	923016.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1987	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	NAIL	NGS

Description: (2016)

Stamping: CTRL PT A 1987

9.5 MILES SOUTHWEST OF ROCHESTER, AT THE ROCHESTER MUNICIPAL AIRPORT NEAR RUNWAY END 2, AT THE SOUTHWEST CORNER OF THE SOUTHWEST PARALLEL TAXIWAY, ABOUT 320.0 FEET SOUTHWEST OF CENTERLINE END 2.

Station Notes

THIS STATION IS A PK NAIL AND WASHER STAMPED, CTRL PT A 1987.
THE TAXIWAY AND THE RUNWAY WERE EXTENDED. THE STATION WAS GRADED OUT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.327 12B = -98.346 09 = -98.290 03 = -98.077



Mn/DOT Name: CYCLONE

NGS Name: CYCLONE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7516](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	15	105 N	14 W	435349.13	922903.35	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 39 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: CYCLONE 2013

2.4 MILES NORTH OF STEWARTVILLE, 0.85 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 31.6, 67.7 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 17.8 FEET SOUTH-SOUTHWEST OF A RIGHT-OF-WAY POST, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: MCGOWAN MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1274.331	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1274.331	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1274.243	.262		1175.985	.197	2011	GPS - RTRN	2016	RTRN2016
1274.240	.262		1175.979	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.241 12B = -98.261 09 = -98.199 03 = -98.002

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 49.13171	92 29 03.35428	613985.788	123299.202	.131	3	GPS - RTRN	2016	RTRN2016
43 53 49.13202	92 29 03.35443	613985.777	123299.233	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024179.460	658774.416	1776309.076	15946687.630	.131	3	GPS - RTRN	2016	RTRN2016
3024179.448	658774.447	1776309.065	15946687.661	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CYCLONE-DP7516-3E-01MAY2013.jpg	E	May 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CYCLONE-DP7516-2-01MAY2013.jpg		May 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/CYCLONE-DP7516-1-01MAY2013.jpg		May 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: D 1

NGS Name: D 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	107 N	14 W	440333.00	922710.00	2	

NGS ACRN: [PP2135](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	1991	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
SEE DESCRIPTIVE TEXT

Disk Type
UNKNOWN

Mon. Agency
NGS

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 63.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1013.384	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.471 09 = -98.376 03 = -98.241

* No Horizontal Positions in the Database *



Mn/DOT Name: D 24

NGS Name: D 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0210](#) [Get Map](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	32	107 N	15 W	440153.83	923843.93	2	C	1933	2012	GOOD	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2000)

Stamping: 1261.845 D 24 1933

AT BYRON, AT THE JUNCTION OF BYRON AVENUE AND AN EAST-WEST RAILROAD, 32.0 FEET WEST OF BYRON AVENUE, 19.0 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 12.9 FEET NORTHWEST OF A RAILROAD SIGNAL, 1.0 FOOT EAST OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1261.848	.016	2/1					VERTICAL ADJUSTMENT	2008	00000425-30
1261.848	.016	2/1					VERTICAL CONTROL SURVEY	2006	VCANI
1261.848	.016	2/1					VERTICAL ADJUSTMENT	2006	00000497
1261.848	.016	2/1					VERTICAL CONTROL SURVEY	2001	VKASS
1261.848	.016	2/1					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1261.845	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1261.845	.016	2					VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1261.845	.007	1					VERTICAL CONTROL SURVEY	1933	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
				1163.410	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
				1163.488	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1261.841	.131			1163.702	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1261.841	.131			1163.702	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.441 12B = -98.445 09 = -98.366 03 = -98.176

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
44 01 53.82816	92 38 43.93322			571311.572	172200.852		.016		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>				<u>Olmsted County</u>			<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
44 01 53.82832	92 38 43.93419			571311.501	172200.868		.020		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
44 01 53.82781	92 38 43.93365			571311.541	172200.816		.033	C	ADJUSTMENT	2002	GPS1779
44 01 53.82781	92 38 43.93365			571311.541	172200.817		.033	C	GPS - STATIC	2001	HKASS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2980862.825	707100.421	1733604.358	15995524.977	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2980862.753	707100.437	1733604.287	15995524.993	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2980862.794	707100.385	1733604.327	15995524.941	.033	C	ADJUSTMENT	2002	GPS1779
2980862.794	707100.385	1733604.327	15995524.941	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24-PP0210-3NW-10MAY2010.jpg	NW	May 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24-PP0210-2-10MAY2010.jpg		May 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24-PP0210-1-15DEC2005.jpg		Dec 15, 2005

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: D 24 A

NGS Name: D 24 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK4806](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	20	107 N	15 W	440313.30	923853.30	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2006)

Stamping: D 24 A 2006

2.0 MILES NORTH OF BYRON, 1.75 MILES NORTH ALONG COUNTY ROAD 5 FROM THE JUNCTION OF COUNTY ROAD 5 AND TRUNK HIGHWAY 14 IN BYRON, 229.0 FEET SOUTH OF 20TH STREET EAST, 60.0 FEET EAST OF COUNTY ROAD 5, 1.8 FEET SOUTH OF A RIGHT-OF-WAY POST, 1.2 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1133.620	.016	2/1				VERTICAL ADJUSTMENT	2008 00000425-30
1133.620	.016	2/1				VERTICAL CONTROL SURVEY	2006 VCANI

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1133.610	.262		1035.191	.197	2011	GPS - OPUS	2021 GPSBM
1133.567	.262		1035.149	.197	2011	GPS - OPUS	2021 GPSBM
1133.682	.262		1035.264	.197	2011	GPS - RTRN	2021 RTRN2021

Geoid Separations(ft): GEOID18 = -98.418 12B = -98.422 09 = -98.330 03 = -98.146

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 03 13.18201	92 38 53.36153	570596.576	180234.507	.131	3	GPS - OPUS	2021 GPSBM	
44 03 13.18208	92 38 53.36142	570596.585	180234.515	.131	3	GPS - OPUS	2021 GPSBM	
44 03 13.18180	92 38 53.36103	570596.613	180234.486	.131	3	GPS - RTRN	2021 RTRN2021	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
2980041.273	715123.087	1732881.543	16003554.354	.131	3	GPS - OPUS	2021 GPSBM	
2980041.281	715123.094	1732881.551	16003554.361	.131	3	GPS - OPUS	2021 GPSBM	
2980041.310	715123.066	1732881.580	16003554.333	.131	3	GPS - RTRN	2021 RTRN2021	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24_A-DK4806-3E-10MAY2010.jpg	E	May 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24_A-DK4806-2-10MAY2010.jpg		May 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/D_24_A-DK4806-1-10MAY2010.jpg		May 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DAN

NGS Name: DAN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5541](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	105 N	12 W	435411.84	921417.37	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: DAN 2011

4.25 MILES NORTHWEST OF CHATFIELD, 4.1 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION (IN CHATFIELD) OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30, TO TRUNK HIGHWAY 52 MILEPOINT 38.95, THEN 0.35 MILE NORTH ON COUNTY ROAD 7, 31.8 FEET WEST OF COUNTY ROAD 7, 79.0 FEET SOUTH OF THE SOUTH END OF A GUARD RAIL, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1079.598	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1079.598	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1079.591	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1079.552	.262		981.478	.197	2011	GPS - OPUS	2021 GPSBM
1079.598	.262		981.524	.197	2011	GPS - RTRN	2021 RTRN2021
			981.481	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1079.591			981.481	.007	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1079.591			981.481	.007	2011	GPS - STATIC	2013 HPRED
1079.591	.131		981.730	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.071 12B = -98.084 09 = -97.969 03 = -97.851

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 11.83709	92 14 17.37398	678841.810	126035.348	.131	3	GPS - OPUS	2021	GPSBM
43 54 11.83728	92 14 17.37384	678841.820	126035.367	.131	3	GPS - RTRN	2021	RTRN2021
43 54 11.83706	92 14 17.37374	678841.828	126035.345	.016		ADJUSTMENT	2014	GPS2902-B
43 54 11.83694	92 14 17.37361	678841.838	126035.333	.010		ADJUSTMENT	2013	GPS2902
43 54 11.83694	92 14 17.37361	678841.838	126035.333	.010	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 11.83695	92 14 17.37399	678841.810	126035.334	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3088988.341	662373.428	1841135.064	15949487.163	.131	3	GPS - OPUS	2021	GPSBM
3088988.351	662373.447	1841135.074	15949487.182	.131	3	GPS - RTRN	2021	RTRN2021
3088988.359	662373.425	1841135.082	15949487.160	.016		ADJUSTMENT	2014	GPS2902-B
3088988.369	662373.413	1841135.091	15949487.148	.010		ADJUSTMENT	2013	GPS2902
3088988.369	662373.413	1841135.091	15949487.148	.010	C	GPS - STATIC	2013	HPRED

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3088988.341	662373.414	1841135.063	15949487.149	.033	C	GPS - STATIC	2013	HPRED



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAN-DO5541-3W-09APR2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAN-DO5541-2-09APR2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAN-DO5541-1-09APR2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Apr 9, 2012
	Apr 9, 2012
	Apr 9, 2012



Mn/DOT Name: DAVIS MNDT

NGS Name: DAVIS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0358](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1012
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	21	105 N	14 W	435252.00	922955.28	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2016	GOOD	Horz=NO Vert=NO	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2010) Stamping: DAVIS 1961

1.8 MILES NORTH-NORTHWEST OF STEWARTVILLE, 0.6 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT INTERSTATE HIGHWAY 90 MILEPOINT 208.95, ABOUT 200.0 FEET SOUTH-SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 103.0 FEET SOUTH OF A RIGHT-OF-WAY FENCE, 101.21 FEET SOUTH OF DAVIS RM 2, 74.0 FEET NORTH OF A FENCE CORNER, 71.90 FEET NORTHWEST OF DAVIS RM 1, 2.5 FEET SOUTHEAST OF A WITNESS POST, 1.4 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1305.614	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1305.529	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1305.529	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1305.529	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1305.617	.262			1207.373	.197	2011	GPS - RTRN	2016	RTRN2016
				1207.307	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
				1207.389	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1305.575	.131			1207.540	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1305.575	.131			1207.540	.066	1996	GPS - STATIC	2002	HI90
1305.608	.197			1207.776	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.245 09 = -98.185 03 = -97.982

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 51.99630	92 29 55.27817	610213.005	117493.868	.131	3	GPS - RTRN	2016	RTRN2016
43 52 51.99689	92 29 55.27842	610212.986	117493.927	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 51.99708	92 29 55.27921	610212.928	117493.946	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 51.99663	92 29 55.27850	610212.981	117493.901	.033	C	ADJUSTMENT	2003	GPS1770
43 52 51.99663	92 29 55.27850	610212.979	117493.902	.033	C	GPS - STATIC	2002	HI90
43 52 51.99291	92 29 55.27845	610212.986	117493.525	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 51.97697	92 29 55.27961	610212.909	117491.910	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 52 52.10659	92 29 54.64091			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3020484.489	652919.863	1772543.716	15940881.053	.131	3	GPS - RTRN	2016	RTRN2016
3020484.469	652919.922	1772543.698	15940881.112	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3020484.411	652919.940	1772543.640	15940881.131	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3020484.464	652919.896	1772543.692	15940881.086	.033	C	ADJUSTMENT	2003	GPS1770
3020484.464	652919.896	1772543.692	15940881.086	.033	C	GPS - STATIC	2002	HI90
3020484.474	652919.519	1772543.698	15940880.709	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3020484.419	652917.904	1772543.623	15940879.096	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2395875.677	324845.090			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAVIS-OO0358-3NE-03AUG2016.jpg	NE	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAVIS-OO0358-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DAVIS-OO0358-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DAVIS RM 1

NGS Name: DAVIS RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0359](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	21	105 N	14 W	435251.49	922954.59	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	NOT FOUND	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1961)

Stamping: DAVIS RM 1 1961

1.75 MILES NORTH-NORTHWEST OF STEWARTVILLE, 1.75 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 30, THEN 0.5 MILE WEST, ON THE NORTH SIDE OF A FENCE TO A FENCE CORNER, 67.0 FEET EAST OF THE FENCE CORNER, 71.9 FEET SOUTHEAST OF STATION DAVIS MNDT, 8.0 FEET WEST OF A 24.0 INCH DIAMETER OAK TREE, 1.5 FEET NORTH OF AN EAST-WEST FENCE.

Station Notes

IN 1996 THE GEODETIC UNIT SEARCHED FOR AND DID NOT FIND THE STATION-THE TIES FALL UNDER A ROCK PILE.
5-25-2010 STILL UNDER A ROCK PILE. THE DISK IS ON PRIVATE PROPERTY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1302.140	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1302.054	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1302.054	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.245 09 = -98.185 03 = -97.982

* No Horizontal Positions in the Database *



Mn/DOT Name: DAVIS RM 2

NGS Name: DAVIS RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0360](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	21	105 N	14 W	435253.00	922955.26	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	NOT FOUND	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1961)

Stamping: DAVIS RM 2 1961

1.75 MILES NORTH-NORTHWEST OF STEWARTVILLE, 1.75 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 0.5 MILE WEST ON THE NORTH SIDE OF A FENCE TO A FENCE CORNER, 145.0 FEET NORTH OF THE FENCE CORNER, 101.2 FEET NORTH OF STATION DAVIS MNDT, 32.0 FEET SOUTH OF A RIGHT-OF-WAY FENCE, 2.5 FEET WEST OF A NORTH-SOUTH FENCE.

Station Notes

IN 1996 THE GEODETIC UNIT SEARCHED FOR AND DID NOT FIND THE STATION.

5-25-2010 DID NOT FIND. 101.2 FEET NORTH OF STATION DAVIS MNDT DOES NOT FIT WITH THE REST OF THE TIES. BASED ON A FENCE CORNER TIE FOR ALL OF THE DAVIS MARKS THE DISTANCE SHOULD BE 71.0 FEET. THE DISK IS ON PRIVATE PROPERTY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1303.459	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1303.370	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1303.370	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.245 09 = -98.185 03 = -97.982

* No Horizontal Positions in the Database *



Mn/DOT Name: DITTRICH

NGS Name: DITTRICH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2838](#)
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	26	105 N	13 W	435146.22	922112.89	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** DITTRICH 2013

6.5 MILES EAST OF STEWARTVILLE, 6.75 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 230.9, 73.7 FEET SOUTH OF TRUNK HIGHWAY 30, 14.5 FEET WEST OF A FIELD ENTRANCE, 1.5 FEET NORTH OF A RIGHT-OF-WAY POST, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: BERNTSEN - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
1299.709	.016	2/1				VERTICAL ADJUSTMENT		2017	00000900
1299.712	.016	2/1				VERTICAL CONTROL SURVEY		2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
1299.748			1201.910	.019	2011	HORIZONTAL ADJUSTMENT		2014	GPS3018
1299.764	.131		1202.124	.066	1996	GPS - STATIC		2014	HOLMS
1299.748			1201.910	.019	2011	GPS - STATIC		2014	HOLMS
1299.735	.262		1201.897	.197	2011	GPS - RTRN		2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.811 12B = -97.838 09 = -97.752 03 = -97.602

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 46.21758	92 21 12.88828	648520.295	111060.560	.023		ADJUSTMENT	2014	GPS3018
43 51 46.21758	92 21 12.88828	648520.295	111060.560	.023	C	GPS - STATIC	2014	HOLMS
43 51 46.21755	92 21 12.88776	648520.334	111060.557	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 46.21736	92 21 12.88807	648520.311	111060.538	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3058871.203	646997.245	1810840.975	15934488.540	.023		ADJUSTMENT	2014	GPS3018
3058871.203	646997.245	1810840.975	15934488.540	.023	C	GPS - STATIC	2014	HOLMS
3058871.241	646997.243	1810841.013	15934488.538	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3058871.219	646997.223	1810840.991	15934488.518	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DITTRICH-DP2838-3S-16APR2013.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DITTRICH-DP2838-2-16APR2013.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DITTRICH-DP2838-1-16APR2013.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Apr 16, 2013
	Apr 16, 2013
	Apr 16, 2013



Mn/DOT Name: DOVER 7

NGS Name: DOVER 7

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2839](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	7	106 N	11 W	435951.04	921045.35	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: DOVER 7 2010

2.5 MILES NORTHEAST OF EYOTA, 1.3 MILES NORTH ALONG COUNTY ROAD 132 FROM THE JUNCTION OF COUNTY ROAD 132 AND TRUNK HIGHWAY 14 (THE JUNCTION IS 2.5 MILES EAST OF EYOTA), 36.0 FEET WEST OF COUNTY ROAD 132, 42.0 FEET SOUTH OF A FIELD ENTRANCE, 2.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1190.132	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1190.135	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1190.106			1092.009	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1190.106	.131		1092.229	.066	1996	GPS - STATIC	2014	HOLMS
1190.106			1092.009	.015	2011	GPS - STATIC	2014	HOLMS
1190.083	.262		1091.986	.197	2011	GPS - RTRN	2013	RTRN2013
1190.014	.262		1092.032	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.100 09 = -97.982 03 = -97.884

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 51.03826	92 10 45.34625	694058.314	160516.696	.016		ADJUSTMENT	2014	GPS3018
43 59 51.03826	92 10 45.34625	694058.314	160516.696	.016	C	GPS - STATIC	2014	HOLMS
43 59 51.03873	92 10 45.34488	694058.414	160516.744	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 51.03714	92 10 45.34630	694058.312	160516.582	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 51.03812	92 10 45.34650	694058.296	160516.681	.033	C	GPS - STATIC	2014	HOLMS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3103742.660	697051.611	1856310.937	15983969.834	.016		ADJUSTMENT	2014	GPS3018
3103742.660	697051.611	1856310.937	15983969.834	.016	C	GPS - STATIC	2014	HOLMS
3103742.759	697051.661	1856311.037	15983969.882	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3103742.658	697051.497	1856310.934	15983969.720	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3103742.642	697051.596	1856310.919	15983969.819	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_7-DP2839-3W-17NOV2010.jpg	W	Nov 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_7-DP2839-2-17NOV2010.jpg		Nov 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_7-DP2839-1-17NOV2010.jpg		Nov 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DOVER MNDT

NGS Name: DOVER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000099](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1005
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	106 N	11 W	435732.54	921044.38	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) **Stamping:** DOVER 1961

2.5 MILES SOUTHWEST OF DOVER, 2.0 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, THEN 1.3 MILES SOUTH ON COUNTY ROAD 32, 30.1 FEET EAST OF COUNTY ROAD 32, 75.0 FEET SOUTH OF A FIELD ENTRANCE, 64.6 FEET EAST OF DOVER RM 1, 2.6 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1307.747	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1307.701	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1307.665	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1307.625	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1307.625	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1307.625	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1307.720	.262		1209.630	.197	2011	GPS - OPUS	2021	GPSBM
1307.727	.262		1209.637	.197	2011	GPS - RTRN	2021	RTRN2021
1307.629	.262		1209.555	.197	2011	GPS - RTRN	2016	RTRN2016
			1209.584	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1209.676	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1307.609	.131		1209.804	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1307.609	.131		1209.804	.066	1996	GPS - STATIC	2002	HI90
1307.675	.197		1209.860	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.077 09 = -97.972 03 = -97.864

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 32.53766	92 10 44.37707	694254.616	146492.464	.131	3	GPS - OPUS	2021	GPSBM
43 57 32.53760	92 10 44.37702	694254.620	146492.458	.131	3	GPS - RTRN	2021	RTRN2021
43 57 32.53704	92 10 44.37731	694254.599	146492.401	.131	3	GPS - RTRN	2016	RTRN2016
43 57 32.53767	92 10 44.37701	694254.620	146492.466	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 32.53763	92 10 44.37807	694254.543	146492.461	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 32.53742	92 10 44.37719	694254.607	146492.440	.033	C	ADJUSTMENT	2003	GPS1770
43 57 32.53742	92 10 44.37719	694254.609	146492.440	.033	C	GPS - STATIC	2002	HI90
43 57 32.53788	92 10 44.37605	694254.690	146492.487	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 32.52781	92 10 44.37692	694254.636	146491.467	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 57 32.66048	92 10 43.79163			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3104125.880	683032.481	1856521.255	15969951.395	.131	3	GPS - OPUS	2021	GPSBM
3104125.883	683032.475	1856521.259	15969951.388	.131	3	GPS - RTRN	2021	RTRN2021
3104125.863	683032.418	1856521.238	15969951.332	.131	3	GPS - RTRN	2016	RTRN2016
3104125.884	683032.482	1856521.259	15969951.396	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3104125.806	683032.476	1856521.182	15969951.391	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3104125.871	683032.456	1856521.246	15969951.370	.033	C	ADJUSTMENT	2003	GPS1770
3104125.871	683032.456	1856521.246	15969951.370	.033	C	GPS - STATIC	2002	HI90
3104125.953	683032.505	1856521.329	15969951.418	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3104125.913	683031.484	1856521.276	15969950.398	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2479515.573	354958.834			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER-OO0099-3E-23JUN2010.jpg	E	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER-OO0099-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER-OO0099-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DOVER MUNICIPAL TANK

NGS Name: DOVER MUNICIPAL TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0810](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1016
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	21	106 N	11 W	435820.88	920827.60		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (1962)

Stamping:

IN SOUTHWEST DOVER, AT THE JUNCTION OF PLEASANT STREET SOUTH AND WEST SOUTH STREET.

Station Notes

6-23-2010 FOUND THAT THE TANK IS GONE. THE AREA IS NOW A CITY PARK.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.153 09 = -98.054 03 = -97.936

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58	20.88461	92 08	27.60294	704213.091	151479.945	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58	20.87600	92 08	27.60379	704213.037	151479.073	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>		<u>Geodetic Position</u>							<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58	21.00978	92 08	27.02257			.100	4	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3114016.111	688151.862	1866470.781	15974946.883	.328	4	ADJUSTMENT	1999	17648		
<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3114016.069	688150.989	1866470.727	15974946.011	.328	4	ADJUSTMENT	1986	17289		
<u>NAD27</u>		<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2489405.702	360078.422			.100	4	CLASSICAL SURVEY	1976	15739		



Mn/DOT Name: DOVER RM 1

NGS Name: DOVER RM 1

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	29	106 N	11 W	435732.57	921045.26	2	3

NGS ACRN: [OO0100](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: DOVER NO 1 1961

2.5 MILES SOUTHWEST OF DOVER, 0.5 MILE SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), THEN 3.0 MILES EAST ON COUNTY ROAD 124, THEN 0.75 MILE NORTH ON COUNTY ROAD 32, 64.6 FEET WEST OF STATION DOVER MNDT, 34.0 FEET WEST OF COUNTY ROAD 32, 5.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1306.930	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1306.884	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1306.844	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1306.805	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1306.805	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1306.805	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1306.835	.262		1208.761	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.077 09 = -97.972 03 = -97.864

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 32.56626	92 10 45.25832	694190.130	146494.784	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3104061.374	683033.940	1856456.792	15969953.649	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_1-OO0100-3W-23JUN2010.jpg	W	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_1-OO0100-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_1-OO0100-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: DOVER RM 2

NGS Name: DOVER RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0101](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	106 N	11 W	435733.16	921044.39	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2016	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** DOVER NO 2 1961

2.5 MILES SOUTHWEST OF DOVER, 0.3 MILE NORTH ON COUNTY ROAD 32 FROM THE JUNCTION OF COUNTY ROAD 32 AND INTERSTATE HIGHWAY 90, 63.1 FEET NORTH OF STATION DOVER MNDT, 30.0 FEET EAST OF COUNTY ROAD 32, AT THE SOUTH EDGE OF A FIELD ENTRANCE, 5.0 FEET NORTH OF A WITNESS POST.

Station Notes

IN 1996 THE GEODETIC UNIT REPORTED THE MONUMENT HAD BEEN HIT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1309.213	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1309.174	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1309.174	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.090 12B = -98.077 09 = -97.972 03 = -97.864

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_2-OO0101-3E-23JUN2010.jpg	E	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_2-OO0101-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/DOVER_RM_2-OO0101-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: E 24

NGS Name: E 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0212](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	34	107 N	15 W	440146.00	923609.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1933	2010	FAIR	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (1967) **Stamping:** 1186.763 E 24 1933

2.3 MILES EAST ALONG THE RAILROAD FROM THE BYRON RAILROAD STATION, 1500.0 FEET EAST OF A SECTION ROAD CROSSING, 13.2 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, IN THE TOP OF THE NORTH HEADWALL OF A RAILROAD CULVERT, 1.7 FEET WEST OF THE EAST END OF THE CULVERT.

Station Notes

5-10-2010 THE HEADWALL APPEARS TO HAVE SUNK ON THE WEST END. THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1186.746	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1186.763	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1186.763	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT
1186.763	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1186.763	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.586 12B = -98.586 09 = -98.514 03 = -98.327

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/E_24-PP0212-3N-10MAY2010.jpg	N	May 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/E_24-PP0212-2-10MAY2010.jpg		May 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/E_24-PP0212-1-10MAY2010.jpg		May 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EASTWOOD MNDT

NGS Name: EASTWOOD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2265](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1034
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	33	107 N	13 W	440121.35	922244.90	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2021	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) **Stamping:** EASTWOOD 1973

4.0 MILES EAST OF ROCHESTER, 4.2 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 TO TRUNK HIGHWAY 14 MILEPOINT 217.90, THEN 0.9 MILE NORTH ALONG COUNTY ROAD 11 (50TH AVENUE SOUTHEAST), 0.04 MILE SOUTHWEST OF THE INTERSECTION OF 50TH AVENUE NORTHEAST AND 55TH AVENUE NORTHEAST, 75.0 FEET WEST OF COUNTY ROAD 11, 4.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1161.251	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1161.251	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825	
1161.258	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1161.313	.262			1063.059	.197	2011	GPS - OPUS	2021	GPSBM	
1161.313	.262			1063.056	.197	2011	GPS - RTRN	2021	RTRN2021	
1161.258				1063.003	.014	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950	
1161.258	.131			1063.233	.066	1996	GPS - STATIC	2013	HCHES	
1161.258				1063.003	.014	2011	GPS - STATIC	2013	HCHES	
1161.126	.262			1062.987	.197	2007	GPS - RTRN	2012	RTRN2012	
1156.166	.197			1058.252	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1156.002							RECIPROCAL VERTICAL ANGLE	1973	HORZ	

Geoid Separations(ft): GEOID18 = -98.254 12B = -98.264 09 = -98.140 03 = -98.025

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 21.34787	92 22 44.90324	641399.126	169255.265	.131	3	GPS - OPUS	2021	GPSBM
44 01 21.34762	92 22 44.90329	641399.122	169255.240	.131	3	GPS - RTRN	2021	RTRN2021
44 01 21.34792	92 22 44.90293	641399.148	169255.270	.016		ADJUSTMENT	2013	GPS2950
44 01 21.34792	92 22 44.90293	641399.148	169255.270	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 21.34764	92 22 44.90378	641399.086	169255.242	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 21.34771	92 22 44.90299	641399.144	169255.249	.033	C	GPS - STATIC	2013	HCHES
44 01 21.34859	92 22 44.90001	641399.361	169255.340	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 21.33722	92 22 44.90081	641399.310	169254.188	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 21.46855	92 22 44.27539			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3050976.645	705087.176	1803664.550	15992651.601	.131	3	GPS - OPUS	2021	GPSBM
3050976.642	705087.151	1803664.547	15992651.576	.131	3	GPS - RTRN	2021	RTRN2021
3050976.668	705087.182	1803664.573	15992651.606	.016		ADJUSTMENT	2013	GPS2950
3050976.668	705087.182	1803664.573	15992651.606	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3050976.606	705087.152	1803664.511	15992651.577	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3050976.664	705087.161	1803664.569	15992651.585	.033	C	GPS - STATIC	2013	HCHES
3050976.880	705087.254	1803664.786	15992651.676	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3050976.844	705086.102	1803664.736	15992650.524	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2426367.913	377013.006			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD-PP2265-3N-07APR2010.jpg	N	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD-PP2265-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD-PP2265-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EASTWOOD MNDT AZ MK

NGS Name: EASTWOOD AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2270](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1037
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	106 N	13 W	440026.04	922503.41	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2016) **Stamping:** EASTWOOD 1973

2.3 MILES SOUTHEAST OF ROCHESTER, 2.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION (SOUTH BROADWAY AT 12TH STREET SOUTHEAST) TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 TO TRUNK HIGHWAY 14 MILEPOINT 215.85, THEN 0.2 MILE SOUTH ALONG TOWNE CLUB PARKWAY, THEN 0.15 MILE SOUTH ALONG FELTY AVENUE, 150.0 FEET EAST OF FELTY AVENUE, 30.5 FEET NORTH OF EASTWOOD ROAD, 22.0 FEET WEST OF A POWER POLE WITH A WITNESS SIGN, 8.5 FEET WEST OF AN ENTRANCE, 3.0 FEET EAST OF A WITNESS POST, 3.4 FEET SOUTH OF A WITNESS POST, 3.5 FEET WEST OF A WITNESS POST, 3.8 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1178.718	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1178.718	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825	
1178.725	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1178.725			1080.372	.014	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950	
1178.725	.131		1080.582	.066	1996	GPS - STATIC	2013	HCHES	
1178.725			1080.372	.014	2011	GPS - STATIC	2013	HCHES	
1178.669	.262		1080.372	.197	2007	GPS - RTRN	2012	RTRN2012	
1172.242	.197		1074.214	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1172.012						RECIPROCAL VERTICAL ANGLE	1973	HORZ	

Geoid Separations(ft): GEOID18 = -98.382 12B = -98.389 09 = -98.294 03 = -98.143

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.03592	92 25 03.40666	631312.590	163590.498	.016		ADJUSTMENT	2013	GPS2950
44 00 26.03592	92 25 03.40666	631312.590	163590.498	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.03603	92 25 03.40726	631312.546	163590.508	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.03575	92 25 03.40680	631312.580	163590.481	.033	C	GPS - STATIC	2013	HCHES
44 00 26.03692	92 25 03.40314	631312.847	163590.601	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.02600	92 25 03.40414	631312.780	163589.494	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 00 26.15747	92 25 02.77236			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040967.330	699289.220	1793588.014	15986979.035	.016		ADJUSTMENT	2013	GPS2950
3040967.330	699289.220	1793588.014	15986979.035	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040967.286	699289.230	1793587.970	15986979.045	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040967.320	699289.202	1793588.004	15986979.017	.033	C	GPS - STATIC	2013	HCHES
3040967.585	699289.325	1793588.270	15986979.138	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3040967.533	699288.219	1793588.205	15986978.032	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2416358.792	371215.175			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_AZ_MK-PP2270-3NE-07APR2010.jpg	NE	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_AZ_MK-PP2270-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_AZ_MK-PP2270-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EASTWOOD MNDT RM 1

NGS Name: EASTWOOD RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2264](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/1035

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	33	107 N	13 W	440145.35	922244.37	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: EASTWOOD NO 1 1973

4.0 MILES EAST OF ROCHESTER, 4.2 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 14 MILEPOINT 217.9, THEN 0.92 MILE NORTH ALONG COUNTY ROAD 11 (55TH AVENUE NORTHEAST), THEN 0.44 MILE NORTHWEST AND NORTH ALONG 50TH AVENUE, 11.0 FEET EAST-SOUTHEAST OF A POWER POLE, 19.5 FEET WEST OF A ROAD, 3.2 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1161.415	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1161.415	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1161.428	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1161.428			1063.170	.014	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1161.428	.131		1063.407	.066	1996	GPS - STATIC	2013 HCHES
1161.428			1063.170	.014	2011	GPS - STATIC	2013 HCHES
1161.320	.262		1063.187	.197	2007	GPS - RTRN	2012 RTRN2012
1156.494	.197		1058.581	.131	1996	HORIZONTAL ADJUSTMENT	1999 17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1156.002						RECIPROCAL VERTICAL ANGLE	1973 HORZ

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.258 09 = -98.133 03 = -98.021

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 45.35098	92 22 44.37173	641422.115	171686.190	.016		ADJUSTMENT	2013	GPS2950
44 01 45.35098	92 22 44.37173	641422.115	171686.190	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 45.35077	92 22 44.37197	641422.098	171686.168	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 45.35077	92 22 44.37179	641422.111	171686.169	.033	C	GPS - STATIC	2013	HCHES
44 01 45.35644	92 22 44.36934	641422.286	171686.744	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 45.34505	92 22 44.37002	641422.244	171685.590	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 45.47655	92 22 43.74437			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050967.277	707517.960	1803685.069	15995081.524	.016		ADJUSTMENT	2013	GPS2950
3050967.277	707517.960	1803685.069	15995081.524	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050967.260	707517.938	1803685.051	15995081.503	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050967.273	707517.939	1803685.065	15995081.503	.033	C	GPS - STATIC	2013	HCHES
3050967.441	707518.516	1803685.239	15995082.078	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3050967.414	707517.362	1803685.198	15995080.924	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2426358.496	379444.260			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_1-PP2264-3SW-07APR2010.jpg	SW	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_1-PP2264-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_1-PP2264-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EASTWOOD MNDT RM 2

NGS Name: EASTWOOD RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2266](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1036
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	4	106 N	13 W	440116.22	922316.67	2	2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1973	2012	GOOD	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** EASTWOOD NO 2 1973

4.0 MILES EAST OF ROCHESTER, 4.2 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 217.90, THEN 0.77 MILE NORTH ALONG COUNTY ROAD 11 (50TH STREET SOUTHEAST), THEN 0.45 MILE WEST ALONG COUNTY ROAD 9, 46.5 FEET SOUTH OF COUNTY ROAD 9 (COLLEGE VIEW ROAD EAST), 4.7 FEET SOUTH-SOUTHEAST OF A POWER POLE, 2.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1060.625	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1060.625	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825	
1060.631	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1060.451	.262			962.278	.197	2007	GPS - RTRN	2012	RTRN2012	
1055.444	.197			957.501	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1054.985							RECIPROCAL VERTICAL ANGLE	1973	HORZ	

Geoid Separations(ft): GEOID18 = -98.284 12B = -98.294 09 = -98.176 03 = -98.051

Lat/Lon and County Coordinates (Feet)

NAD83(2007)				Olmsted County			Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference		
44 01 16.22105	92 23 16.67205	639081.113	168721.092	.131	3	GPS - RTRN	2012	RTRN2012		

NAD83(1996)				Olmsted County			Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference		
44 01 16.22122	92 23 16.66779	639081.424	168721.111	.066	2	ADJUSTMENT	1999	17648		

NAD83(1986)				Olmsted County			Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference		
44 01 16.20994	92 23 16.66859	639081.373	168719.969	.066	2	ADJUSTMENT	1986	17289		

NAD27							Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference		
44 01 16.34138	92 23 16.04236			.100	2	CLASSICAL SURVEY	1977	16059		



State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3048666.166	704522.252	1801348.057	15992115.307	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3048666.477	704522.275	1801348.368	15992115.327	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3048666.441	704521.132	1801348.318	15992114.185	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2424057.505	376448.047			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_2-PP2266-3S-07APR2010.jpg	S	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_2-PP2266-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EASTWOOD_RM_2-PP2266-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EE MNDT

NGS Name: EE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2276](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1044
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	21	107 N	14 W	440341.82	922951.65		3	1973	2005	DESTROYED	Horz=NO Vert=NO	YES	9214		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SURVEY DISK	MNDT

Description: (2002)

Stamping: EE

2.0 MILES NORTHWEST OF ROCHESTER, 1.9 MILES NORTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, IN THE SIDEWALK AT THE NORTHEAST CORNER OF 37TH STREET NORTHWEST BRIDGE NUMBER 9214 OVER TRUNK HIGHWAY 52.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>							<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1072.832	.262		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	HORIZONTAL ADJUSTMENT	1999	17648
974.621	.197		1996					
<u>NGVD29</u>							<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1073.161			<u>Height</u>	<u>Acc</u>	<u>Adj</u>	DIGITIZED FROM MAP	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.569 12B = -98.569 09 = -98.477 03 = -98.330

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		
44 03 41.82290	92 29 51.65213	610144.263	183299.772	.131	3	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		
44 03 41.81349	92 29 51.65118	610144.337	183298.819	.131	3	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 03 41.94684	92 29 51.00843			.100	3	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		
3019540.775	718713.292	1772408.799	16006658.406	.131	3	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>		
3019540.862	718712.340	1772408.874	16006657.454	.131	3	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2394932.285	390639.248			.100	3	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: ELFCO MNDT

NGS Name: ELFCO

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2286](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	12	107 N	14 W	440457.11	922652.84		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2010	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 12 IN.	MARK IS STEEL PIPE

Monument Type	Disk Type	Mon. Agency
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MNDT

Description: (2002)

Stamping: ELFCO 1977

2.25 MILES NORTHEAST OF ROCHESTER, 2.2 MILES EAST ON 37TH STREET FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND 37TH STREET IN ROCHESTER, THEN NORTH 1.6 MILES ON TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 52 MILEPOINT 44.98, 100.5 FEET SOUTHWEST OF TRUNK HIGHWAY 63 MILEPOST 45, 82.87 FEET WEST OF A NAIL AND DISK IN THE NORTH SIDE OF A POWER POLE, 51.91 FEET EAST OF A NAIL AND DISK IN THE SOUTH SIDE OF A TELEPHONE POLE, 21.5 FEET WEST OF TRUNK HIGHWAY 63, 24.9 FEET EAST OF A WITNESS POST.

Station Notes

3-30-2010 FOUND THE CAP TO BE UNREADABLE, THE HORIZONTAL POSITION IS DIFFICULT TO DETERMINE. DISTRICT 6 SURVEYS REPORTS THE MARK CORRODED BADLY 1-24-02, NOT GOOD FOR LEVELING.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1013.121	.197		915.018	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1013.384						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.455 09 = -98.350 03 = -98.225

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 57.11245	92 26 52.83579	623158.528	190994.336	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 04 57.10237	92 26 52.83547	623158.557	190993.315	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 04 57.23246	92 26 52.19479			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3032450.228	726579.464	1785409.628	16014362.898	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3032450.271	726578.444	1785409.658	16014361.877	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2407841.902	398504.984			.100	2	CLASSICAL SURVEY	1980	16253



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELFCO-PP2286-3W-30MAR2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELFCO-PP2286-2-30MAR2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELFCO-PP2286-1-30MAR2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Mar 30, 2010
	Mar 30, 2010
	Mar 30, 2010



Mn/DOT Name: ELGIN

NGS Name: ELGIN

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	17	108 N	13 W	440956.33	922433.92	2	C

NGS ACRN: [DN1766](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: ELGIN 2010

3.5 MILES WEST OF POTSDAM, 3.5 MILES WEST ALONG TRUNK HIGHWAY 247 FROM THE JUNCTION OF TRUNK HIGHWAY 247 AND COUNTY ROAD 11 NORTH IN POTSDAM, AT TRUNK HIGHWAY 247 MILEPOINT 0.45, 64.5 FEET SOUTH OF TRUNK HIGHWAY 247, 22.3 FEET WEST OF A POWER POLE WITH CABLE PEDESTAL NUMBER 6100 33, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1120.611	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1120.611	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1120.595	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1120.533	.262		1022.258	.197	2007	GPS - RTRN	2012 RTRN2012
			1022.186	.011	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1120.601	.131		1022.295	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1120.601	.131		1022.295	.066	2007	GPS - STATIC	2011 HFRON
1120.601	.131		1022.396	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.402 12B = -98.392 09 = -98.274 03 = -98.179

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 09 56.32947	92 24 33.92385	633112.233	221355.160	.007		ADJUSTMENT
<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 09 56.32888	92 24 33.92500	633112.149	221355.100	.131	3	GPS - RTRN
44 09 56.32957	92 24 33.92458	633112.180	221355.170	.033	C	ADJUSTMENT
44 09 56.32957	92 24 33.92458	633112.180	221355.170	.033	C	GPS - STATIC
<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 09 56.32922	92 24 33.92391	633112.229	221355.135	.033	C	GPS - STATIC



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3041998.049	757066.680	1795327.956	16044720.910	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3041997.967	757066.619	1795327.873	16044720.850	.131	3	GPS - RTRN	2012	RTRN2012
3041997.996	757066.690	1795327.903	16044720.920	.033	C	ADJUSTMENT	2011	GPS2814
3041997.996	757066.690	1795327.903	16044720.920	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3041998.045	757066.655	1795327.952	16044720.885	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELGIN-DN1766-3S-20MAY2010.jpg	S	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELGIN-DN1766-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELGIN-DN1766-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELMIRA 1

NGS Name: ELMIRA 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2840](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	1	105 N	11 W	435522.98	920538.76		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2016)

Stamping: ELMIRA 1 2010

3.5 MILES SOUTHEAST OF DOVER, 1.4 MILES SOUTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND INTERSTATE HIGHWAY 90 SOUTH OF DOVER, 2.3 MILES EAST ALONG 60TH STREET SOUTHEAST, 0.75 MILE SOUTH ALONG 195TH AVENUE SOUTHEAST, 39.0 FEET WEST OF 195TH AVENUE SOUTHEAST, 104.0 FEET SOUTHWEST OF A POWER POLE, 46.0 FEET NORTH OF A FIELD ENTRANCE, 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1283.314			1185.080	.021	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1283.314	.131		1185.319	.066	1996	GPS - STATIC	2014	HOLMS
1283.314			1185.080	.021	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.241 12B = -98.248 09 = -98.149 03 = -98.005

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 22.97899	92 05 38.75665	716740.423	133584.761	.020		ADJUSTMENT	2014	GPS3018
43 55 22.97899	92 05 38.75665	716740.423	133584.761	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 22.97876	92 05 38.75711	716740.390	133584.738	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3126779.955	670426.851	1879011.087	15957071.208	.020		ADJUSTMENT	2014	GPS3018
3126779.955	670426.851	1879011.087	15957071.208	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3126779.922	670426.827	1879011.054	15957071.184	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_1-DP2840-3W-21OCT2010.jpg	W	Oct 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_1-DP2840-2-21OCT2010.jpg		Oct 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_1-DP2840-1-21OCT2010.jpg		Oct 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELMIRA 15

NGS Name: ELMIRA 15

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2841](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	15	105 N	11 W	435326.38	920726.55		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 17 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2010)

Stamping: ELMIRA 15 2010

4.0 MILES NORTHEAST OF CHATFIELD, 2.75 MILES NORTH ALONG COUNTY ROAD 130 FROM THE JUNCTION OF COUNTY ROAD 130 AND TRUNK HIGHWAY 30 EAST OF CHATFIELD, 0.5 MILE WEST ALONG COUNTY ROAD 110, 51.0 FEET NORTH OF COUNTY ROAD 110, 30.0 FEET NORTHWEST OF A POWER POLE, 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1131.622			1033.351	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1131.618	.131		1033.584	.066	1996	GPS - STATIC	2014	HOLMS
1131.622			1033.351	.016	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.254 12B = -98.264 09 = -98.163 03 = -98.021

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 26.37705	92 07 26.55492	708964.145	121700.340	.020		ADJUSTMENT	2014	GPS3018
43 53 26.37705	92 07 26.55492	708964.145	121700.340	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 26.37679	92 07 26.55517	708964.127	121700.313	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3119163.493	658440.686	1871249.622	15945183.725	.020		ADJUSTMENT	2014	GPS3018
3119163.493	658440.686	1871249.622	15945183.725	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3119163.475	658440.660	1871249.604	15945183.699	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_15-DP2841-3W-21OCT2010.jpg	W	Oct 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_15-DP2841-2-21OCT2010.jpg		Oct 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_15-DP2841-1-21OCT2010.jpg		Oct 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELMIRA 8

NGS Name: ELMIRA 8

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2842](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	8	105 N	11 W	435441.35	921008.21		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2010)

Stamping: ELMIRA 8 2010

3.5 MILES NORTH OF CHATFIELD, 4.9 MILES EAST AND NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 52 IN CHATFIELD, 49.0 FEET EAST OF COUNTY ROAD 10, 57.0 FEET NORTH OF A FIELD ENTRANCE, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1323.636				1225.506	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1323.639	.131			1225.752	.066	1996	GPS - STATIC	2014	HOLMS	
1323.636				1225.506	.017	2011	GPS - STATIC	2014	HOLMS	

Geoid Separations(ft): GEOID18 = -98.126 12B = -98.126 09 = -98.025 03 = -97.903

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 41.35183	92 10 08.21237	697057.107	129181.786	.020		ADJUSTMENT	2014	GPS3018
43 54 41.35183	92 10 08.21237	697057.107	129181.786	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 41.35153	92 10 08.21267	697057.085	129181.755	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107158.667	665762.119	1859339.890	15952650.416	.020		ADJUSTMENT	2014	GPS3018
3107158.667	665762.119	1859339.890	15952650.416	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107158.646	665762.088	1859339.869	15952650.385	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_8-DP2842-3W-26OCT2010.jpg	W	Oct 26, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_8-DP2842-2-26OCT2010.jpg		Oct 26, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA_8-DP2842-1-26OCT2010.jpg		Oct 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELMIRA MNDT

NGS Name: ELMIRA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3944](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	28	106 N	11 W	435719.25	920836.32	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	SURVEY DISK	MNDT

Description: (2016) Stamping: ELMIRA 1996

1.0 MILE SOUTH OF DOVER, 0.2 MILE WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.5 MILES SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 228.9, 120.0 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 75.0 FEET NORTH-NORTHWEST OF AN ON-RAMP, 20.8 FEET SOUTH-SOUTHEAST OF A FENCE, 3.1 FEET WEST OF A WITNESS POST.

Station Pair: SOLT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.542	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1230.493	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.463	.262		1132.311	.197	2011	GPS - OPUS	2021	GPSBM
1230.500	.262		1132.347	.197	2011	GPS - RTRN	2021	RTRN2021
1230.365	.262		1132.225	.197	2011	GPS - RTRN	2016	RTRN2016
			1132.307	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1132.399	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1230.411	.131		1132.531	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1230.411	.131		1132.531	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.153 12B = -98.140 09 = -98.038 03 = -97.920

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 19.24578	92 08 36.32215	703633.983	145232.318	.131	3	GPS - OPUS	2021	GPSBM
43 57 19.24573	92 08 36.32171	703634.015	145232.313	.131	3	GPS - RTRN	2021	RTRN2021
43 57 19.24572	92 08 36.32154	703634.028	145232.312	.131	3	GPS - RTRN	2016	RTRN2016
43 57 19.24577	92 08 36.32169	703634.017	145232.317	.010		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 19.24573	92 08 36.32273	703633.940	145232.313	.013		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 19.24550	92 08 36.32188	703634.003	145232.290	.033	C	ADJUSTMENT	2003	GPS1770
43 57 19.24550	92 08 36.32188	703634.003	145232.288	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3113520.415	681897.606	1865898.162	15968701.137	.131	3	GPS - OPUS	2021	GPSBM
3113520.447	681897.602	1865898.194	15968701.133	.131	3	GPS - RTRN	2021	RTRN2021
3113520.460	681897.601	1865898.207	15968701.132	.131	3	GPS - RTRN	2016	RTRN2016
3113520.449	681897.606	1865898.195	15968701.137	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3113520.373	681897.600	1865898.120	15968701.132	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3113520.436	681897.578	1865898.182	15968701.109	.033	C	ADJUSTMENT	2003	GPS1770
3113520.436	681897.578	1865898.182	15968701.109	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA-DF3944-3N-09AUG2016.jpg	N	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA-DF3944-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELMIRA-DF3944-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELSHOFF MNDT

NGS Name: ELSHOFF

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0803](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	25	105 N	12 W	435141.80	921251.27		2	1978	2013	GOOD	Horz=NO Vert=YES	YES		RECESSED 10 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2011)

Stamping: ELSHOFF 1978

1.0 MILE WEST-NORTHWEST OF CHATFIELD, 0.2 MILE WEST ALONG TRUNK HIGHWAY 30 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 1.35 MILES NORTH AND NORTHWEST ALONG MILL CREEK ROAD, 105.5 FEET NORTH OF THE NORTHWEST CORNER OF A ONE STORY WOOD FRAME HOUSE, 48.0 FEET EAST-SOUTHEAST OF A POWER POLE WITH A TRANSFORMER, 27.75 FEET EAST-SOUTHEAST OF ELSHOFF MNDT RM 2, 19.0 FEET SOUTH-SOUTHWEST OF MILL CREEK ROAD, 9.0 FEET NORTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1238.442	.262		1140.250	.197	2011	GPS - RTRN	2013	RTRN2013
1238.446	.262		1140.349	.197	2007	GPS - RTRN	2011	RTRN2011
1239.171	.197		1141.287	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1238.810						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.195 09 = -98.097 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 41.79866	92 12 51.26993	685275.353	110895.085	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 41.79869	92 12 51.26957	685275.380	110895.089	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 41.79900	92 12 51.26916	685275.409	110895.120	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 41.78789	92 12 51.26975	685275.376	110893.995	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 41.91894	92 12 50.68250			.100	2	CLASSICAL SURVEY	1980	16259



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3095622.594	647321.363	1847580.962	15934359.425	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3095622.620	647321.366	1847580.989	15934359.428	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3095622.649	647321.399	1847581.018	15934359.460	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3095622.631	647320.273	1847580.986	15934358.335	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2471012.240	319247.799			.100	2	CLASSICAL SURVEY	1980	16259

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF-OO0803-3SW-10JUN2010.jpg	SW	Jun 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF-OO0803-2-10JUN2010.jpg		Jun 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF-OO0803-1-10JUN2010.jpg		Jun 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELSHOFF MNDT RM 1

NGS Name: ELSHOFF RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6278](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	25	105 N	12 W	435141.49	921250.89		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: ELSHOFF 1978 NO 1

1.0 MILE WEST-NORTHWEST OF CHATFIELD, 1.3 MILES NORTHWEST ALONG MILL CREEK ROAD SOUTHEAST FROM THE JUNCTION OF MILL CREEK ROAD SOUTHEAST AND TRUNK HIGHWAY 30 IN CHATFIELD, 35.0 FEET SOUTHWEST OF THE CENTER OF THE ROAD, 87.0 FEET EAST-SOUTHEAST OF A POWER POLE, 5.4 FEET WEST-NORTHWEST OF A TELEPHONE POLE, 4.0 FEET NORTH OF A FENCE, 2.9 FEET NORTH OF A STEEL WITNESS POST.

Station Notes

6-10-2010 FOUND THE STATION ON ITS SIDE, DOWN 1.0 FOOT UNDER A PINE TREE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.195 09 = -98.097 03 = -97.979

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF_RM_1-CI6278-2-10JUN2010.jpg		Jun 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF_RM_1-CI6278-1-10JUN2010.jpg		Jun 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELSHOFF MNDT RM 2

NGS Name: ELSHOFF RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6279](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	25	105 N	12 W	435141.74	921251.64		3	1978	2013	GOOD	Horz=NO Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2011)

Stamping: ELSHOFF 1978 RM 2

1.0 MILE WEST-NORTHWEST OF CHATFIELD, 0.2 MILE WEST ALONG TRUNK HIGHWAY 30 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 1.35 MILES NORTH-NORTHWEST ALONG MILL CREEK ROAD, 39.0 FEET SOUTHWEST OF MILL CREEK ROAD, 28.3 FEET SOUTHEAST OF A POWER POLE, 4.5 FEET NORTH OF A STEEL WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1235.808	.262			1137.616	.197	2011	GPS - RTRN	2013	RTRN2013
1235.956	.262			1137.859	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.195 09 = -98.097 03 = -97.979

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 51 41.74058	92 12 51.63973			685248.310	110888.973	.131	3	GPS - RTRN	2013 RTRN2013
<u>NAD83(2007)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 51 41.74105	92 12 51.63943			685248.331	110889.021	.131	3	GPS - RTRN	2011 RTRN2011

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3095595.636	647314.891			1847553.935	15934353.289	.131	3	GPS - RTRN	2013 RTRN2013
<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3095595.657	647314.940			1847553.957	15934353.337	.131	3	GPS - RTRN	2011 RTRN2011

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF_RM_2-CI6279-3SW-10JUN2010.jpg	SW	Jun 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF_RM_2-CI6279-2-10JUN2010.jpg		Jun 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ELSHOFF_RM_2-CI6279-1-10JUN2010.jpg		Jun 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EYOTA

NGS Name: EYOTA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2245](#) [Get Map](#)
NGS Quad / Sta Num : 44092223/1003
USGS Quad: PLAINVIEW SW

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	2	106 N	12 W	440114.82	921410.30		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (1994) **Stamping:** EYOTA 1935

2.5 MILES NORTHWEST OF EYOTA, 2.0 MILES NORTH ON COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 NORTH AND TRUNK HIGHWAY 14 IN EYOTA, THEN 0.35 MILE WEST ON COUNTY ROAD 9, 95.6 FEET EAST OF A POWER POLE WITH A TRANSFORMER, 87.4 FEET WEST OF A TELEPHONE POLE, 83.92 FEET WEST OF EYOTA RM 2, 76.5 FEET NORTHWEST OF THE NORTHEAST CORNER OF A HOUSE, 44.7 FEET SOUTH OF COUNTY ROAD 9, 24.3 FEET EAST OF A FARM ENTRANCE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1315.614	.197			1217.862	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1315.942							DIGITIZED FROM MAP	1962	HORZ

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.907 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 01 14.82259	92 14 10.30432			679005.984	168872.171	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 01 14.81087	92 14 10.30575			679005.890	168870.984	.066	2	ADJUSTMENT	1986	17289

NAD27								Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 01 14.94000	92 14 09.71400					.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3088581.706	705204.957			1841256.222	15992306.736	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3088581.628	705203.768			1841256.129	15992305.548	.066	2	ADJUSTMENT	1986	17289

NAD27								Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2463971.304	377130.505					.100	2	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: EYOTAAZ MK

NGS Name: EYOTAAZ MK

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	106 N	12 W	440026.00	921344.00		

NGS ACRN: [CJ4088](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description: Stamping: EYOTA 1935

1.1 MILES NORTH OF EYOTA, 1.1 MILES NORTH ALONG COUNTY ROAD 7 (CENTER AVENUE) FROM THE JUNCTION OF COUNTY ROAD 7 (CENTER AVENUE) AND TRUNK HIGHWAY 14 IN EYOTA.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.031 09 = -97.910 03 = -97.825



Mn/DOT Name: EYOTA BELL TOWER

NGS Name: EYOTA BELL TOWER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2252](#)

[Get Map](#)

NGS Quad / Sta Num : 44092232/1053

USGS Quad: CHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	107 N	12 W	440116.99	921755.40		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	TOWER	MNDT

Description: (2010)

Stamping:

3.5 MILES WEST AND 2.0 MILES NORTH OF EYOTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, THEN 2.5 MILES WEST ALONG COUNTY ROAD 9, AT THE JUNCTION OF COUNTY ROAD 9 AND COUNTY ROAD 102, STATION EYOTA BELL TOWER IS A LIGHT ON THE TOP OF A FOUR LEGGED 200.0 FOOT TALL TOWER PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.061 09 = -97.920 03 = -97.831

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>					
44 01 16.98860	92 17 55.39520	662556.656	168962.028	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>					
44 01 16.97959	92 17 55.39940	662556.356	168961.113	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 01 17.12814	92 17 54.81676			.100	4	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>					
3072134.198	705075.673	1824813.543	15992379.902	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>					
3072133.910	705074.754	1824813.243	15992378.988	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
2447522.415	377003.398			.100	4	CLASSICAL SURVEY	1976	15739

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_BELL_TOWER-PP2252-3N-13MAY2010.jpg	N	May 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_BELL_TOWER-PP2252-2-13MAY2010.jpg		May 13, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EYOTA CHURCH SPIRE

NGS Name: EYOTA CHURCH SPIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0808](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1032
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	14	106 N	12 W	435911.76	921351.86		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	CHURCH SPIRE	NGS

Description: (1935)

Stamping:

IN EYOTA, AT THE JUNCTION OF 3RD STREET SOUTHWEST AND LAFAYETTE AVENUE SOUTHWEST, 2.0 BLOCKS SOUTH AND 1.0 BLOCK WEST OF A RAILROAD STATION.

Station Notes

THE CHURCH WAS REBUILT IN 1953, HALF A BLOCK SOUTH.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.910 03 = -97.818

Lat/Lon and County Coordinates (Feet)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 11.76227	92 13 51.86366	680457.063	156421.861	.328	4	ADJUSTMENT	1999	17648

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 11.75256	92 13 51.86461	680457.002	156420.877	.328	4	ADJUSTMENT	1986	17289

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 59 11.88000	92 13 51.27000			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3090198.421	692776.234	1842719.282	15979862.941	.328	4	ADJUSTMENT	1999	17648

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3090198.373	692775.249	1842719.221	15979861.958	.328	4	ADJUSTMENT	1986	17289

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2465588.322	364701.947			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CHURCH_SPIRE-OO0808-3E-22JUN2010.jpg	E	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CHURCH_SPIRE-OO0808-2-22JUN2010.jpg		Jun 22, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ELYOTA CONSOL HIGH SCH CUPOLA

NGS Name: ELYOTA CONSOL HIGH SCH CUPOLA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000807](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1033
USGS Quad: ELYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	106 N	12 W	435905.37	921359.17		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	CUPOLA	NGS

Description: (2010)

Stamping:

IN THE SOUTHWEST CORNER OF ELYOTA, AT THE EAST JUNCTION OF COUNTY ROAD 142 AND FRANKLIN AVENUE.

Station Notes

THE SCHOOL IS GONE, THE AREA NOW RESIDENTIAL HOUSING.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.025 09 = -97.910 03 = -97.815

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 05.36968	92 13 59.16969	679928.263	155770.095	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 05.35822	92 13 59.17083	679928.189	155768.934	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
43 59 05.48700	92 13 58.58000			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3089678.400	692117.537	1842191.352	15979210.907	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3089678.341	692116.375	1842191.280	15979209.747	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2465067.997	364043.209			.100	4	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: EYOTA MUNICIPAL TANK

NGS Name: EYOTA MUNICIPAL TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0809](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/1015
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	14	106 N	12 W	435905.74	921343.74		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (2010)

Stamping:

IN THE SOUTHEAST CORNER OF EYOTA, AT THE JUNCTION OF SOUTH AVENUE AND 4TH STREET SOUTHEAST.

Station Notes

THE TANK IS GONE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.913 03 = -97.818

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>					
43 59 05.73726	92 13 43.74052	681056.059	155816.697	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>					
43 59 05.72665	92 13 43.74149	681055.997	155815.622	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
43 59 05.86033	92 13 43.14897			.100	4	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>					
3090805.374	692179.159	1843318.644	15979258.626	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>					
3090805.327	692178.084	1843318.583	15979257.551	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
2466195.127	364105.418			.100	4	CLASSICAL SURVEY	1976	15739

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_MUNICIPAL_TANK-OO0809-3SE-22JUN2010.jpg	SE	Jun 22, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: EYOTA RM 1

NGS Name: EYOTA RM 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	106 N	12 W	440114.00	921410.00		

NGS ACRN: [CJ4089](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

1.8 MILES NORTH OF EYOTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14, THEN 0.7 MILE EAST ON COUNTY ROAD 9.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.907 03 = -97.825



Mn/DOT Name: EYOTA RM 2

NGS Name: EYOTA RM 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	106 N	12 W	440114.00	921410.00		

NGS ACRN: [CJ4090](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

1.8 MILES NORTH OF EYOTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14, THEN 0.7 MILE EAST ON COUNTY ROAD 9.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.907 03 = -97.825



Mn/DOT Name: EYOTA RM 2 RESET

NGS Name: EYOTA RM 2 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4091](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	106 N	12 W	440114.00	921410.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	NGS

Description:

Stamping:

1.8 MILES NORTH OF EYOTA, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14, THEN 0.7 MILE EAST ON COUNTY ROAD 9.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.907 03 = -97.825



Mn/DOT Name: F 24

NGS Name: F 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0216](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	107 N	14 W	440201.00	923329.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2001)

Stamping: 1062.298 F 24 1933

5.0 MILES WEST ON THE RAILROAD FROM THE ROCHESTER RAILROAD STATION, AT THE OLD OLMSTED RAILROAD STATION, 0.25 MILE SOUTH OF A SCHOOLHOUSE, 116.0 FEET NORTHEAST OF A ROAD CROSSING, 57.0 FEET EAST OF A ROAD, 50.5 FEET NORTH OF THE NORTH RAIL OF THE RAILROAD TRACKS, 3.0 FEET NORTH OF THE NORTH RAILROAD RIGHT-OF-WAY LINE, IN LINE WITH A ROW OF POLES.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1062.249	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1068.859	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1062.298	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.645 12B = -98.645 09 = -98.576 03 = -98.389

* No Horizontal Positions in the Database *



Mn/DOT Name: FAZOLIS

NGS Name: FAZOLIS

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9078](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	107 N	14 W	440446.09	923026.19	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2014	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: FAZOLIS 2012

IN ROCHESTER, AT THE JUNCTION OF COUNTY ROAD 22 (55TH STREET NORTHWEST) AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 59.7, 248.2 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52, 49.7 FEET SOUTH OF EASTBOUND COUNTY ROAD 22 (55TH STREET NORTHWEST), 82.8 FEET WEST OF THE EXIT RAMP TO COUNTY ROAD 22, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1034.506	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1034.506	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1034.503	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1034.503			935.923	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1034.503	.131		936.176	.066	1996	GPS - STATIC	2014 HOLMS
1034.503			935.923	.010	2011	GPS - STATIC	2014 HOLMS
1034.404	.262		935.936	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.566 09 = -98.468 03 = -98.323

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 46.08807	92 30 26.19212	607589.759	189795.020	.016		ADJUSTMENT	2014	GPS3018
44 04 46.08807	92 30 26.19212	607589.759	189795.020	.016	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 46.08778	92 30 26.19176	607589.785	189794.991	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 46.08784	92 30 26.19239	607589.739	189794.997	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3016900.399	725173.339	1769848.797	16013148.243	.016		ADJUSTMENT	2014	GPS3018
3016900.399	725173.339	1769848.797	16013148.243	.016	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3016900.426	725173.310	1769848.823	16013148.214	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3016900.379	725173.316	1769848.777	16013148.220	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FAZOLIS-DO9078-3S-13NOV2012.jpg	S	Nov 13, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FAZOLIS-DO9078-2-13NOV2012.jpg		Nov 13, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FAZOLIS-DO9078-1-13NOV2012.jpg		Nov 13, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FLORE MNDT

NGS Name: FLORE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3947](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	32	105 N	14 W	435132.58	923134.88	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 7 FT)	SURVEY DISK	MNDT

Description: (2016) Stamping: FLORE 1996

2.0 MILES WEST OF STEWARTVILLE, 1.55 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 6 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 206.85, 67.0 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 32.6 FEET NORTHWEST OF A FENCE, 3.3 FEET NORTHEAST OF A WITNESS POST.

Station Pair: HIFOR MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1259.053	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1259.049	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1258.951	.262		1160.696	.197	2011	GPS - RTRN	2016	RTRN2016
			1160.798	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1160.880	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1259.053	.131		1161.031	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1259.085	.131		1161.031	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.254 09 = -98.195 03 = -97.982

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 32.57577	92 31 34.88326	602955.573	109415.723	.131	3	GPS - RTRN	2016	RTRN2016
43 51 32.57604	92 31 34.88440	602955.490	109415.750	.007		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 32.57621	92 31 34.88518	602955.432	109415.766	.010		ADJUSTMENT	2007	GPS2300

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 32.57573	92 31 34.88451	602955.482	109415.718	.033	C	ADJUSTMENT	2003	GPS1770
43 51 32.57573	92 31 34.88451	602955.480	109415.719	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013335.622	644746.526	1765297.491	15932799.207	.131	3	GPS - RTRN	2016	RTRN2016
3013335.538	644746.552	1765297.407	15932799.234	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013335.481	644746.569	1765297.350	15932799.250	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3013335.530	644746.521	1765297.399	15932799.202	.033	C	ADJUSTMENT	2003	GPS1770
3013335.531	644746.521	1765297.399	15932799.202	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FLORE-DF3947-3SE-03AUG2016.jpg	SE	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FLORE-DF3947-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FLORE-DF3947-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FOLZ MNDT

NGS Name: FOLZ

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000121](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/1006
USGS Quad: MARION

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	106 N	12 W	435741.52	921532.18	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2017	GOOD	Horz=NO Vert=YES	YES		RECESSED 9 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) **Stamping:** FOLZ 1961

2.5 MILES SOUTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), THEN 1.0 MILE WEST ON COUNTY ROAD 23 (40TH STREET SOUTHEAST), THEN 0.1 MILE SOUTH ON 110TH AVENUE SOUTHEAST, 0.4 MILE NORTH OF INTERSTATE HIGHWAY 90, IN A FIELD ENTRANCE, 120.94 FEET SOUTH OF FOLZ RM 2, 76.11 FEET NORTHEAST OF FOLZ RM 1, 31.0 FEET EAST OF 110TH AVENUE SOUTHEAST, 15.0 FEET NORTH OF A FIELD ENTRANCE, 4.9 FEET SOUTH-SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1305.378	.016	2/0					1991	00000025
NGVD29				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1305.329	.016	2/0					1992	UNCHECKD
1305.329	.016	2					1972	L105 MINN
1305.329	.016	2					1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1305.335	.262			1207.314	.197	2011	2016	RTRN2016
				1207.396	.009	2011	2012	GPS2800
				1207.494	.011	2007	2007	GPS2300
1305.378	.131			1207.619	.066	1996	2003	GPS1770
1305.378	.131			1207.619	.066	1996	2002	HI90
1305.378	.197			1207.662	.131	1996	1999	17648

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.903 03 = -97.802

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 41.52174	92 15 32.18106	673195.427	147224.107	.131	3	GPS - RTRN	2016	RTRN2016
43 57 41.52214	92 15 32.18000	673195.504	147224.148	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 41.52231	92 15 32.18096	673195.434	147224.165	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 41.52207	92 15 32.18004	673195.501	147224.141	.033	C	ADJUSTMENT	2003	GPS1770
43 57 41.52207	92 15 32.18004	673195.501	147224.141	.033	C	GPS - STATIC	2002	HI90
43 57 41.52194	92 15 32.18042	673195.473	147224.128	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 41.51024	92 15 32.18129	673195.419	147222.942	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 57 41.64206	92 15 31.58450			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083060.614	683483.351	1835469.843	15970661.637	.131	3	GPS - RTRN	2016	RTRN2016
3083060.690	683483.393	1835469.921	15970661.678	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083060.620	683483.409	1835469.850	15970661.695	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083060.688	683483.386	1835469.918	15970661.671	.033	C	ADJUSTMENT	2003	GPS1770
3083060.688	683483.386	1835469.918	15970661.671	.033	C	GPS - STATIC	2002	HI90
3083060.660	683483.373	1835469.890	15970661.658	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083060.622	683482.187	1835469.837	15970660.473	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2458450.530	355409.404			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ-OO0121-3NE-22JUN2010.jpg	NE	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ-OO0121-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ-OO0121-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FOLZ RM 1

NGS Name: FOLZ RM 1

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	106 N	12 W	435741.11	921533.05	2	3

NGS ACRN: [000122](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: FOLZ NO 1 1961

2.5 MILES SOUTHWEST OF EYOTA, 0.5 MILES ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), THEN 1.0 MILE WEST ON COUNTY ROAD 23, THEN 0.1 MILE SOUTH ON 110TH AVENUE, 76.1 FEET SOUTHWEST OF STATION FOLZ MNDT, 34.0 FEET WEST OF 110TH AVENUE SOUTHEAST, 5.5 FEET NORTH OF A POWER POLE, 5.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1303.249	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025
NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1303.199	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1303.199	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1303.199	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1303.255	.262			1205.234	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.903 03 = -97.802

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position				X	Y	Acc	Order	Determination Method	Year
Latitude	Longitude								Reference
43 57 41.11205	92 15 33.05140			673132.098	147182.113	.131	3	GPS - RTRN	2016
									RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year
									Reference
3082997.855	683440.521			1835406.582	15970619.597	.131	3	GPS - RTRN	2016
									RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_1-000122-3E-09AUG2016.jpg	E	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_1-000122-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_1-000122-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FOLZ RM 2

NGS Name: FOLZ RM 2

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	27	106 N	12 W	435742.72	921532.18	2	3

NGS ACRN: [000123](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: FOLZ NO 2 1961

2.5 MILES SOUTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), THEN 1.0 MILE WEST ON COUNTY ROAD 23, THEN 0.1 MILE SOUTH ON 110TH AVENUE SOUTHEAST, 121.0 FEET NORTH OF STATION FOLZ MNDT, 31.0 FEET EAST OF 110TH AVENUE SOUTHEAST, 5.0 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1304.341	.016	2/0					VERTICAL ADJUSTMENT		1991	00000025
NGVD29				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1304.292	.016	2/0					UNKNOWN/APPROXIMATE		1992	UNCHECKD
1304.292	.016	2					VERTICAL CONTROL SURVEY		1972	L105 MINN
1304.292	.016	2					VERTICAL CONTROL SURVEY		1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference
1304.308	.262			1206.287	.197	2011	GPS - RTRN		2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.903 03 = -97.802

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
43 57 42.71736	92 15 32.18138	673194.438	147345.179	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15		Determination Method			Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order		Year	Reference
3083058.012	683604.388	1835468.733	15970782.658	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_2-000123-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_2-000123-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FOLZ_RM_2-000123-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FRICK MNDT

NGS Name: FRICK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000085](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/1004
USGS Quad: ST CHARLES

		<u>Reference</u>		<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>
SE	27	106 N	11 W	435706.01	920708.55	2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (1994) Stamping: FRICK 1961

3.0 MILES SOUTHWEST OF ST. CHARLES, 1.6 MILES SOUTH ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.75 MILE WEST ON WINONA COUNTY ROAD 35, THEN 2.0 MILES WEST ON OLMSTED COUNTY ROAD 29, THEN 0.25 MILE NORTH ON A FIELD ROAD ON THE WEST SIDE OF A FENCE, 1.0 MILE EAST ON COUNTY ROAD 29 FROM THE JUNCTION OF COUNTY ROAD 29 AND COUNTY ROAD 10, 79.70 FEET NORTH OF FRICK RM 1, 78.74 FEET SOUTH OF FRICK RM 2, 5.0 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1302.698	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1302.661	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1302.661	.016	2					VERTICAL CONTROL SURVEY	1972	L105 MINN
1302.661	.016	2					VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1302.688	.197			1204.784	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.185 12B = -98.179 09 = -98.084 03 = -97.956

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 06.01355	92 07 08.54975			710067.547	143953.561	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 06.00520	92 07 08.55034			710067.512	143952.715	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>								<u>Project Info</u>		
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>									
43 57 06.13819	92 07 07.97207					.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
3119969.917	680704.869			1872330.478	15967429.317	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
3119969.893	680704.022			1872330.444	15967428.471	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>								<u>Project Info</u>		
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>									
2495359.488	352631.462					.100	2	CLASSICAL SURVEY	1976	15739



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK-OO0085-3E-18AUG2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK-OO0085-2-18AUG2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK-OO0085-1-18AUG2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Aug 18, 2010
	Aug 18, 2010
	Aug 18, 2010



Mn/DOT Name: FRICK RM 1

NGS Name: FRICK RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0086](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	27	106 N	11 W	435705.23	920708.55	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1961)

Stamping: FRICK NO 1 1961

3.0 MILES SOUTHWEST OF ST. CHARLES, 1.6 MILES SOUTH ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.75 MILE WEST ON WINONA COUNTY ROAD 35, THEN 2.0 MILES WEST ON COUNTY ROAD 29, THEN 0.25 MILE NORTH ON A FIELD ROAD, ON THE WEST SIDE OF A FENCE, 79.7 FEET SOUTH OF STATION FRICK MNDT, 2.8 FEET WEST OF A FENCE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1304.207	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1304.167	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1304.167	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1304.167	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.185 12B = -98.179 09 = -98.084 03 = -97.956

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_1-OO0086-3S-18AUG2010.jpg	S	Aug 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_1-OO0086-2-18AUG2010.jpg		Aug 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_1-OO0086-1-18AUG2010.jpg		Aug 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FRICK RM 2

NGS Name: FRICK RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0087](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	27	106 N	11 W	435706.79	920708.55	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: FRICK NO 2 1961

3.0 MILES SOUTHWEST OF ST. CHARLES. 1.6 MILES SOUTH ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.75 MILE WEST ON WINONA COUNTY ROAD 35, THEN 2.0 MILES WEST ON OLMSTED COUNTY ROAD 29, THEN 0.25 MILE NORTH ON A FIELD ROAD, ON WEST THE SIDE OF A FENCE, 78.7 FEET NORTH OF STATION FRICK MNDT, 2.0 FEET WEST OF THE FENCE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1300.631	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1300.591	.016	2				VERTICAL CONTROL SURVEY	1972 L105 MINN
1300.591	.016	2				VERTICAL CONTROL SURVEY	1971 L22211

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.179 09 = -98.084 03 = -97.956

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_2-OO0087-3N-18AUG2010.jpg	N	Aug 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_2-OO0087-2-18AUG2010.jpg		Aug 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FRICK_RM_2-OO0087-1-18AUG2010.jpg		Aug 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: FROZEN

NGS Name: FROZEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7567](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	18	106 N	11 W	435852.15	921132.85	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** FROZEN 2013

1.9 MILES SOUTHEAST OF EYOTA, 1.95 MILES SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE NORTH) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 227.65, 30.4 FEET SOUTH OF TRUNK HIGHWAY 14, 5.2 FEET NORTH OF A WITNESS POST.

Station Pair: GROUND - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
1192.901	.016	2/1				VERTICAL ADJUSTMENT		2017	00000900
1192.901	.016	2/1				VERTICAL CONTROL SURVEY		2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
1192.862	.262		1094.794	.197	2011	GPS - RTRN		2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.084 12B = -98.067 09 = -97.959 03 = -97.857

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 58 52.15178	92 11 32.84671	690638.431	154522.935	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3100403.285	691013.335	1852898.457	15977975.025	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FROZEN-DP7567-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FROZEN-DP7567-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/FROZEN-DP7567-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: G 24

NGS Name: G 24

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	107 N	14 W	440154.00	922915.00	2	

NGS ACRN: [PP0130](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - LARGE	BENCH MARK DISK	NGS

Description: (2016)

Stamping: 1001.028 G 24 1933

1.2 MILES NORTHWEST OF ROCHESTER, 1.2 MILES WEST ON THE CHICAGO AND NORTHWESTERN RAILROAD FROM THE STATION IN ROCHESTER, AT THE OVERHEAD CROSSING ON TRUNK HIGHWAY 52, AT THE SECOND SET OF COLUMNS FROM THE NORTH, IN THE NORTHEAST CORNER OF THE EAST CONCRETE FOOTING, 21.3 FEET SOUTH OF THE SOUTH RAIL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1001.094	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1001.028	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.586 09 = -98.507 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: G 24 RESET

NGS Name: G 24 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0131](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	107 N	14 W	440155.00	922914.70	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1958	2010	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 4 IN.	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2002)

Stamping: G 24 RESET 1958

1.2 MILES NORTHWEST OF ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 56.16, NEAR TRUNK HIGHWAY 52 BRIDGE NUMBER 9068 OVER A RAILROAD, 145.5 FEET WEST OF THE WEST EDGE OF THE SOUTH PIER, 92.0 FEET EAST-SOUTHEAST OF A POWER POLE, 44.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, 1.4 FEET EAST OF A WITNESS POST.

Station Notes

GRADED OUT BY TRUNK HIGHWAY 52 CONSTRUCTION.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
999.489	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
999.489	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
999.489	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
999.489	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS
999.489	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
999.424	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
999.424	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
999.424	.016	2				VERTICAL CONTROL SURVEY	1971	L22214
999.411	.007	1				VERTICAL CONTROL SURVEY	1958	L100 MINN

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.586 09 = -98.504 03 = -98.333

* No Horizontal Positions in the Database *



Mn/DOT Name: GALAXY

NGS Name: GALAXY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2843](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	26	106 N	14 W	435715.80	922802.47	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** GALAXY 2013

IN ROCHESTER, 1.55 MILES SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 35.85, 45.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: LOWES - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1078.666	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1078.666	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1078.679	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1078.666			980.215	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1078.666	.131		980.428	.066	1996	GPS - STATIC	2024	HTH63
1078.666			980.215	.019	2011	GPS - STATIC	2024	HTH63
1078.646			980.215	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1078.636	.131		980.464	.066	1996	GPS - STATIC	2014	HOLMS
1078.646			980.215	.013	2011	GPS - STATIC	2014	HOLMS
1078.617	.262		980.149	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.445 12B = -98.464 09 = -98.389 03 = -98.182

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 15.79669	92 28 02.47470	618329.646	144250.721	.010		ADJUSTMENT	2024	GPS3721
43 57 15.79669	92 28 02.47470	618329.646	144250.721	.010	C	GPS - STATIC	2024	HTH63
43 57 15.79725	92 28 02.47547	618329.589	144250.777	.023		ADJUSTMENT	2014	GPS3018
43 57 15.79725	92 28 02.47547	618329.589	144250.777	.023	C	GPS - STATIC	2014	HOLMS
43 57 15.79604	92 28 02.47483	618329.636	144250.655	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 15.79653	92 28 02.47492	618329.629	144250.705	.033	C	GPS - STATIC	2024	HTH63
43 57 15.79701	92 28 02.47537	618329.596	144250.753	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3028243.951	679780.164	1780630.094	15967634.456	.010		ADJUSTMENT	2024	GPS3721
3028243.951	679780.164	1780630.094	15967634.456	.010	C	GPS - STATIC	2024	HTH63
3028243.894	679780.220	1780630.037	15967634.513	.023		ADJUSTMENT	2014	GPS3018
3028243.894	679780.220	1780630.037	15967634.513	.023	C	GPS - STATIC	2014	HOLMS
3028243.943	679780.098	1780630.085	15967634.390	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3028243.935	679780.148	1780630.078	15967634.440	.033	C	GPS - STATIC	2024	HTH63
3028243.901	679780.196	1780630.045	15967634.489	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GALAXY-DP2843-3E-15MAY2023.jpg	E	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GALAXY-DP2843-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GALAXY-DP2843-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GARMIN MNDT

NGS Name: GARMIN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3948](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	5	105 N	13 W	435534.37	922402.61	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1996	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 30 FT)	SURVEY DISK	MNDT

Description: (2016) **Stamping:** GARMIN 1996

3.0 MILES SOUTHWEST OF MARION, 3.05 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 214.95, 90.7 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 236.5 FEET WEST OF MILEPOST 215, 15.1 FEET SOUTHEAST OF A FENCE, 2.7 FEET SOUTHWEST OF A WITNESS POST.

Station Pair: MENTEL - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1279.453	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1279.446	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1279.345	.262		1181.221	.197	2011	GPS - RTRN	2016	RTRN2016
1279.413			1181.287	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1279.430	.131		1181.533	.066	1996	GPS - STATIC	2014	HOLMS
1279.413			1181.287	.013	2011	GPS - STATIC	2014	HOLMS
			1181.287	.012	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1181.389	.014	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1279.459	.131		1181.533	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1279.459	.131		1181.533	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.120 09 = -98.054 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 34.37066	92 24 02.60636	635941.195	134082.651	.131	3	GPS - RTRN	2016	RTRN2016
43 55 34.37126	92 24 02.60633	635941.197	134082.712	.016		ADJUSTMENT	2014	GPS3018
43 55 34.37127	92 24 02.60652	635941.183	134082.713	.016	C	GPS - STATIC	2014	HOLMS
43 55 34.37126	92 24 02.60633	635941.197	134082.712	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 34.37148	92 24 02.60727	635941.128	134082.734	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 34.37110	92 24 02.60651	635941.184	134082.696	.033	C	GPS - STATIC	2014	HOLMS
43 55 34.37110	92 24 02.60651	635941.184	134082.696	.033	C	ADJUSTMENT	2003	GPS1770
43 55 34.37110	92 24 02.60651	635941.185	134082.698	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3045987.756	669848.129	1798244.302	15957488.375	.131	3	GPS - RTRN	2016	RTRN2016
3045987.757	669848.190	1798244.304	15957488.436	.016		ADJUSTMENT	2014	GPS3018
3045987.744	669848.190	1798244.290	15957488.436	.016	C	GPS - STATIC	2014	HOLMS
3045987.757	669848.190	1798244.304	15957488.436	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3045987.688	669848.210	1798244.235	15957488.457	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3045987.745	669848.173	1798244.291	15957488.419	.033	C	GPS - STATIC	2014	HOLMS
3045987.745	669848.173	1798244.291	15957488.419	.033	C	ADJUSTMENT	2003	GPS1770
3045987.745	669848.173	1798244.291	15957488.419	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GARMIN-DF3948-3NW-09AUG2016.jpg	NW	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GARMIN-DF3948-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GARMIN-DF3948-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GATES

NGS Name: GATES

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	19	107 N	12 W	440325.88	921907.76		C

NGS ACRN: PP2251	Get Map
NGS Quad / Sta Num : 44092232/1002	
USGS Quad: CHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	NGS

Description: (2016)

Stamping: GATES 1935

7.25 MILES EAST-NORTHEAST OF ROCHESTER, 2.5 MILES WEST ALONG COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND 105TH AVENUE NORTHEAST IN VIOLA, THEN 0.5 MILE SOUTH ON 80TH AVENUE NORTHEAST, 105.45 FEET WEST OF GATES RM 1, 103.05 FEET NORTH-NORTHEAST OF GATES RM 2, 24.0 FEET EAST OF 80TH AVENUE NORTHEAST, 23.0 FEET SOUTH-SOUTHWEST OF A POWER POLE, AT THE EAST EDGE OF A DITCH, 14.0 FEET NORTH OF AN ENTRANCE, 3.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1288.613	.262		1190.506	.197	2011	GPS - OPUS	2021	GPSBM
1288.711	.262		1190.605	.197	2011	GPS - RTRN	2021	RTRN2021
1288.613			1190.503	.008	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1288.600	.131		1190.716	.066	1996	GPS - STATIC	2013	HCHES
1288.613			1190.506	.008	2011	GPS - STATIC	2013	HCHES
			1190.503	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1288.580	.131		1190.680	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1288.613	.131		1190.680	.066	2007	GPS - STATIC	2011	HFRON
			1190.680	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2364-B
1288.613	.131		1190.844	.066	1996	GPS - STATIC	2010	HFRON
1288.646	.131		1190.844	.066	1996	HORIZONTAL ADJUSTMENT	2007	GPS2364
1288.646	.131		1190.844	.066	1996	GPS - STATIC	2007	HWABA
			1190.680	.058	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1288.777	.131		1190.982	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648
1288.770	.131		1190.844	.066	1996	GPS - STATIC	1997	GPS805-C

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1289.400						RECIPROCAL VERTICAL ANGLE	1935	HORZ

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.113 09 = -97.972 03 = -97.884

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 25.87867	92 19 07.75531	657174.620	181975.053	.131	3	GPS - OPUS	2021	GPSBM
44 03 25.87886	92 19 07.75512	657174.634	181975.073	.131	3	GPS - RTRN	2021	RTRN2021
44 03 25.87874	92 19 07.75500	657174.643	181975.061	.007		ADJUSTMENT	2013	GPS2950
44 03 25.87875	92 19 07.75501	657174.642	181975.062	.007	C	GPS - STATIC	2013	HCHES
44 03 25.87874	92 19 07.75500	657174.643	181975.061	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 25.87867	92 19 07.75527	657174.623	181975.053	.033	C	ADJUSTMENT	2011	GPS2814
44 03 25.87867	92 19 07.75527	657174.623	181975.053	.033	C	GPS - STATIC	2011	HFRON
44 03 25.87867	92 19 07.75527	657174.623	181975.053	.033	C	ADJUSTMENT	2010	GPS2364-B
44 03 25.87867	92 19 07.75526	657174.624	181975.053	.033		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 25.87857	92 19 07.75532	657174.619	181975.043	.033	C	GPS - STATIC	2013	HCHES
44 03 25.87825	92 19 07.75448	657174.681	181975.011	.033	C	GPS - STATIC	2010	HFRON
44 03 25.87825	92 19 07.75448	657174.681	181975.011	.033	C	ADJUSTMENT	2007	GPS2364
44 03 25.87825	92 19 07.75448	657174.681	181975.011	.033	C	GPS - STATIC	2007	HWABA
44 03 25.87825	92 19 07.75448	657174.681	181975.011	.033	C	ADJUSTMENT	1999	17648
44 03 25.87825	92 19 07.75448	657174.681	181975.011	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 25.86622	92 19 07.75423	657174.708	181973.793	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 03 25.99200	92 19 07.14400			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3066579.874	718014.606	1819420.530	16005382.071	.131	3	GPS - OPUS	2021	GPSBM
3066579.887	718014.626	1819420.544	16005382.090	.131	3	GPS - RTRN	2021	RTRN2021
3066579.896	718014.614	1819420.553	16005382.078	.007		ADJUSTMENT	2013	GPS2950
3066579.895	718014.615	1819420.552	16005382.079	.007	C	GPS - STATIC	2013	HCHES
3066579.896	718014.614	1819420.553	16005382.078	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3066579.877	718014.606	1819420.533	16005382.071	.033	C	ADJUSTMENT	2011	GPS2814
3066579.877	718014.606	1819420.533	16005382.071	.033	C	GPS - STATIC	2011	HFRON
3066579.877	718014.606	1819420.533	16005382.071	.033	C	ADJUSTMENT	2010	GPS2364-B
3066579.877	718014.606	1819420.534	16005382.071	.033		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3066579.873	718014.596	1819420.530	16005382.061	.033	C	GPS - STATIC	2013	HCHES
3066579.935	718014.565	1819420.591	16005382.029	.033	C	GPS - STATIC	2010	HFRON
3066579.935	718014.565	1819420.591	16005382.029	.033	C	ADJUSTMENT	2007	GPS2364
3066579.935	718014.565	1819420.591	16005382.029	.033	C	GPS - STATIC	2007	HWABA
3066579.935	718014.565	1819420.591	16005382.029	.033	C	ADJUSTMENT	1999	17648
3066579.935	718014.565	1819420.591	16005382.029	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3066579.978	718013.347	1819420.620	16005380.811	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2441970.373	389939.585			.100	2	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES-PP2251-3NE-07APR2010.jpg	NE	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES-PP2251-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES-PP2251-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GATES AZ MK

NGS Name: GATES AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3524](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	19	107 N	12 W	440308.00	921908.01		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2011	GOOD	Horz=YES Vert=YES	YES		RECESSED 6 IN.	STEEL ROD ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2011) **Stamping:** GATES 1935

7.25 MILES EAST-NORTHEAST OF ROCHESTER, 2.5 MILES WEST ALONG COUNTY STATE AID HIGHWAY 2 NORTHEAST FROM THE JUNCTION OF COUNTY STATE AID HIGHWAY 2 NORTHEAST AND 105TH AVENUE NORTHEAST IN VIOLA, THEN 0.83 MILE SOUTH ON 80TH AVENUE NORTHEAST, STATION GATES AZ MK IS ON THE LEFT, 16.0 FEET EAST OF A TOWNSHIP ROAD, 10.0 FEET SOUTH OF A FIELD ENTRANCE EAST, IRON ROD ALONG NORTHWESTERLY SIDE.

Station Notes

RECOVERED BY AN OLMSTED COUNTY SURVEY CREW.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.100 12B = -98.110 09 = -97.966 03 = -97.880

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_AZ_MK-CJ3524-3E-11OCT2011.jpg	E	Oct 11, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_AZ_MK-CJ3524-2-11OCT2011.jpg		Oct 11, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_AZ_MK-CJ3524-1-11OCT2011.jpg		Oct 11, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GATES RM 1

NGS Name: GATES RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3525](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	19	107 N	12 W	440325.85	921906.31		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016)

Stamping: GATES NO 1 1935

7.25 MILES EAST-NORTHEAST OF ROCHESTER, 2.5 MILES WEST ALONG COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND 105TH AVENUE NORTHEAST IN VIOLA, THEN 0.5 MILE SOUTH ON 80TH AVENUE NORTHEAST, 105.45 FEET EAST OF STATION GATES, IN AN EAST-WEST FENCE LINE, 1.0 FOOT NORTH OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.113 09 = -97.969 03 = -97.884

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_RM_1-CJ3525-3E-29APR2010.jpg	E	Apr 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_RM_1-CJ3525-2-29APR2010.jpg		Apr 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATES_RM_1-CJ3525-1-29APR2010.jpg		Apr 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GATES RM 2

NGS Name: GATES RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI7783](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	19	107 N	12 W	440324.95	921908.33		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: (2016)

Stamping:

7.25 MILES EAST-NORTHEAST OF ROCHESTER, 2.5 MILES WEST ALONG COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND 105TH AVENUE NORTHEAST IN VIOLA, THEN 0.5 MILE SOUTH ON 80TH AVENUE NORTHEAST, 103.05 FEET SOUTH-SOUTHWEST OF STATION GATES, 15.0 FEET WEST OF A ROAD.

Station Notes

4-29-2010 GRADED OUT WHEN THE ROAD WAS REBUILT, AND THE DITCHES WERE ADDED.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.113 09 = -97.972 03 = -97.884



Mn/DOT Name: GATHJE MNDT

NGS Name: GATHJE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2242](#) [Get Map](#)
NGS Quad / Sta Num : 44092222/1055
USGS Quad: ELBA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	106 N	11 W	440058.12	920520.18		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 8 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2012) Stamping: GATHJE 1973

3.3 MILES NORTHWEST OF ST. CHARLES, 3.3 MILES NORTH ALONG TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.5 MILE WEST ON WINONA COUNTY ROAD 22, THEN 0.5 MILE WEST ON OLMSTED COUNTY ROAD 9, THEN 0.3 MILE SOUTH ON 195TH AVENUE SOUTHEAST (GRAVEL ROAD), 140.9 FEET SOUTH OF GATHJE MNDT RM 1, 105.17 FEET SOUTHEAST OF GATHJE MNDT RM 2, 71.03 FEET SOUTH OF A DISK IN A POWER POLE, 46.0 FEET SOUTH OF AN ENTRANCE, 40.0 FEET EAST OF 195TH AVENUE SOUTHEAST, 1.2 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1201.782	.262		1103.443	.197	2011	GPS - OPUS	2021	GPSBM
1201.766	.262		1103.426	.197	2011	GPS - OPUS	2021	GPSBM
1201.723	.262		1103.384	.197	2011	GPS - RTRN	2021	RTRN2021
1201.723	.262		1103.498	.197	2007	GPS - RTRN	2012	RTRN2012
			1103.485	.015	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1201.802	.131		1103.571	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1201.802	.131		1103.571	.066	2007	GPS - STATIC	2011	HFRON
1201.802	.131		1103.699	.066	1996	GPS - STATIC	2010	HFRON
1200.129	.197		1102.075	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1199.998						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.340 09 = -98.222 03 = -98.090

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 58.11944	92 05 20.17543	717759.749	167535.006	.131	3	GPS - OPUS	2021	GPSBM
44 00 58.11988	92 05 20.17572	717759.727	167535.050	.131	3	GPS - OPUS	2021	GPSBM
44 00 58.11907	92 05 20.17563	717759.734	167534.968	.131	3	GPS - RTRN	2021	RTRN2021
44 00 58.11969	92 05 20.17510	717759.772	167535.031	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 58.11938	92 05 20.17622	717759.691	167534.999	.131	3	GPS - RTRN	2012	RTRN2012
44 00 58.11967	92 05 20.17625	717759.688	167535.028	.033	C	ADJUSTMENT	2011	GPS2814
44 00 58.11967	92 05 20.17625	717759.688	167535.028	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 58.11941	92 05 20.17545	717759.747	167535.003	.033	C	GPS - STATIC	2010	HFRON
44 00 58.12062	92 05 20.17540	717759.750	167535.125	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 58.11282	92 05 20.17621	717759.698	167534.335	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 00 58.24731	92 05 19.59745			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3127346.200	704384.718	1879995.971	15991009.331	.131	3	GPS - OPUS	2021	GPSBM
3127346.177	704384.762	1879995.949	15991009.376	.131	3	GPS - OPUS	2021	GPSBM
3127346.186	704384.680	1879995.957	15991009.294	.131	3	GPS - RTRN	2021	RTRN2021
3127346.223	704384.744	1879995.995	15991009.357	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3127346.142	704384.711	1879995.913	15991009.324	.131	3	GPS - RTRN	2012	RTRN2012
3127346.139	704384.740	1879995.911	15991009.354	.033	C	ADJUSTMENT	2011	GPS2814
3127346.139	704384.740	1879995.911	15991009.354	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3127346.198	704384.715	1879995.969	15991009.328	.033	C	GPS - STATIC	2010	HFRON
3127346.199	704384.838	1879995.972	15991009.451	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3127346.158	704384.047	1879995.921	15991008.660	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2502735.969	376311.423			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATHJE-PP2242-3NE-06APR2010.jpg	NE	Apr 6, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATHJE-PP2242-2-06APR2010.jpg		Apr 6, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GATHJE-PP2242-1-06APR2010.jpg		Apr 6, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GATHJE MNDT RM 1

NGS Name: GATHJE RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI7786](#) [Get Map](#)
NGS Quad / Sta Num : 44092222/
USGS Quad: ELBA

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
NE	1	106 N	11 W	
	440059.51	920520.24		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	1973	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	UNKNOWN	MNDT

Description: (2016)

Stamping: GATHJE NO 1 1973

3.3 MILES NORTHWEST OF ST. CHARLES, 3.3 MILES NORTH ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.5 MILE WEST ON WINONA COUNTY ROAD 22, THEN 0.5 MILE WEST ON OLMSTED COUNTY ROAD 9, THEN 0.3 MILE SOUTH ON 195TH AVENUE SOUTHEAST (GRAVEL ROAD), STATION GATHJE MNDT RM 1 IS 140.90 FEET NORTH OF STATION GATHJE MNDT, 34.0 FEET EAST OF THE CENTERLINE OF THE ROAD, 95.0 FEET NORTH OF THE CENTERLINE OF AN ENTRANCE, 3.5 FEET WEST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.340 09 = -98.222 03 = -98.090



Mn/DOT Name: GATHJE MNDT RM 2

NGS Name: GATHJE RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI7787](#)

[Get Map](#)

NGS Quad / Sta Num : 44092222/

USGS Quad: ELBA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	1	106 N	11 W	440058.85	920521.20		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	1973	GOOD	Horz=YES Vert=YES	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

UNKNOWN

Mon. Agency

MNDT

Description:

Stamping: GATHJE NO 2 1973

3.3 MILES NORTHWEST OF ST. CHARLES, 3.3 MILES NORTH ON TRUNK HIGHWAY 74 FROM THE JUNCTION OF TRUNK HIGHWAY 74 AND TRUNK HIGHWAY 14 IN ST. CHARLES, THEN 0.5 MILE WEST ON WINONA COUNTY ROAD 22, THEN 0.5 MILE WEST ON OLMSTED COUNTY ROAD 9, THEN 0.3 MILE SOUTH ON 195TH AVENUE SOUTHEAST (GRAVEL ROAD), 105.17 FEET NORTHWEST OF STATION GATHJE MNDT, 35.0 FEET WEST OF THE CENTERLINE OF THE ROAD, 4.7 FEET SOUTH OF A POWER POLE, 1.7 FEET SOUTH OF A STEEL WITNESS POST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.340 09 = -98.222 03 = -98.090



Mn/DOT Name: GEMINI

NGS Name: GEMINI

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1770](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	14	106 N	14 W	435851.80	922742.21	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) **Stamping:** GEMINI 2010

IN ROCHESTER, 0.25 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 37.75, 120.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 63, 60.2 FEET SOUTH OF EASTBOUND 28TH STREET SOUTH, 91.4 FEET WEST OF THE EAST FRONTAGE ROAD, 77.3 FEET NORTHEAST OF A POWER POLE WITH A GUY WIRE, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: HILLER - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1053.390	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1053.374	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1053.430	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1053.374	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1053.374	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1053.374	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1053.331	.262		954.821	.197	2011	GPS - RTRN	2013	RTRN2013
			954.913	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1053.384	.262		954.955	.197	2007	GPS - RTRN	2011	RTRN2011
1053.377	.131		955.008	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1053.377	.131		955.008	.066	2007	GPS - STATIC	2011	HFRON
1053.377	.131		955.159	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.510 09 = -98.428 03 = -98.235

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 51.79873	92 27 42.20909	619758.526	153980.443	.131	3	GPS - RTRN	2013	RTRN2013
43 58 51.80001	92 27 42.20957	619758.490	153980.573	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 51.79931	92 27 42.20903	619758.530	153980.502	.131	3	GPS - RTRN	2011	RTRN2011
43 58 51.80016	92 27 42.21035	619758.433	153980.587	.033	C	ADJUSTMENT	2011	GPS2814
43 58 51.80016	92 27 42.21035	619758.433	153980.587	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 51.79980	92 27 42.20956	619758.490	153980.551	.033	C	GPS - STATIC	2010	HFRON



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029543.175	689527.187	1782048.578	15977361.435	.131	3	GPS - RTRN	2013	RTRN2013
3029543.137	689527.315	1782048.542	15977361.564	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029543.178	689527.245	1782048.582	15977361.493	.131	3	GPS - RTRN	2011	RTRN2011
3029543.080	689527.330	1782048.485	15977361.579	.033	C	ADJUSTMENT	2011	GPS2814
3029543.080	689527.330	1782048.485	15977361.579	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029543.138	689527.294	1782048.543	15977361.543	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GEMINI-DN1770-3E-03APR2013.jpg	E	Apr 3, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GEMINI-DN1770-2-03APR2013.jpg		Apr 3, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GEMINI-DN1770-1-03APR2013.jpg		Apr 3, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GOLDEN

NGS Name: GOLDEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1771](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	6	108 N	13 W	441114.77	922511.03	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: GOLDEN 2010

4.3 MILES NORTHWEST OF POTSDAM, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, AT TRUNK HIGHWAY 63 MILEPOINT 52.75, 65.0 FEET WEST OF TRUNK HIGHWAY 63, 42.2 FEET SOUTH OF 130TH STREET NORTHEAST, 5.3 FEET NORTHEAST OF CABLE BOX NUMBER 6104 1, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1123.088	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1123.088	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1123.075	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1123.065	.262		1024.650	.197	2011	GPS - OPUS	2021	GPSBM
1123.160	.262		1024.742	.197	2011	GPS - RTRN	2021	RTRN2021
1122.885	.262		1024.594	.197	2007	GPS - RTRN	2012	RTRN2012
			1024.644	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1123.062	.131		1024.749	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1123.062	.131		1024.749	.066	2007	GPS - STATIC	2011	HFRON
1123.062	.131		1024.844	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.415 12B = -98.412 09 = -98.290 03 = -98.195

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 14.76625	92 25 11.02879	630359.628	229281.851	.131	3	GPS - OPUS	2021	GPSBM
44 11 14.76612	92 25 11.02870	630359.635	229281.838	.131	3	GPS - RTRN	2021	RTRN2021
44 11 14.76643	92 25 11.02841	630359.656	229281.869	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 14.76565	92 25 11.02847	630359.652	229281.790	.131	3	GPS - RTRN	2012	RTRN2012
44 11 14.76654	92 25 11.02916	630359.601	229281.880	.033	C	ADJUSTMENT	2011	GPS2814
44 11 14.76654	92 25 11.02916	630359.601	229281.880	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 14.76619	92 25 11.02852	630359.648	229281.845	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3039140.548	764955.112	1792568.356	16052641.357	.131	3	GPS - OPUS	2021	GPSBM
3039140.555	764955.099	1792568.363	16052641.343	.131	3	GPS - RTRN	2021	RTRN2021
3039140.575	764955.131	1792568.384	16052641.375	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3039140.573	764955.051	1792568.380	16052641.296	.131	3	GPS - RTRN	2012	RTRN2012
3039140.520	764955.140	1792568.329	16052641.385	.033	C	ADJUSTMENT	2011	GPS2814
3039140.520	764955.140	1792568.329	16052641.385	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3039140.568	764955.106	1792568.376	16052641.351	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GOLDEN-DN1771-3W-20MAY2010.jpg	W	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GOLDEN-DN1771-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GOLDEN-DN1771-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GROUND

NGS Name: GROUND

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2844](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	18	106 N	11 W	435847.54	921111.66	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 13 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: GROUND 2013

2.2 MILES SOUTHEAST OF EYOTA, 2.25 MILES SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE NORTH) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 227.95, 29.6 FEET SOUTH OF TRUNK HIGHWAY 14, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: FROZEN - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1189.886	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1189.886	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1189.853			1091.779	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1189.863	.131		1092.009	.066	1996	GPS - STATIC	2014	HOLMS
1189.853			1091.779	.012	2011	GPS - STATIC	2014	HOLMS
1189.870	.262		1091.792	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.094 12B = -98.077 09 = -97.966 03 = -97.864

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 47.54189	92 11 11.66017	692191.711	154069.787	.013		ADJUSTMENT	2014	GPS3018
43 58 47.54189	92 11 11.66017	692191.711	154069.787	.013	C	GPS - STATIC	2014	HOLMS
43 58 47.54254	92 11 11.66045	692191.690	154069.853	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 47.54169	92 11 11.66041	692191.694	154069.767	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3101962.329	690580.972	1854451.571	15977523.620	.013		ADJUSTMENT	2014	GPS3018
3101962.329	690580.972	1854451.571	15977523.620	.013	C	GPS - STATIC	2014	HOLMS
3101962.307	690581.037	1854451.550	15977523.686	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3101962.312	690580.952	1854451.554	15977523.600	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROUND-DP2844-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROUND-DP2844-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROUND-DP2844-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: GROVE

NGS Name: GROVE

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	1	105 N	13 W	435551.36	922018.24	2	C

NGS ACRN: [DO5542](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2011	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 8 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: GROVE 2011

1.0 MILE SOUTHEAST OF MARION, 1.55 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 TO TRUNK HIGHWAY 52 MILEPOINT 44.95, THEN 0.35 MILE SOUTH ON COUNTY ROAD 19, 47.5 FEET EAST OF COUNTY ROAD 19, 12.8 FEET NORTH OF A FIELD ENTRANCE, 3.3 FEET WEST OF A FENCE LINE, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1228.948	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1228.948	.016	2/1				VERTICAL ADJUSTMENT	2015 00000851
1228.948	.016	2/1				VERTICAL CONTROL SURVEY	2012 VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1228.948			1130.867	.011	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
			1130.867	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1228.948	.131		1131.123	.066	1996	GPS - STATIC	2014 HOLMS
1228.948			1130.867	.011	2011	GPS - STATIC	2014 HOLMS
1228.948			1130.864	.007	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1228.935			1130.864	.007	2011	GPS - STATIC	2013 HPRED
1228.935	.131		1131.123	.066	1996	GPS - STATIC	2013 HPRED

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.038 09 = -97.956 03 = -97.838

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 55 51.35847	92 20 18.24146	652349.971	135911.826	.013		ADJUSTMENT
43 55 51.35847	92 20 18.24146	652349.971	135911.826	.013		ADJUSTMENT
43 55 51.35852	92 20 18.24166	652349.956	135911.831	.013	C	GPS - STATIC
43 55 51.35848	92 20 18.24144	652349.972	135911.827	.007		ADJUSTMENT
43 55 51.35848	92 20 18.24144	652349.972	135911.827	.007	C	GPS - STATIC

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 55 51.35826	92 20 18.24151	652349.967	135911.805	.033	C	GPS - STATIC
43 55 51.35826	92 20 18.24151	652349.967	135911.805	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3062369.404	671895.400	1814644.332	15959333.174	.013		ADJUSTMENT	2014	GPS3018
3062369.404	671895.400	1814644.332	15959333.174	.013		ADJUSTMENT	2014	GPS2902-B
3062369.389	671895.405	1814644.318	15959333.179	.013	C	GPS - STATIC	2014	HOLMS
3062369.405	671895.401	1814644.334	15959333.175	.007		ADJUSTMENT	2013	GPS2902
3062369.405	671895.401	1814644.334	15959333.175	.007	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3062369.401	671895.378	1814644.329	15959333.152	.033	C	GPS - STATIC	2014	HOLMS
3062369.401	671895.378	1814644.329	15959333.152	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROVE-DO5542-3E-09APR2012.jpg	E	Apr 9, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROVE-DO5542-2-09APR2012.jpg		Apr 9, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/GROVE-DO5542-1-09APR2012.jpg		Apr 9, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: H 24

NGS Name: H 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0134](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	35	107 N	14 W	440138.00	922749.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - LARGE	BENCH MARK DISK	NGS

Description: (1970)

Stamping: 998.804 H 24 1933

AT THE CHICAGO AND NORTHWESTERN RAILROAD STATION IN ROCHESTER, 0.4 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 2ND STREET SOUTHWEST IN ROCHESTER, THEN 187.0 FEET WEST ON CIVIC CENTER DRIVE, 2.0 FEET WEST FROM THE NORTHEAST CORNER OF A PLATFORM, SET VERTICALLY IN THE NORTH FACE OF A BRICK WALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
998.889	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
998.804	.016	2				VERTICAL CONTROL SURVEY		1935	CUTLER-VERT
998.804	.007	1				VERTICAL CONTROL SURVEY		1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.533 12B = -98.537 09 = -98.455 03 = -98.287

* No Horizontal Positions in the Database *



Mn/DOT Name: HANCOCK

NGS Name: HANCOCK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8787](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	2	106 N	14 W	440025.76	922815.52	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 40 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** HANCOCK 2012

IN ROCHESTER, 0.4 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 (SOUTH BROADWAY) IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 213.2, 38.4 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 53.5 FEET EAST OF THE NORTHEAST CORNER OF BRIDGE NUMBER 55038, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: CHIPOTLE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1006.940	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1006.940	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1006.940	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1006.940			908.417	.009	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1006.940	.131		908.646	.066	1996	GPS - STATIC	2013 HCHES
1006.940			908.417	.009	2011	GPS - STATIC	2013 HCHES
1006.950	.262		908.394	.197	2011	GPS - RTRN	2013 RTRN2013
1006.868	.262		908.391	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.560 09 = -98.477 03 = -98.294

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 25.75995	92 28 15.51709	617271.579	163482.124	.016		ADJUSTMENT	2013 GPS2950	
44 00 25.75995	92 28 15.51709	617271.579	163482.124	.016	C	GPS - STATIC	2013 HCHES	
44 00 25.76068	92 28 15.51685	617271.596	163482.198	.131	3	GPS - RTRN	2013 RTRN2013	

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 25.75971	92 28 15.51861	617271.468	163482.099	.131	3	GPS - RTRN	2012 RTRN2012	

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 00 25.75976	92 28 15.51722	617271.570	163482.104	.033	C	GPS - STATIC	2013 HCHES	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3026930.303	698994.090	1779553.118	15986856.525	.016		ADJUSTMENT	2013	GPS2950
3026930.303	698994.090	1779553.118	15986856.525	.016	C	GPS - STATIC	2013	HCHES
3026930.319	698994.164	1779553.135	15986856.599	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3026930.193	698994.063	1779553.007	15986856.500	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3026930.294	698994.070	1779553.109	15986856.506	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HANCOCK-DO8787-3W-11NOV2012.jpg	W	Nov 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HANCOCK-DO8787-2-11NOV2012.jpg		Nov 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HANCOCK-DO8787-1-11NOV2012.jpg		Nov 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HAVERHILL

NGS Name: HAVERHILL RESET

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: PP2257 NGS Quad / Sta Num : 44092233/1004 USGS Quad: ROCHESTER	Get Map
NW	29	107 N	13 W	440257.17	922442.44	2	3		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 30 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2010)

Stamping: HAVERHILL 1935 1973

3.5 MILES NORTHEAST OF ROCHESTER, 2.8 MILES EAST ON COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 63 IN ROCHESTER, 105.78 FEET SOUTHEAST OF HAVERHILL RM 3, 47.0 FEET NORTH OF THE WESTBOUND COUNTY ROAD 2 CENTERLINE, 92.0 FEET EAST OF DRIVE NUMBER 3405, 67.41 FEET WEST OF A CSD ON THE SOUTH SIDE OF A POWER POLE, 10.0 FEET SOUTH OF A WITNESS POST.

Station Notes

THE STATION IS BURIED 30.0 INCHES WITH LARGE PINES TO THE NORTH.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1241.704	.016	2/1							VERTICAL ADJUSTMENT	2008 00000425-32
1241.717	.016	2/1							VERTICAL CONTROL SURVEY	2007 VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1234.249	.262					1136.235	.197	1996	HORIZONTAL ADJUSTMENT	1999 17648

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1233.987									RECIPROCAL VERTICAL ANGLE	1973 HORZ

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.343 09 = -98.231 03 = -98.117

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 57.16955	92 24 42.44156	632751.208	178904.396	.131	3	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 57.15847	92 24 42.44146	632751.222	178903.274	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>		<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 57.29000	92 24 41.81100					.100	3	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3042201.927	714619.437	1795010.511	16002287.879	.131	3	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3042201.956	714618.316	1795010.527	16002286.758	.131	3	ADJUSTMENT	1986	17289

<u>NAD27</u>		<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2417593.131	386545.128					.100	3	CLASSICAL SURVEY	1937	03491



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RESET-PP2257-3N-04MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RESET-PP2257-2-04MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RESET-PP2257-1-04MAY2010.jpg

<u>Dir</u>	<u>Date</u>
N	May 4, 2010
	May 4, 2010
	May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HAVERHILL 1

NGS Name: HAVERHILL 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2845](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	1	107 N	13 W	440536.36	921908.99		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: HAVERHILL 1 2010

8.0 MILES NORTHWEST OF EYOTA, 6.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA TO TRUNK HIGHWAY 42 MILEPOINT 6.55, THEN 3.7 MILES WEST ON 65TH STREET NORTHEAST, 53.0 FEET NORTH OF 65TH STREET NORTHEAST, 47.0 FEET WEST OF 80TH AVENUE NORTHEAST, 2.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1225.273				1127.097	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1225.286	.131			1127.347	.066	1996	GPS - STATIC	2014	HOLMS
1225.273				1127.097	.013	2011	GPS - STATIC	2014	HOLMS
1225.148	.262			1127.104	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.185 12B = -98.179 09 = -98.048 03 = -97.953

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 36.36175	92 19 08.98884	656988.803	195187.809	.013		ADJUSTMENT	2014	GPS3018
44 05 36.36175	92 19 08.98884	656988.803	195187.809	.013	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 36.36116	92 19 08.99013	656988.709	195187.748	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 36.36153	92 19 08.98893	656988.797	195187.786	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3066218.158	731222.358	1819221.310	16018589.137	.013		ADJUSTMENT	2014	GPS3018
3066218.158	731222.358	1819221.310	16018589.137	.013	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3066218.065	731222.296	1819221.216	16018589.076	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3066218.151	731222.335	1819221.303	16018589.114	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_1-DP2845-3W-17NOV2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_1-DP2845-2-17NOV2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_1-DP2845-1-17NOV2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Nov 17, 2010
	Nov 17, 2010
	Nov 17, 2010



Mn/DOT Name: HAVERHILL 3

NGS Name: HAVERHILL 3

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	3	107 N	13 W	440627.69	922209.48		C

NGS ACRN: [DP2846](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 27 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: HAVERHILL 3 2010

7.0 MILES NORTHEAST OF ROCHESTER, 3.1 MILES EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 63 NORTH OF ROCHESTER, 76.0 FEET SOUTH OF COUNTY ROAD 14 (75TH STREET NORTHEAST), 63.0 FEET WEST OF COUNTY ROAD 11 (55TH AVENUE NORTHEAST), 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1184.135			1085.874	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1184.148	.131		1086.126	.066	1996	GPS - STATIC	2014	HOLMS
1184.135			1085.874	.011	2011	GPS - STATIC	2014	HOLMS
1184.063	.262		1085.916	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.281 12B = -98.271 09 = -98.149 03 = -98.051

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 27.69268	92 22 09.48279	643781.383	200294.460	.016		ADJUSTMENT	2014	GPS3018
44 06 27.69268	92 22 09.48279	643781.383	200294.460	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 27.69187	92 22 09.48317	643781.356	200294.378	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 27.69253	92 22 09.48285	643781.378	200294.445	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3052945.332	736152.186	1806014.204	16023680.128	.016		ADJUSTMENT	2014	GPS3018
3052945.332	736152.186	1806014.204	16023680.128	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3052945.306	736152.103	1806014.177	16023680.046	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3052945.327	736152.171	1806014.200	16023680.113	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_3-DP2846-3W-12SEP2012.jpg	W	Sep 12, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_3-DP2846-2-12SEP2012.jpg		Sep 12, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_3-DP2846-1-12SEP2012.jpg		Sep 12, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HAVERHILL AZ MK

NGS Name: HAVERHILL AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2267](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1004
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>					
SW	21	107 N	14 W	440259.05	922432.55	2	2					
<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>		<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>				
1973	2021	GOOD	Horz=NO Vert=YES		YES		RECESSED 2 IN.	MARKER W/BAR MAGNET				

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2010)

Stamping: HAVERHILL 1935 1973

3.5 MILES NORTHEAST OF ROCHESTER, 2.8 MILES EAST ON COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 63 IN ROCHESTER, 58.0 FEET WEST-NORTHWEST OF A POWER POLE, 55.0 FEET NORTH OF COUNTY ROAD 2, 43.0 FEET WEST OF 36TH AVENUE NORTHEAST, 9.0 FEET NORTH OF THE NORTH EDGE OF A PATHWAY, 4.5 FEET NORTHEAST OF A WITNESS POST.

Station Notes

DUE TO TREE COVER, THIS SURVEY MARK HAS BEEN ABANDONED FOR MNDOT GEODETIC HORIZONTAL SURVEYS.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1261.100	.016	2/1							VERTICAL ADJUSTMENT	2008	00000425-32
1261.116	.016	2/1							VERTICAL CONTROL SURVEY	2007	VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1253.606	.197					1155.601	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.000									RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.327 12B = -98.336 09 = -98.222 03 = -98.107

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
44 02 59.05208	92 24 32.55089	633472.422	179099.466	.066	2	ADJUSTMENT	1999	17648			

<u>NAD83(1986)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
44 02 59.04095	92 24 32.55110	633472.414	179098.339	.066	2	ADJUSTMENT	1986	17289			

<u>NAD27</u>		<u>Geodetic Position</u>							<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
44 02 59.17264	92 24 31.92045			.100	2	CLASSICAL SURVEY	1977	16059			

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
3042920.410	714824.067	1795731.221	16002483.598	.066	2	ADJUSTMENT	1999	17648			

<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
3042920.417	714822.939	1795731.214	16002482.472	.066	2	ADJUSTMENT	1986	17289			

<u>NAD27</u>		<u>MN State Plane - South Zone</u>							<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>			
2418311.626	386749.768			.100	2	CLASSICAL SURVEY	1977	16059			



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_AZ_MK-PP2267-3W-04MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_AZ_MK-PP2267-2-04MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_AZ_MK-PP2267-1-04MAY2010.jpg

<u>Dir</u>	<u>Date</u>
W	May 4, 2010
	May 4, 2010
	May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HAVERHILL RM 1

NGS Name: HAVERHILL RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2268](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1004
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	29	107 N	13 W	440256.20	922443.52		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1973	2008	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1973)

Stamping: HAVERHILL NO 1 1935

3.5 MILES NORTHEAST OF ROCHESTER, 2.85 MILES EAST ON COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 63 IN ROCHESTER, 85.0 FEET WEST OF A TELEPHONE POLE NUMBER 73, 29.0 FEET SOUTH OF COUNTY ROAD 2, 1.0 FOOT NORTH OF A FENCE, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88						Project Info		
Height	Acc	Order (/Class)	Ellipsoid (NAD83) Height	Acc	Adj	Determination Method	Year	Reference
1230.312	.197		1132.298	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29						Project Info		
Height	Acc	Order (/Class)	Ellipsoid (NAD83) Height	Acc	Adj	Determination Method	Year	Reference
1229.984						DIGITIZED FROM MAP	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.336 12B = -98.346 09 = -98.235 03 = -98.117

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 02 56.19967	92 24 43.51612	632673.326	178805.700	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				Olmsted County			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 02 56.18874	92 24 43.51584	632673.353	178804.594	.066	2	ADJUSTMENT	1986	17289

NAD27							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 02 56.32032	92 24 42.88537			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(1996)		UTM - Zone 15		Project Info				
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3042125.372	714519.724	1794932.762	16002189.146	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)		UTM - Zone 15		Project Info				
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3042125.414	714518.617	1794932.791	16002188.040	.066	2	ADJUSTMENT	1986	17289

NAD27				Project Info				
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
2417516.589	386445.435			.100	2	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: HAVERHILL RM 2

NGS Name: HAVERHILL RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3564](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	107 N	13 W	440257.30	922444.16		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: Stamping: HAVERHILL NO 2 1935

3.5 MILES NORTHEAST OF ROCHESTER, 2.85 MILES EAST ON COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2
AND TRUNK HIGHWAY 63 IN ROCHESTER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.343 09 = -98.231 03 = -98.117



Mn/DOT Name: HAVERHILL RM 3

NGS Name: HAVERHILL RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3565](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	107 N	13 W	440257.92	922443.45		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2010)

Stamping: HAVERHILL NO 3 1935

3.5 MILES NORTHEAST OF ROCHESTER, 2.85 MILES EAST ON COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND TRUNK HIGHWAY 63 IN ROCHESTER, 15.5 FEET SOUTHEAST OF THE CENTER OF A DOOR, 15.4 FEET SOUTHWEST OF THE SOUTHEAST CORNER OF A HOUSE, 11.7 FEET SOUTH OF THE SOUTH EDGE OF THE HOUSE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.343 09 = -98.231 03 = -98.117

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RM_3-CJ3565-3N-04MAY2010.jpg	N	May 4, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RM_3-CJ3565-2-04MAY2010.jpg		May 4, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HAVERHILL_RM_3-CJ3565-1-04MAY2010.jpg		May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HAVERHILL RM 4

NGS Name: HAVERHILL RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3566](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	107 N	13 W	440257.25	922441.35		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2007)

Stamping: HAVERHILL NO 4 1935

3.5 MILES NORTHEAST OF ROCHESTER, 2.85 MILES EAST ON COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 AND TRUNK HIGHWAY 63 IN ROCHESTER, 87.0 FEET WEST OF A POWER LINE POLE, 37.0 FEET NORTH OF THE CENTER OF THE ROAD, 79.0 FEET EAST OF A WITNESS POST.

Station Notes

5-04-2010 THE ROAD WAS RECONSTRUCTED IN 2007, GRADED OUT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.343 09 = -98.231 03 = -98.117



Mn/DOT Name: HIFOR MNDT

NGS Name: HIFOR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3956](#)

[Get Map](#)

NGS Quad / Sta Num : 43092412/

USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	32	105 N	14 W	435115.44	923156.22	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1996	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	SURVEY DISK	MNDT

Description: (2017)

Stamping: HIFOR 1996

3.4 MILES SOUTHWEST OF STEWARTVILLE, 1.1 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF COUNTY ROAD 6 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 3.0 MILES SOUTHWEST OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 206.4, 93.0 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 149.6 FEET SOUTHWEST OF THE NORTH LEG OF A SIGN, 6.0 FEET SOUTHEAST OF A FENCE, 3.1 FEET SOUTHWEST OF A WITNESS POST.

Station Pair: FLORE MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1231.271	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938	
1231.267	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1231.307	.262		1133.055	.197	2011	GPS - RTRN	2016	RTRN2016	
1231.274			1133.023	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1231.274	.131		1133.246	.066	1996	GPS - STATIC	2014	HOLMS	
1231.274			1133.023	.010	2011	GPS - STATIC	2014	HOLMS	
			1133.023	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
			1133.105	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1231.297	.131		1133.246	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770	
1231.297	.131		1133.246	.066	1996	GPS - STATIC	2002	HI90	

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.251 09 = -98.192 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County		Geodetic Position			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 15.43966	92 31 56.21863	601400.390	107673.122	.131	3	GPS - RTRN	2016	RTRN2016
43 51 15.44072	92 31 56.21919	601400.348	107673.229	.010		ADJUSTMENT	2014	GPS3018
43 51 15.44073	92 31 56.21910	601400.355	107673.230	.010	C	GPS - STATIC	2014	HOLMS
43 51 15.44072	92 31 56.21919	601400.348	107673.229	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)		Olmsted County		Geodetic Position			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 15.44089	92 31 56.21997	601400.291	107673.246	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)		Olmsted County		Geodetic Position			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 15.44042	92 31 56.21929	601400.341	107673.199	.033	C	GPS - STATIC	2014	HOLMS
43 51 15.44042	92 31 56.21929	601400.341	107673.199	.033	C	ADJUSTMENT	2003	GPS1770
43 51 15.44042	92 31 56.21929	601400.342	107673.200	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3011803.850	642983.529	1763744.721	15931055.823	.131	3	GPS - RTRN	2016	RTRN2016
3011803.807	642983.635	1763744.680	15931055.930	.010		ADJUSTMENT	2014	GPS3018
3011803.814	642983.636	1763744.686	15931055.931	.010	C	GPS - STATIC	2014	HOLMS
3011803.807	642983.635	1763744.680	15931055.930	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3011803.749	642983.651	1763744.622	15931055.947	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3011803.800	642983.605	1763744.672	15931055.899	.033	C	GPS - STATIC	2014	HOLMS
3011803.800	642983.605	1763744.672	15931055.899	.033	C	ADJUSTMENT	2003	GPS1770
3011803.800	642983.605	1763744.672	15931055.899	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIFOR-DF3956-3NW-03AUG2016.jpg	NW	Aug 3, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIFOR-DF3956-2-03AUG2016.jpg		Aug 3, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIFOR-DF3956-1-03AUG2016.jpg		Aug 3, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HIGH FOREST MNDT

NGS Name: HIGH FOREST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1019](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/1001
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	29	105 N	14 W	435158.93	923216.76		2	1962	1979	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1962)

Stamping: HIGH FOREST 1961

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST (GRAVEL ROAD), THEN EAST PAST AN ABANDONED SCHOOLHOUSE TO A FENCE, 100.12 FEET WEST OF HIGH FOREST MNDT RM 1, 87.00 FEET SOUTH OF HIGH FOREST MNDT RM 2, 37.0 FEET NORTHEAST OF A FENCE CORNER, 19.5 FEET EAST OF A NORTH-SOUTH FENCE, 3.5 FEET NORTH OF AN EAST-WEST FENCE, 4.0 FEET NORTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1285.430	.197			1187.540	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1285.004							RECIPROCAL VERTICAL ANGLE	1962	HORZ

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.254 03 = -98.038

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 51 58.92586	92 32 16.75718			599875.161	112069.716	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 51 58.91088	92 32 16.75929			599875.014	112068.199	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>Geodetic Position</u>									<u>Year</u> <u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
43 51 59.04305	92 32 16.11901					.100	2	CLASSICAL SURVEY	1976 15739

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3010220.421	647359.149			1762215.786	15935448.973	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3010220.294	647357.630			1762215.640	15935447.455	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>MN State Plane - South Zone</u>									<u>Year</u> <u>Reference</u>
<u>X</u>	<u>Y</u>								
2385611.382	319285.103					.100	2	CLASSICAL SURVEY	1976 15739



Mn/DOT Name: HIGH FOREST MNDT AZ MK

NGS Name: HIGH FOREST AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001018](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/1001
USGS Quad: HIGH FOREST

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	32	105 N	14 W	435128.97	923136.86		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1962	2016	NOT FOUND	Horz=? Vert=YES	NO			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1962) **Stamping:** HIGH FOREST 1961

1.5 MILES WEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 EAST IN STEWARTVILLE, THEN 1.6 MILES WEST ON COUNTY ROAD 35 TO INTERSTATE HIGHWAY 90, THEN 0.5 MILE SOUTH ON THE EAST SERVICE ROAD, 1.0 FOOT EAST OF THE EAST INTERSTATE HIGHWAY 90 RIGHT-OF-WAY FENCE, AT THE REST OF A HILL, AT THE TOP OF A CUT ABOVE THE SERVICE ROAD.

Station Notes

5-26-2010 THE POSITION FALLS 60.0 FEET SOUTHEAST OF A FENCE. ACCESS TO THE SERVICE ROAD IS GATED WITH A NO TRESPASSING SIGN.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1280.509	.197			1182.678	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1279.984							RECIPROCAL VERTICAL ANGLE	1962	HORZ

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.251 09 = -98.192 03 = -97.982

Lat/Lon and County Coordinates (Feet)

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 28.96977	92 31 36.86482	602812.107	109049.881	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 28.95434	92 31 36.86706	602811.951	109048.317	.066	2	ADJUSTMENT	1986	17289

NAD27							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 51 29.08494	92 31 36.22904			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3013197.042	644378.836	1765154.452	15932433.382	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3013196.906	644377.271	1765154.296	15932431.819	.066	2	ADJUSTMENT	1986	17289

NAD27							Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
2388587.920	316304.621			.100	2	CLASSICAL SURVEY	1976	15739



Mn/DOT Name: HIGH FOREST MNDT RESET

NGS Name: HIGH FOREST RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3957](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/1001
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	105 N	14 W	435158.93	923216.76		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	1996	GOOD	Horz=NO Vert=NO	YES		RECESSED 18 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2010) Stamping: HIGH FOREST 1961 1979

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 35 AND COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST, 171.5 FEET EAST OF A GRAVEL ROAD, 143.0 FEET NORTHEAST OF HIGH FOREST MNDT RESET RM 3, 135.9 FEET SOUTHEAST OF STATION HIGH FOREST MNDT RESET RM 4, 66.9 FEET SOUTHEAST OF A WELL PUMP.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
			1184.496	.009	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800
			1184.578	.010	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300
1282.839	.131		1184.722	.066	1996	HORIZONTAL ADJUSTMENT		2003	GPS1770
1282.839	.131		1184.722	.066	1996	GPS - STATIC		2002	HI90

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.254 03 = -98.038

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 58.92935	92 32 16.75727	599875.153	112070.070	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 58.92952	92 32 16.75806	599875.095	112070.087	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 58.92905	92 32 16.75737	599875.146	112070.039	.033	C	ADJUSTMENT	2003	GPS1770
43 51 58.92905	92 32 16.75737	599875.145	112070.038	.033	C	GPS - STATIC	2002	HI90

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 51 58.91088	92 32 16.75929	599875.014	112068.198	.033	C	GPS - STATIC	1991	H1991

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
43 51 59.04305	92 32 16.11901			.100	C	CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3010220.409	647359.503	1762215.778	15935449.326	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3010220.350	647359.519	1762215.720	15935449.343	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3010220.402	647359.472	1762215.771	15935449.296	.033	C	ADJUSTMENT	2003	GPS1770
3010220.402	647359.472	1762215.771	15935449.296	.033	C	GPS - STATIC	2002	HI90

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3010220.294	647357.630	1762215.640	15935447.455	.033	C	GPS - STATIC	1991	H1991

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2385611.380	319285.100			.100	C	CLASSICAL SURVEY	1950	UNK

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET-DF3957-3SE-27APR2010.jpg	SE	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET-DF3957-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET-DF3957-1-27APR2010.jpg		Apr 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HIGH FOREST MNDT RESET RM 3

NGS Name: HIGH FOREST RESET RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092412/1001
USGS Quad: HIGH FOREST

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	105 N	14 W	435158.00	923218.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2016	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON MONUMENT (CAST IRON)	SURVEY DISK	MNDT

Description: (2010)

Stamping: HIGH FOREST NO 3

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 35 AND COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST (GRAVEL ROAD), 42.0 FEET EAST OF A GRAVEL ROAD, 186.0 FEET SOUTH OF A FIELD ENTRANCE, 143.0 FEET SOUTHWEST OF STATION HIGH FOREST MNDT RESET, 1.0 FOOT WEST OF A FENCE, 1.4 FEET WEST OF A WITNESS POST.

Station Notes

THIS STATION IS A CAST IRON SURVEY MARKER. FOUND THE CAP BENT OVER. PULLED THE MONUMENT OUT OF THE GROUND.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.254 03 = -98.038

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_3-3E-27APR2010.jpg	E	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_3-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_3-1-27APR2010.jpg		Apr 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HIGH FOREST MNDT RESET RM 4

NGS Name: HIGH FOREST RESET RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092412/1001
USGS Quad: HIGH FOREST

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	29	105 N	14 W	435159.38	923218.51		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2016	GOOD	Horz=NO Vert=NO	YES		RECESSED 4 IN.	MARKER IS STEEL ROD

Monument Type	Disk Type	Mon. Agency
IRON MONUMENT (CAST IRON)	SURVEY DISK	MNDT

Description: (2010)

Stamping: HIGH FOREST NO 4

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 35 AND COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST, 80.0 FEET SOUTH OF A FIELD ENTRANCE, 42.0 FEET EAST OF 50TH AVENUE SOUTHWEST, 135.9 FEET NORTHWEST OF STATION HIGH FOREST MNDT RESET, 1.0 FOOT WEST OF A FENCE, 1.5 FEET SOUTH OF A WITNESS POST.

Station Notes

THE STATION IS A CAST IRON SURVEY MARKER.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj			Year	Reference
1281.366	.262		1183.055	.197	2011	GPS - RTRN		2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.258 03 = -98.038

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc		Order		Determination Method		Project Info	
Latitude	Longitude	X	Y							Year	Reference
43 51 59.37502	92 32 18.50722	599746.740	112114.612	.131	3	GPS - RTRN				2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc		Order		Determination Method		Project Info	
X	Y	X	Y							Year	Reference
3010091.424	647402.330	1762087.377	15935493.720	.131	3	GPS - RTRN				2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_4-3E-04AUG2016.jpg	E	Aug 4, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_4-2-04AUG2016.jpg		Aug 4, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HIGH_FOREST_RESET_RM_4-1-04AUG2016.jpg		Aug 4, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HIGH FOREST MNDT RM 1

NGS Name: HIGH FOREST RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5698](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>				
SW 29 105 N 14 W	435159.00	923217.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: HIGH FOREST NO 1 1961

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 35 AND COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST (GRAVEL ROAD).

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.254 03 = -98.038



Mn/DOT Name: HIGH FOREST MNDT RM 2

NGS Name: HIGH FOREST RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5699](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	105 N	14 W	435159.00	923217.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: HIGH FOREST NO 2 1961

2.5 MILES NORTHWEST OF STEWARTVILLE, 0.5 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 IN STEWARTVILLE, THEN 2.5 MILES WEST ON COUNTY ROAD 35 AND COUNTY ROAD 8, THEN 0.25 MILE NORTH ON 50TH AVENUE SOUTHWEST (GRAVEL ROAD).

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.310 09 = -98.254 03 = -98.038



Mn/DOT Name: HILLER

NGS Name: HILLER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1773](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	14	106 N	14 W	435837.21	922747.84	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type

ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)

Disk Type

METAL ROD (WITH REMOVABLE ID DISK)

Mon. Agency

MNDT

Description: (2010)

Stamping: HILLER 2010

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 51.90, 24.6 FEET NORTH OF NORTHBOUND TRUNK HIGHWAY 52, 116.7 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, 18.3 FEET NORTHWEST OF THE NORTHWEST CORNER OF A BRIDGE OVER TRUNK HIGHWAY 63, 1.6 FEET SOUTH OF A WITNESS POST.

Station Pair: GEMINI - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1070.641	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1070.641	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1070.618	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1070.618	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1070.618	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1070.618	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1070.641			972.160	.008	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1070.641	.131		972.406	.066	1996	GPS - STATIC	2024	HTH63
1070.641			972.160	.008	2011	GPS - STATIC	2024	HTH63
1070.618			972.160	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1070.618	.131		972.406	.066	1996	GPS - STATIC	2014	HOLMS
1070.618			972.154	.008	2011	GPS - STATIC	2014	HOLMS
1070.618	.262		972.111	.197	2011	GPS - RTRN	2013	RTRN2013
			972.160	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1070.631	.262		972.203	.197	2007	GPS - RTRN	2011	RTRN2011
1070.602	.131		972.255	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1070.634	.131		972.255	.066	2007	GPS - STATIC	2011	HFRON
1070.634	.131		972.406	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.487 12B = -98.507 09 = -98.428 03 = -98.231

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 37.20997	92 27 47.84128	619354.814	152500.850	.007		ADJUSTMENT	2024	GPS3721
43 58 37.20997	92 27 47.84128	619354.814	152500.850	.007	C	GPS - STATIC	2024	HTH63
43 58 37.20997	92 27 47.84128	619354.814	152500.850	.007		ADJUSTMENT	2014	GPS3018
43 58 37.20998	92 27 47.84123	619354.818	152500.851	.007	C	GPS - STATIC	2014	HOLMS
43 58 37.20916	92 27 47.84024	619354.891	152500.768	.131	3	GPS - RTRN	2013	RTRN2013
43 58 37.20997	92 27 47.84128	619354.814	152500.850	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 37.20993	92 27 47.84279	619354.704	152500.845	.131	3	GPS - RTRN	2011	RTRN2011
43 58 37.21013	92 27 47.84205	619354.758	152500.865	.033	C	ADJUSTMENT	2011	GPS2814
43 58 37.21013	92 27 47.84205	619354.758	152500.865	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 37.20977	92 27 47.84126	619354.816	152500.829	.033	C	GPS - STATIC	2024	HTH63
43 58 37.20977	92 27 47.84126	619354.816	152500.829	.033	C	GPS - STATIC	2014	HOLMS
43 58 37.20977	92 27 47.84126	619354.816	152500.829	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029159.214	688042.485	1781646.530	15975882.070	.007		ADJUSTMENT	2024	GPS3721
3029159.214	688042.485	1781646.530	15975882.070	.007	C	GPS - STATIC	2024	HTH63
3029159.214	688042.485	1781646.530	15975882.070	.007		ADJUSTMENT	2014	GPS3018
3029159.218	688042.486	1781646.533	15975882.071	.007	C	GPS - STATIC	2014	HOLMS
3029159.292	688042.404	1781646.607	15975881.988	.131	3	GPS - RTRN	2013	RTRN2013
3029159.214	688042.485	1781646.530	15975882.070	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029159.104	688042.479	1781646.420	15975882.065	.131	3	GPS - RTRN	2011	RTRN2011
3029159.158	688042.500	1781646.473	15975882.086	.033	C	ADJUSTMENT	2011	GPS2814
3029159.158	688042.500	1781646.473	15975882.086	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029159.216	688042.465	1781646.532	15975882.049	.033	C	GPS - STATIC	2024	HTH63
3029159.216	688042.465	1781646.532	15975882.049	.033	C	GPS - STATIC	2014	HOLMS
3029159.216	688042.465	1781646.532	15975882.049	.033	C	GPS - STATIC	2010	HFRON

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HILLER-DN1773-3N-15MAY2023.jpg	N	May 15, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HILLER-DN1773-2-15MAY2023.jpg		May 15, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HILLER-DN1773-1-15MAY2023.jpg		May 15, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HOLLOW

NGS Name: HOLLOW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7544](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	105 N	12 W	435103.86	921324.87	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** HOLLOW 2013

1.5 MILES WEST OF CHATFIELD, 1.6 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD TO TRUNK HIGHWAY 30 MILEPOINT 238.2, THEN 0.3 MILE SOUTH ALONG COUNTY ROAD 138, 39.5 FEET EAST OF COUNTY ROAD 138, 15.7 FEET NORTH OF A FIELD ENTRANCE, 1.5 FEET SOUTH OF A WITNESS POST.

Station Pair: CHANCE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
973.705	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
973.705	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
973.607	.262		875.415	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.192 09 = -98.100 03 = -97.979

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 03.85595	92 13 24.86554	682846.215	107032.151	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3093245.322	643426.670	1845156.615	15930495.672	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HOLLOW-DP7544-3E-24APR2013.jpg	E	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HOLLOW-DP7544-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HOLLOW-DP7544-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HONOR

NGS Name: HONOR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2847](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	34	105 N	14 W	435120.32	922915.95	2	C	2013	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: HONOR 2013

IN STEWARTVILLE, 0.05 MILE EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 223.9, 34.3 FEET NORTH OF TRUNK HIGHWAY 30, 20.7 FEET EAST OF AN ALLEY, 32.3 FEET SOUTHWEST OF A FLAGPOLE, 8.9 FEET NORTH-NORTHWEST OF A LIGHT POLE.

Station Pair: BERNARD - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1227.868	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1227.868	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1227.868			1129.755	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1227.881	.131		1129.949	.066	1996	GPS - STATIC	2014	HOLMS
1227.868			1129.755	.012	2011	GPS - STATIC	2014	HOLMS
1227.799	.262		1129.679	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.097 12B = -98.120 09 = -98.051 03 = -97.864

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 20.32018	92 29 15.94665	613142.089	108225.248	.013		ADJUSTMENT	2014	GPS3018
43 51 20.32018	92 29 15.94665	613142.089	108225.248	.013	C	GPS - STATIC	2014	HOLMS
43 51 20.31974	92 29 15.94639	613142.109	108225.204	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 20.31992	92 29 15.94674	613142.083	108225.222	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3023536.350	643691.678	1775480.746	15931619.375	.013		ADJUSTMENT	2014	GPS3018
3023536.350	643691.678	1775480.746	15931619.375	.013	C	GPS - STATIC	2014	HOLMS
3023536.370	643691.634	1775480.766	15931619.331	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3023536.344	643691.652	1775480.740	15931619.349	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HONOR-DP2847-3N-15APR2013.jpg	N	Apr 15, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HONOR-DP2847-2-15APR2013.jpg		Apr 15, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HONOR-DP2847-1-15APR2013.jpg		Apr 15, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HUNGRY MNDT

NGS Name: HUNGRY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3958](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	22	105 N	14 W	435300.23	922911.40		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2012	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
UNKNOWN	SURVEY DISK	MNDT

Description: (1996)

Stamping: HUNGRY 1996

2.0 MILES NORTH OF STEWARTVILLE, 0.25 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.2 MILE NORTHEAST ON THE RAMP TO EASTBOUND INTERSTATE HIGHWAY 90, 73.5 FEET SOUTHEAST OF THE NORTHBOUND TRUNK HIGHWAY 63 RAMP TO INTERSTATE HIGHWAY 90, 11.3 FEET NORTHWEST OF A FENCE, 2.7 FEET NORTHEAST OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
			1156.523	.007	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			1156.605	.009	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1254.755	.131		1156.763	.066	1996	HORIZONTAL ADJUSTMENT	2003 GPS1770
1254.755	.131		1156.763	.066	1996	GPS - STATIC	2002 HI90

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.215 09 = -98.149 03 = -97.956

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 00.23477	92 29 11.40278	613422.268	118344.648	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 00.23494	92 29 11.40356	613422.210	118344.665	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 53 00.23447	92 29 11.40292	613422.257	118344.618	.033	C	ADJUSTMENT	2003	GPS1770
43 53 00.23447	92 29 11.40292	613422.257	118344.619	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3023681.917	653813.179	1775750.739	15941734.660	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3023681.859	653813.195	1775750.681	15941734.677	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3023681.907	653813.148	1775750.728	15941734.630	.033	C	ADJUSTMENT	2003	GPS1770
3023681.907	653813.148	1775750.728	15941734.630	.033	C	GPS - STATIC	2002	HI90



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY-DF3958-3SE-02AUG2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY-DF3958-2-02AUG2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY-DF3958-1-02AUG2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
SE	Aug 2, 2010
	Aug 2, 2010
	Aug 2, 2010



Mn/DOT Name: HUNGRY MNDT RESET

NGS Name: HUNGRY RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7515](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	22	105 N	14 W	435300.23	922911.40	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: HUNGRY 1996 2012

2.0 MILES NORTH OF STEWARTVILLE, 1.75 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 30 EAST IN STEWARTVILLE, THEN 0.2 MILE ON NORTHEAST ON THE ENTRANCE RAMP FROM NORTHBOUND TRUNK HIGHWAY 63 TO EASTBOUND INTERSTATE HIGHWAY 90, 73.5 FEET SOUTHEAST OF THE NORTHBOUND TRUNK HIGHWAY 63 RAMP TO INTERSTATE HIGHWAY 90, 11.3 FEET NORTHWEST OF A FENCE, 2.7 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj	Determination Method	Year Reference
1254.558	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1254.568	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6
1254.568	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1254.568	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order/(Class)	Height	Acc	Adj	Determination Method	Year Reference
1254.522	.262		1156.307	.197	2011	GPS - RTRN	2016 RTRN2016
1254.535	.262		1156.320	.197	2011	GPS - RTRN	2013 RTRN2013
1254.578	.262		1156.428	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.215 09 = -98.149 03 = -97.956

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 00.23423	92 29 11.40263	613422.279	118344.593	.131	3	GPS - RTRN	2016	RTRN2016
43 53 00.23416	92 29 11.40362	613422.206	118344.586	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 53 00.23458	92 29 11.40351	613422.214	118344.628	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3023681.929	653813.124	1775750.750	15941734.606	.131	3	GPS - RTRN	2016	RTRN2016
3023681.856	653813.116	1775750.677	15941734.598	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
3023681.864	653813.159	1775750.685	15941734.641	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY_RESET-DP7515-3SE-04AUG2016.jpg	SE	Aug 4, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY_RESET-DP7515-2-04AUG2016.jpg		Aug 4, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNGRY_RESET-DP7515-1-04AUG2016.jpg		Aug 4, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HUNT

NGS Name: HUNT

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	13	105 N	14 W	435412.76	922718.50	2	3

NGS ACRN: [DQ8148](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 27 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2017) Stamping: HUNT 2016

3.4 MILES NORTH NORTHEAST OF STEWARTVILLE, 2.15 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 211.7, 54.4 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 44.3 FEET NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Station Pair: JACOBS - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.320	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1236.323	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1236.389	.262		1138.197	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.189 09 = -98.120 03 = -97.939

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 54 12.76217	92 27 18.50416	621649.996	125733.714	.131	3	GPS - RTRN

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3031810.024	661310.457	1783967.548	15949128.737	.131	3	GPS - RTRN

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HUNT-DQ8148-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: HYDE MNDT AZ MK

NGS Name: HYDE AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2295](#) [Get Map](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	6	108 N	13 W	441115.33	922540.65	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2007) Stamping: HYDE 1977

12.5 MILES NORTH OF ROCHESTER, 0.5 MILE SOUTH OF THE WABASHA-OLMSTED COUNTY LINE, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 247, THEN 0.45 MILE WEST ON 130TH STREET NORTHEAST (GRAVEL ROAD), 55.5 FEET WEST OF A COUNTY SURVEYOR DISK IN THE SOUTH SIDE OF A POWER POLE NUMBER 35284, 28.0 FEET NORTH OF A GRAVEL ROAD, 13.0 FEET WEST OF AN ENTRANCE, 2.8 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1152.596	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1152.596	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719	
1152.583	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
				1054.161	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1152.590	.131			1054.260	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814	
1152.590	.131			1054.260	.066	2007	GPS - STATIC	2011	HFRON	
1152.590	.131			1054.355	.066	1996	GPS - STATIC	2010	HFRON	
1151.572	.262			1053.492	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1151.605							RECIPROCAL VERTICAL ANGLE	1977	HORZ	

Geoid Separations(ft): GEOID18 = -98.422 12B = -98.418 09 = -98.297 03 = -98.205

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 15.33359	92 25 40.65419	628200.555	229326.404	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 15.33370	92 25 40.65494	628200.500	229326.415	.033	C	ADJUSTMENT	2011	GPS2814
44 11 15.33370	92 25 40.65494	628200.500	229326.415	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 15.33334	92 25 40.65431	628200.547	229326.379	.033	C	GPS - STATIC	2010	HFRON
44 11 15.33334	92 25 40.65127	628200.768	229326.380	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 15.32311	92 25 40.64946	628200.906	229325.345	.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 11 15.44282	92 25 39.99740			.100	3	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036981.331	764970.931	1790410.168	16052683.661	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036981.276	764970.942	1790410.113	16052683.671	.033	C	ADJUSTMENT	2011	GPS2814
3036981.276	764970.942	1790410.113	16052683.671	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036981.323	764970.906	1790410.159	16052683.635	.033	C	GPS - STATIC	2010	HFRON
3036981.544	764970.910	1790410.380	16052683.637	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3036981.696	764969.877	1790410.519	16052682.602	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2412374.250	436895.017			.100	3	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HYDE_AZ_MK-PP2295-3NW-23MAR2010.jpg	NW	Mar 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HYDE_AZ_MK-PP2295-2-23MAR2010.jpg		Mar 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/HYDE_AZ_MK-PP2295-1-23MAR2010.jpg		Mar 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: IBM MNDT

NGS Name: IBM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2277](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1042
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	21	107 N	14 W	440340.20	922959.15	2	C	1973	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2012)

Stamping: IBM 1973

IN ROCHESTER, IN THE SOUTHWEST QUADRANT OF THE JUNCTION OF TRUNK HIGHWAY 52 AND 37TH STREET NORTHWEST, 0.18 MILE NORTHEAST OF AN INTERNATIONAL BUSINESS MACHINE BUILDING, 0.08 MILE WEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 58.29, 80.0 FEET SOUTH OF 37TH STREET NORTHWEST, 25.0 FEET WEST OF A WITNESS POST, 250.0 FEET EAST OF MARKETPLACE DRIVE NORTHWEST, 125.0 FEET WEST OF A RAMP.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1080.044	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1080.044	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1080.044	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1080.044	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1080.044	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1080.047	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1079.968	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1080.044			981.445	.008	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1080.044	.131		981.701	.066	1996	GPS - STATIC	2024	HTH63
1080.044			981.445	.008	2011	GPS - STATIC	2024	HTH63
1080.047	.262		981.474	.197	2011	GPS - RTRN	2023	RTRN2023
1080.044			981.445	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1080.044	.131		981.701	.066	1996	GPS - STATIC	2014	HOLMS
1080.044			981.438	.008	2011	GPS - STATIC	2014	HOLMS
1079.929	.262		981.445	.197	2007	GPS - RTRN	2012	RTRN2012
			981.445	.007	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1080.050	.131		981.524	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1080.050	.131		981.524	.066	2007	GPS - STATIC	2011	HFRON
1080.050	.131		981.701	.066	1996	GPS - STATIC	2010	HFRON
			981.524	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1080.018	.131		981.701	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1080.018	.131		981.701	.066	1996	GPS - STATIC	2001	HKASS
1080.050	.131		981.839	.066	1996	HORIZONTAL ADJUSTMENT	1999	17648
1080.054	.131		981.701	.066	1996	GPS - STATIC	1997	GPS805-C

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1074.014						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.481 03 = -98.333

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.19687	92 29 59.14892	609597.661	183132.335	.007		ADJUSTMENT	2024	GPS3721
44 03 40.19687	92 29 59.14892	609597.661	183132.335	.007	C	GPS - STATIC	2024	HTH63
44 03 40.19719	92 29 59.14906	609597.651	183132.368	.131	3	GPS - RTRN	2023	RTRN2023
44 03 40.19687	92 29 59.14892	609597.661	183132.335	.007		ADJUSTMENT	2014	GPS3018
44 03 40.19686	92 29 59.14894	609597.659	183132.334	.007	C	GPS - STATIC	2014	HOLMS
44 03 40.19687	92 29 59.14892	609597.661	183132.335	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.19704	92 29 59.15025	609597.564	183132.352	.131	3	GPS - RTRN	2012	RTRN2012
44 03 40.19686	92 29 59.14972	609597.603	183132.334	.033	C	ADJUSTMENT	2011	GPS2814
44 03 40.19686	92 29 59.14972	609597.603	183132.334	.033	C	GPS - STATIC	2011	HFRON
44 03 40.19686	92 29 59.14972	609597.603	183132.334	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	GPS - STATIC	2024	HTH63
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	GPS - STATIC	2014	HOLMS
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	GPS - STATIC	2010	HFRON
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	ADJUSTMENT	2002	GPS1779
44 03 40.19661	92 29 59.14913	609597.646	183132.308	.033	C	GPS - STATIC	2001	HKASS
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	ADJUSTMENT	1999	17648
44 03 40.19661	92 29 59.14913	609597.646	183132.309	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 40.18711	92 29 59.14870	609597.682	183131.347	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 03 40.32052	92 29 58.50546			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3018996.503	718538.619	1771862.604	16006490.487	.007		ADJUSTMENT	2024	GPS3721
3018996.503	718538.619	1771862.604	16006490.487	.007	C	GPS - STATIC	2024	HTH63
3018996.492	718538.652	1771862.593	16006490.519	.131	3	GPS - RTRN	2023	RTRN2023
3018996.503	718538.619	1771862.604	16006490.487	.007		ADJUSTMENT	2014	GPS3018
3018996.502	718538.618	1771862.602	16006490.486	.007	C	GPS - STATIC	2014	HOLMS
3018996.503	718538.619	1771862.604	16006490.487	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3018996.406	718538.635	1771862.506	16006490.503	.131	3	GPS - RTRN	2012	RTRN2012
3018996.445	718538.617	1771862.545	16006490.485	.033	C	ADJUSTMENT	2011	GPS2814
3018996.445	718538.617	1771862.545	16006490.485	.033	C	GPS - STATIC	2011	HFRON
3018996.445	718538.617	1771862.545	16006490.485	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3018996.488	718538.593	1771862.588	16006490.460	.033	C	GPS - STATIC	2024	HTH63
3018996.488	718538.593	1771862.588	16006490.460	.033	C	GPS - STATIC	2014	HOLMS
3018996.488	718538.593	1771862.588	16006490.460	.033	C	GPS - STATIC	2010	HFRON
3018996.488	718538.593	1771862.588	16006490.460	.033	C	ADJUSTMENT	2002	GPS1779
3018996.488	718538.593	1771862.588	16006490.460	.033	C	GPS - STATIC	2001	HKASS
3018996.488	718538.593	1771862.588	16006490.460	.033	C	ADJUSTMENT	1999	17648
3018996.488	718538.593	1771862.588	16006490.460	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3018996.537	718537.631	1771862.626	16006489.499	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2394387.981	390464.546			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM-PP2277-3S-19APR2023.jpg	S	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM-PP2277-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM-PP2277-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: IBM MNDT AZ MK

NGS Name: IBM AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2347](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1042
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	14 W	440527.68	923043.61	2	2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2012	GOOD	Horz=NO Vert=NO	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2013) Stamping: IBM 1973

4.0 MILES NORTHWEST OF ROCHESTER, 0.15 MILE EAST ON COUNTY ROAD 22 (55TH STREET NORTHWEST) FROM THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 1.05 MILE NORTHERLY ON THE EAST FRONTAGE ROAD (BANDEL ROAD NORTHWEST), THEN 0.3 MILE WEST ON 65TH STREET NORTHWEST, THEN 0.2 MILE SOUTH ON 34TH AVENUE NORTHWEST, THEN 0.1 MILE EAST ON A GRAVEL ROAD, 155.0 FEET WEST OF TRUNK HIGHWAY 52, AT TRUNK HIGHWAY 52 MILEPOINT 60.47, 112.0 FEET SOUTH OF A POWER POLE, 55.0 FEET NORTH-NORTHEAST OF A POWER POLE, 5.0 FEET WEST OF A RIGHT-OF-WAY FENCE, 3.6 FEET EAST OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1125.119	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1125.119	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1125.119	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1125.119	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1125.142	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1125.054	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1125.004	.262		1026.547	.197	2007	GPS - RTRN	2012	RTRN2012
1125.982	.197		1027.780	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1126.605						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.553 12B = -98.556 09 = -98.458 03 = -98.317

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 27.67459	92 30 43.61103	606297.509	194000.085	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 27.67518	92 30 43.60944	606297.624	194000.145	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 27.66549	92 30 43.60855	606297.694	193999.164	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 05 27.80081	92 30 42.96397			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3015552.491	729360.413	1768552.825	16017350.166	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3015552.606	729360.475	1768552.940	16017350.227	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3015552.689	729359.495	1768553.011	16017349.246	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2390944.113	401286.489			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM_AZ_MK-PP2347-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM_AZ_MK-PP2347-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/IBM_AZ_MK-PP2347-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: IBM MNDT RM 2

NGS Name: IBM RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3616](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	21	107 N	14 W	440341.25	922959.75		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: IBM NO 2 1973

2.0 MILES NORTHWEST OF ROCHESTER, IN THE SOUTHWEST QUADRANT OF THE JUNCTION OF TRUNK HIGHWAY 52 AND 37TH STREET NORTHWEST, AT TRUNK HIGHWAY 52 MILEPOINT 58.29, EAST OF AN IBM PLANT, SET IN THE BASE OF THE SOUTH LEG OF AN OVERHEAD TRAFFIC LANE DESIGNATOR, 114.89 FEET NORTH-NORTHWEST OF STATION IBM MNDT.

Station Notes

FOUND THE OVERHEAD SIGN TO BE GONE AND THE ENTIRE AREA HAS BEEN RECONSTRUCTED AND GRADED OUT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.481 03 = -98.333



Mn/DOT Name: J 24

NGS Name: J 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0136](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	2	106 N	14 W	440110.59	922742.10	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	BENCH MARK DISK	NGS

Description: (2010)

Stamping: 993.673 J 24 1933

IN ROCHESTER, IN THE SOUTH ABUTMENT OF A RAILROAD BRIDGE OVER THE ZUMBRO RIVER, 50.0 FEET NORTH OF THE EAST END OF THE 4TH STREET BRIDGE OVER THE RIVER, 1.5 FEET EAST OF THE WEST FACE OF THE ABUTMENT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
993.787	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
993.702	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
993.702	.016	2				VERTICAL CONTROL SURVEY	1971	L22214
993.673	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
993.673	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.445 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: JACOBS

NGS Name: JACOBS

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	13	105 N	14 W	435403.90	922729.04	2	3

NGS ACRN: [DQ8147](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2016	2016	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: JACOBS 2016

3.3 MILES NORTH-NORTHEAST OF STEWARTVILLE, 1.9 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT INTERSTATE HIGHWAY 90 MILEPOINT 211.45, 104.1 FEET SOUTHEAST OF EASTBOUND INTERSTATE HIGHWAY 90, 8.7 FEET NORTHWEST OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTHWEST OF A WITNESS POST.

Station Pair: HUNT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1265.955	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1265.962	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1266.008	.262		1167.822	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.189 09 = -98.120 03 = -97.936

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
43 54 03.89576	92 27 29.03831	620883.716	124831.568	.131	3	GPS - RTRN
<u>Year</u>	<u>Reference</u>					
2016	RTRN2016					

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
<u>X</u>	<u>Y</u>					
3031055.870	660398.268	1783202.498	15948226.215	.131	3	GPS - RTRN
<u>Year</u>	<u>Reference</u>					
2016	RTRN2016					



Mn/DOT Name: JELLY

NGS Name: JELLY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8154](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	26	106 N	13 W	435712.60	922100.00	2	3	2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: JELLY 2016

6.0 MILES SOUTHEAST OF ROCHESTER, 0.45 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 218.45, 55.5 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 43.1 FEET SOUTHEAST OF A RIGHT-OF-WAY FENCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Station Pair: MEDICAL MNDT RESET - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1136.648	.016	2/1				VERTICAL ADJUSTMENT		2019	00000938
1136.632	.016	2/1				VERTICAL CONTROL SURVEY		2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1136.589	.262		1038.472	.197	2011	GPS - RTRN		2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.117 09 = -98.021 03 = -97.897

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>
43 57 12.59558	92 21 00.00074	649237.410	144116.941	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>
3059148.142	680057.669	1811524.864	15967531.738	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JELLY-DQ8154-3NW-12SEP2016.jpg	NW	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JELLY-DQ8154-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JELLY-DQ8154-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: JUDGE MNDT

NGS Name: JUDGE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0020](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1011
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	15	105 N	14 W	435355.98	922846.23	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) **Stamping:** JUDGE 1961

3.0 MILES NORTH OF STEWARTVILLE, NEAR THE ROCHESTER AIRPORT, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE) TO TRUNK HIGHWAY 63 MILEPOINT 31.75, THEN 0.25 MILE EAST ON 85TH STREET SOUTHEAST, 50.2 FEET NORTHEAST OF JUDGE RM 2, 46.0 FEET SOUTH OF 85TH STREET SOUTHEAST, 23.0 FEET WEST OF A FIELD ENTRANCE, 0.7 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1293.888	.016	2/1					2017	00000900
1293.892	.016	2/1					2014	VSTCH
1293.954	.016	2					1991	00000025
NGVD29				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1293.829	.016	2/0					1992	UNCHECKD
1293.829	.016	2					1972	L106 MINN
1293.829	.016	2					1971	L22214
1293.921	.016	2					1963	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Year	Reference
1293.843	.262			1195.591	.197	2011	2016	RTRN2016
				1195.644	.007	2011	2014	GPS2902-B
1293.813	.262			1195.562	.197	2011	2013	RTRN2013
1293.895				1195.644	.008	2011	2013	GPS2902
1293.895				1195.647	.008	2011	2013	HPRED
1293.961	.131			1195.867	.066	1996	2013	HPRED
1293.839	.262			1195.650	.197	2007	2012	RTRN2012
				1195.644	.007	2011	2012	GPS2800
1293.843	.262			1195.650	.197	2007	2011	RTRN2011
1293.895	.131			1195.733	.066	2007	2011	GPS2814
1293.895	.131			1195.733	.066	2007	2011	HFRON
1293.961	.131			1195.867	.066	1996	2010	HFRON
				1195.733	.010	2007	2007	GPS2300
1293.961	.131			1195.867	.066	1996	2003	GPS1770
1293.961	.131			1195.867	.066	1996	2002	HI90
1293.961	.131			1196.100	.066	1996	1999	17648
1293.954	.131			1195.867	.066	1996	1997	GPS805-C

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.251 09 = -98.192 03 = -97.995

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.98446	92 28 46.22683	615236.259	123999.748	.131	3	GPS - RTRN	2016	RTRN2016
43 53 55.98480	92 28 46.22762	615236.201	123999.782	.003		ADJUSTMENT	2014	GPS2902-B
43 53 55.98541	92 28 46.22708	615236.241	123999.844	.131	3	GPS - RTRN	2013	RTRN2013
43 53 55.98480	92 28 46.22762	615236.201	123999.782	.003		ADJUSTMENT	2013	GPS2902
43 53 55.98478	92 28 46.22757	615236.205	123999.780	.003	C	GPS - STATIC	2013	HPRED
43 53 55.98480	92 28 46.22762	615236.201	123999.782	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.98485	92 28 46.22723	615236.230	123999.787	.131	3	GPS - RTRN	2012	RTRN2012
43 53 55.98451	92 28 46.22917	615236.088	123999.752	.131	3	GPS - RTRN	2011	RTRN2011
43 53 55.98500	92 28 46.22817	615236.161	123999.802	.033	C	ADJUSTMENT	2011	GPS2814
43 53 55.98500	92 28 46.22817	615236.161	123999.802	.033	C	GPS - STATIC	2011	HFRON
43 53 55.98500	92 28 46.22817	615236.161	123999.802	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	GPS - STATIC	2013	HPRED
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	GPS - STATIC	2010	HFRON
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	ADJUSTMENT	2003	GPS1770
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	GPS - STATIC	2002	HI90
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	ADJUSTMENT	1999	17648
43 53 55.98471	92 28 46.22725	615236.229	123999.773	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.96843	92 28 46.22818	615236.169	123998.124	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 53 56.09763	92 28 45.58987			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025420.409	659491.475	1777558.308	15947389.120	.131	3	GPS - RTRN	2016	RTRN2016
3025420.351	659491.509	1777558.250	15947389.154	.003		ADJUSTMENT	2014	GPS2902-B
3025420.389	659491.571	1777558.289	15947389.216	.131	3	GPS - RTRN	2013	RTRN2013
3025420.351	659491.509	1777558.250	15947389.154	.003		ADJUSTMENT	2013	GPS2902
3025420.354	659491.507	1777558.253	15947389.151	.003	C	GPS - STATIC	2013	HPRED
3025420.351	659491.509	1777558.250	15947389.154	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025420.379	659491.514	1777558.278	15947389.159	.131	3	GPS - RTRN	2012	RTRN2012
3025420.238	659491.477	1777558.136	15947389.124	.131	3	GPS - RTRN	2011	RTRN2011
3025420.310	659491.528	1777558.209	15947389.173	.033	C	ADJUSTMENT	2011	GPS2814
3025420.310	659491.528	1777558.209	15947389.173	.033	C	GPS - STATIC	2011	HFRON
3025420.310	659491.528	1777558.209	15947389.173	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025420.378	659491.500	1777558.277	15947389.145	.033	C	GPS - STATIC	2013	HPRED
3025420.378	659491.500	1777558.277	15947389.145	.033	C	GPS - STATIC	2010	HFRON
3025420.378	659491.500	1777558.277	15947389.145	.033	C	ADJUSTMENT	2003	GPS1770
3025420.378	659491.500	1777558.277	15947389.145	.033	C	GPS - STATIC	2002	HI90
3025420.378	659491.500	1777558.277	15947389.145	.033	C	ADJUSTMENT	1999	17648
3025420.378	659491.500	1777558.277	15947389.145	.033	C	GPS - STATIC	1997	GPS805-C

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025420.341	659489.851	1777558.219	15947387.496	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2400811.700	331416.941			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE-OO0020-3S-02APR2013.jpg	S	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE-OO0020-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE-OO0020-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: JUDGE RM 1

NGS Name: JUDGE RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0021](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	15	105 N	14 W	435355.35	922845.53	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2013	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	STEEL SPIKE ADJ TO MON

Monument Type
UNKNOWN

Disk Type
REFERENCE MARK DISK

Mon. Agency
MNDT

Description: (2016)

Stamping: JUDGE NO 1 1961

0.5 MILE SOUTHEAST OF THE ROCHESTER AIRPORT, 0.8 MILE NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (IN ROCHESTER) TO TRUNK HIGHWAY 63 MILEPOINT 31.25, THEN 0.25 MILE EAST ON 85TH STREET SOUTHEAST, NEAR A LANDING LIGHT APPROACH, 105.0 FEET SOUTH OF 85TH STREET, 85.0 FEET SOUTHEAST OF STATION JUDGE MNDT, 59.0 FEET SOUTHEAST OF A FIELD ROAD.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1294.860	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1294.735	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1294.735	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.231 12B = -98.251 09 = -98.189 03 = -97.995

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_1-OO0021-3S-18MAY2010.jpg	S	May 18, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_1-OO0021-2-18MAY2010.jpg		May 18, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_1-OO0021-1-18MAY2010.jpg		May 18, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: JUDGE RM 2

NGS Name: JUDGE RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000022](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	15	105 N	14 W	435355.95	922846.91	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: JUDGE NO 2 1961

3.0 MILES NORTH OF STEWARTVILLE, NEAR THE ROCHESTER AIRPORT, 1.0 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE) TO TRUNK HIGHWAY 63 MILEPOINT 31.75, THEN 0.25 MILE EAST ON 85TH STREET SOUTHEAST, 52.0 FEET SOUTH OF 85TH STREET, 50.2 FEET SOUTHWEST OF STATION JUDGE MNDT, 2.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1294.236	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1294.236	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1294.276	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1294.151	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1294.151	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1294.151	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1294.203	.262		1195.952	.197	2011	GPS - RTRN	2016	RTRN2016
1294.164	.262		1195.910	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.251 09 = -98.192 03 = -97.995

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.95131	92 28 46.91003	615186.252	123996.126	.131	3	GPS - RTRN	2016	RTRN2016
43 53 55.95086	92 28 46.91032	615186.231	123996.080	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3025370.458	659487.189	1777508.325	15947385.449	.131	3	GPS - RTRN	2016	RTRN2016
3025370.437	659487.143	1777508.304	15947385.403	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_2-000022-3S-02APR2013.jpg	S	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_2-000022-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDGE_RM_2-000022-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: JUDY

NGS Name: JUDY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9074](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	32	108 N	14 W	440721.32	923117.54	2	C	2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: JUDY 2012

7.0 MILES NORTHWEST OF ROCHESTER, 0.30 MILE EAST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 1.0 MILE NORTH ON 31ST STREET NORTHWEST, THEN 0.6 MILE WEST ON 85TH STREET NORTHWEST, 26.2 FEET SOUTH OF 85TH STREET NORTHWEST, 84.3 FEET EAST OF THE SOUTHWEST CORNER OF A BRIDGE, 3.5 FEET SOUTH OF A GUARDRAIL, 1.5 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1046.067	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1046.067	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1046.067	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1046.067			947.482	.023	2011	HORIZONTAL ADJUSTMENT	2024 GPS3721
1046.067	.131		947.672	.066	1996	GPS - STATIC	2024 HTH63
1046.067			947.482	.023	2011	GPS - STATIC	2024 HTH63
1046.044	.262		947.498	.197	2011	GPS - RTRN	2023 RTRN2023
1045.854	.262		947.413	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.546 09 = -98.441 03 = -98.307

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 07 21.32063	92 31 17.54061	603765.967	205496.721	.010		ADJUSTMENT
44 07 21.32063	92 31 17.54061	603765.967	205496.721	.010	C	GPS - STATIC
44 07 21.32036	92 31 17.54079	603765.954	205496.693	.131	3	GPS - RTRN
<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 07 21.32226	92 31 17.54188	603765.874	205496.886	.131	3	GPS - RTRN
<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 07 21.32044	92 31 17.54083	603765.951	205496.702	.033	C	GPS - STATIC



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3012868.607	740821.143	1766010.652	16028839.216	.010		ADJUSTMENT	2024	GPS3721
3012868.607	740821.143	1766010.652	16028839.216	.010	C	GPS - STATIC	2024	HTH63
3012868.594	740821.115	1766010.639	16028839.188	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3012868.511	740821.306	1766010.559	16028839.380	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3012868.591	740821.124	1766010.636	16028839.196	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDY-DO9074-3S-19APR2023.jpg	S	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDY-DO9074-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/JUDY-DO9074-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: K 24

NGS Name: K 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0137](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	2	106 N	14 W	440026.24	922742.85	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1933	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 12 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2012)

Stamping: K 24 1933 999.266

IN ROCHESTER, 0.05 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 213.70, 100.0 FEET SOUTH OF A VACANT RESTAURANT, 84.0 FEET NORTH OF TRUNK HIGHWAY 14, 29.0 FEET EAST OF THE EAST RAIL OF THE RAILROAD TRACKS, IN LINE WITH A ROW OF POLES, 2.6 FEET SOUTH OF A POWER POLE, 1.4 FEET SOUTH-SOUTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
999.345	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
999.345	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
999.345	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
999.345	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
999.345	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
999.345	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
999.266	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
999.266	.007	1				VERTICAL CONTROL SURVEY	1971	L22214
999.266	.007	1				VERTICAL CONTROL SURVEY	1971	L106 MINN
999.266	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
999.266	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
999.234	.262		900.697	.197	2011	GPS - RTRN	2013	RTRN2013
999.299	.262		900.848	.197	2007	GPS - RTRN	2012	RTRN2012
			900.861	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
999.342	.131		900.966	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
999.342	.131		900.966	.066	2007	GPS - STATIC	2011	HFRON
999.342	.131		901.117	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.451 03 = -98.274

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.24035	92 27 42.85421	619658.615	163543.805	.131	3	GPS - RTRN	2013	RTRN2013
44 00 26.24100	92 27 42.85514	619658.547	163543.870	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.24072	92 27 42.85536	619658.531	163543.842	.131	3	GPS - RTRN	2012	RTRN2012
44 00 26.24110	92 27 42.85594	619658.488	163543.880	.033	C	ADJUSTMENT	2011	GPS2814
44 00 26.24110	92 27 42.85594	619658.488	163543.880	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 26.24075	92 27 42.85517	619658.545	163543.845	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029316.087	699087.506	1781939.066	15986920.591	.131	3	GPS - RTRN	2013	RTRN2013
3029316.018	699087.571	1781938.998	15986920.656	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029316.002	699087.542	1781938.982	15986920.627	.131	3	GPS - RTRN	2012	RTRN2012
3029315.959	699087.580	1781938.939	15986920.666	.033	C	ADJUSTMENT	2011	GPS2814
3029315.959	699087.580	1781938.939	15986920.666	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3029316.016	699087.546	1781938.996	15986920.631	.033	C	GPS - STATIC	2010	HFRON

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/K_24-PP0137-3NW-07APR2010.jpg	NW	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/K_24-PP0137-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/K_24-PP0137-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KAILUA

NGS Name: KAILUA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2848](#)

[Get Map](#)

NGS Quad / Sta Num : 43092142/

USGS Quad: WASHINGTON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	28	105 N	12 W	435225.30	921537.66	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 42 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: KAILUA 2013

4.0 MILES WEST OF CHATFIELD, 3.9 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 235.85, 27.2 FEET NORTH OF TRUNK HIGHWAY 30, 68.8 FEET WEST OF COUNTY ROAD 7 SOUTHEAST, 35.4 FEET EAST OF THE EAST END OF A GUARDRAIL, 1.5 FEET SOUTH OF A WITNESS POST.

Station Pair: KONA - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u> <u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.808	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1004.808	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u> <u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1004.788			906.721	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1004.785	.131		906.957	.066	1996	GPS - STATIC	2014	HOLMS
1004.788			906.721	.017	2011	GPS - STATIC	2014	HOLMS
1004.693	.262		906.642	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.054 09 = -97.946 03 = -97.841

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u> <u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 25.30442	92 15 37.65734	673049.668	115200.114	.020		ADJUSTMENT	2014	GPS3018
43 52 25.30442	92 15 37.65734	673049.668	115200.114	.020	C	GPS - STATIC	2014	HOLMS
43 52 25.30348	92 15 37.65697	673049.696	115200.019	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u> <u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 52 25.30400	92 15 37.65760	673049.649	115200.072	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u> <u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3083341.509	651462.797	1835356.028	15938650.629	.020		ADJUSTMENT	2014	GPS3018
3083341.509	651462.797	1835356.028	15938650.629	.020	C	GPS - STATIC	2014	HOLMS
3083341.538	651462.702	1835356.056	15938650.534	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u> <u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3083341.491	651462.754	1835356.009	15938650.586	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KAILUA-DP2848-3N-24APR2013.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KAILUA-DP2848-2-24APR2013.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KAILUA-DP2848-1-24APR2013.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	Apr 24, 2013
	Apr 24, 2013
	Apr 24, 2013



Mn/DOT Name: KALMAR MNDT

NGS Name: KALMAR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2352](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1024
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	34	107 N	15 W	440142.72	923640.93	2	C	1967	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL ROD ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2012) Stamping: KALMAR 1967

1.8 MILES EAST OF BYRON, 0.8 MILE EAST OF 10TH AVENUE NORTHEAST, AT TRUNK HIGHWAY 14 MILEPOINT 204.45, 1000.0 FEET WEST OF COUNTY ROAD 3, 148.0 FEET SOUTH OF TRUNK HIGHWAY 14, 1.0 FOOT NORTH OF A FIELD EDGE, 3.7 FEET WEST OF AN OLD WITNESS POST (NO SIGN), 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1242.691	.016	2/1					VERTICAL CONTROL SURVEY	2024	VHAVA	
1242.691	.016	2/1					VERTICAL ADJUSTMENT	2006	00000497	
1242.688	.016	2/1					VERTICAL CONTROL SURVEY	2001	VKASS	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1242.691				1144.115	.011	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1242.688	.131			1144.387	.066	1996	GPS - STATIC	2014	HOLMS	
1242.691				1144.128	.011	2011	GPS - STATIC	2014	HOLMS	
				1144.115	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
				1144.194	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1242.681	.131			1144.387	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779	
1242.681	.131			1144.387	.066	1996	GPS - STATIC	2001	HKASS	
1243.436	.197			1145.244	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1242.616							RECIPROCAL VERTICAL ANGLE	1967	HORZ	

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.566 09 = -98.494 03 = -98.304

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.71942	92 36 40.93437	580302.011	171107.315	.020		ADJUSTMENT	2014	GPS3018
44 01 42.71924	92 36 40.93433	580302.014	171107.297	.020	C	GPS - STATIC	2014	HOLMS
44 01 42.71942	92 36 40.93437	580302.011	171107.315	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.71960	92 36 40.93537	580301.937	171107.333	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.71919	92 36 40.93477	580301.981	171107.292	.033	C	GPS - STATIC	2014	HOLMS
44 01 42.71919	92 36 40.93477	580301.981	171107.292	.033	C	ADJUSTMENT	2002	GPS1779
44 01 42.71919	92 36 40.93477	580301.982	171107.292	.033	C	GPS - STATIC	2001	HKASS
44 01 42.71871	92 36 40.93569	580301.915	171107.243	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 42.71015	92 36 40.93646	580301.861	171106.376	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 42.83947	92 36 40.27584			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989866.131	706126.500	1742591.936	15994441.020	.020		ADJUSTMENT	2014	GPS3018
2989866.135	706126.482	1742591.939	15994441.002	.020	C	GPS - STATIC	2014	HOLMS
2989866.131	706126.500	1742591.936	15994441.020	.020		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989866.058	706126.517	1742591.863	15994441.038	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989866.103	706126.477	1742591.907	15994440.997	.033	C	GPS - STATIC	2014	HOLMS
2989866.103	706126.477	1742591.907	15994440.997	.033	C	ADJUSTMENT	2002	GPS1779
2989866.103	706126.477	1742591.907	15994440.997	.033	C	GPS - STATIC	2001	HKASS
2989866.036	706126.427	1742591.840	15994440.948	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2989865.995	706125.559	1742591.787	15994440.081	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2365257.911	378052.121			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KALMAR-PP2352-3S-11APR2023.jpg	S	Apr 11, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KALMAR-PP2352-2-11APR2023.jpg		Apr 11, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KALMAR-PP2352-1-11APR2023.jpg		Apr 11, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KELLY

NGS Name: KELLY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5543](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	30	105 N	11 W	435202.04	921205.29	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 14 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011) **Stamping:** KELLY 2011

1.3 MILES NORTH OF CHATFIELD, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 52 MILEPOINT 35.95, 46.8 FEET NORTHEAST OF TRUNK HIGHWAY 52, 63.4 FEET EAST OF A DRIVEWAY, 3.2 FEET SOUTHWEST OF A FENCE LINE, 13.2 FEET SOUTHWEST OF A WITNESS POST.

Station Pair: CARRIE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1028.338	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
1028.338	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1028.338	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1028.338	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1028.377	.262		930.165	.197	2011	GPS - RTRN	2023	RTRN2023
			930.110	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1028.210	.262		929.995	.197	2011	GPS - RTRN	2013	RTRN2013
1028.338			930.110	.011	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1028.344			930.110	.011	2011	GPS - STATIC	2013	HPRED
1028.344	.131		930.369	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.212 12B = -98.215 09 = -98.110 03 = -97.989

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 02.04223	92 12 05.28737	688626.549	112973.919	.131	3	GPS - RTRN	2023	RTRN2023
43 52 02.04301	92 12 05.28615	688626.637	112973.999	.016		ADJUSTMENT	2014	GPS2902-B
43 52 02.04258	92 12 05.28613	688626.639	112973.955	.131	3	GPS - RTRN	2013	RTRN2013
43 52 02.04299	92 12 05.28616	688626.637	112973.997	.010		ADJUSTMENT	2013	GPS2902
43 52 02.04299	92 12 05.28616	688626.637	112973.997	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 52 02.04276	92 12 05.28643	688626.617	112973.974	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3098945.546	649444.528	1850928.751	15936440.718	.131	3	GPS - RTRN	2023	RTRN2023
3098945.633	649444.609	1850928.839	15936440.798	.016		ADJUSTMENT	2014	GPS2902-B
3098945.636	649444.566	1850928.841	15936440.755	.131	3	GPS - RTRN	2013	RTRN2013
3098945.632	649444.607	1850928.838	15936440.796	.010		ADJUSTMENT	2013	GPS2902
3098945.632	649444.607	1850928.838	15936440.796	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3098945.613	649444.583	1850928.819	15936440.773	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KELLY-DO5543-3NW-12APR2023.jpg	NW	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KELLY-DO5543-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KELLY-DO5543-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KENNEDY MNDT

NGS Name: KENNEDY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0889](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1010
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	12	105 N	14 W	435447.22	922636.40		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1962	2007	NOT FOUND	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1973) **Stamping:** KENNEDY 1962

4.5 MILES NORTHEAST OF STEWARTVILLE, 0.25 MILE NORTH ON COUNTY ROAD 20 FROM THE JUNCTION OF COUNTY ROAD 20 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, THEN 0.25 MILE WEST ON A FIELD ENTRANCE, THEN 0.15 MILE SOUTH TO A FENCE CORNER, 61.0 FEET SOUTH OF A FENCE CORNER, 94.80 FEET WEST-SOUTHWEST OF KENNEDY MNDT RM 2, 56.19 FEET NORTH OF KENNEDY MNDT RM 1, 2.5 FEET WEST OF A FENCE LINE, 3.0 FEET SOUTHWEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88						Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1278.213	.197		1180.408	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29						Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1278.016						RECIPROCAL VERTICAL ANGLE	1962	HORZ

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.192 09 = -98.123 03 = -97.946

Lat/Lon and County Coordinates (Feet)

NAD83(1996)						Project Info		
Geodetic Position		Olmsted County		Acc	Order	Determination Method	Year	Reference
Latitude	Longitude	X	Y					
43 54 47.21613	92 26 36.40343	624712.437	129240.109	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)						Project Info		
Geodetic Position		Olmsted County		Acc	Order	Determination Method	Year	Reference
Latitude	Longitude	X	Y					
43 54 47.20200	92 26 36.40456	624712.363	129238.677	.066	2	ADJUSTMENT	1986	17289

NAD27						Project Info		
Geodetic Position		X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude							
43 54 47.33166	92 26 35.77095			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(1996)						Project Info		
MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3034825.315	664857.004	1787025.174	15952636.682	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)						Project Info		
MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Year	Reference
X	Y	X	Y					
3034825.259	664855.572	1787025.101	15952635.251	.066	2	ADJUSTMENT	1986	17289

NAD27						Project Info		
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
X	Y							
2410216.530	336782.675			.100	2	CLASSICAL SURVEY	1976	15739



Mn/DOT Name: KENNEDY MNDT RM 1

NGS Name: KENNEDY RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5813](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1010
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	12	105 N	14 W	435446.66	922636.39		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	2016	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: KENNEDY NO 1 1961

4.5 MILES NORTHEAST OF STEWARTVILLE, 0.25 MILE NORTH ON COUNTY ROAD 20 FROM THE JUNCTION OF COUNTY ROAD 20 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, THEN 0.25 MILE WEST ON A FIELD ENTRANCE, 40.0 FEET SOUTH OF A CLUSTER OF WILLOW TREES, 120.0 FEET SOUTH OF A FENCE CORNER, 1.5 FEET WEST OF A FENCE LINE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.192 09 = -98.123 03 = -97.946



Mn/DOT Name: KENNEDY MNDT RM 2

NGS Name: KENNEDY RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5814](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1010
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	12	105 N	14 W	435447.85	922635.44		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1962	1973	GOOD	Horz=? Vert=YES	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: KENNEDY NO 2 1961

4.5 MILES NORTHEAST OF STEWARTVILLE, 0.25 MILE NORTH ON COUNTY ROAD 20 FROM THE JUNCTION OF COUNTY ROAD 20 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, THEN 0.25 MILE WEST ON A FIELD ENTRANCE, 66.0 FEET EAST OF A FENCE CORNER, 1.5 FEET NORTH OF A FENCE LINE.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.192 09 = -98.123 03 = -97.946



Mn/DOT Name: KONA

NGS Name: KONA

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7541](#) [Get Map](#)
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	28	105 N	12 W	435222.33	921607.51	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 38 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: KONA 2013

4.0 MILES WEST OF CHATFIELD, 4.35 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 235.45, 65.0 FEET SOUTH OF TRUNK HIGHWAY 30, 15.4 FEET EAST OF A FIELD ENTRANCE, 4.2 FEET NORTH OF A WITNESS POST.

Station Pair: KAILUA - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1018.866	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1018.869	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1018.791	.262		920.766	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.028 09 = -97.923 03 = -97.818

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Acc</u>		<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>					<u>Year</u>	<u>Reference</u>
43 52 22.32631	92 16 07.51165	670865.152	114881.255	.131	3	GPS - RTRN		2013	RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Acc</u>		<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>					<u>Year</u>	<u>Reference</u>
3081161.594	651114.887	1833172.727	15938329.741	.131	3	GPS - RTRN		2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KONA-DP7541-3S-24APR2013.jpg	S	Apr 24, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KONA-DP7541-2-24APR2013.jpg		Apr 24, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KONA-DP7541-1-24APR2013.jpg		Apr 24, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KROC MNDT

NGS Name: KROC

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2349](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1043
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	31	107 N	14 W	440125.58	923255.19		2	1973	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) Stamping: KROC 1973

4.0 MILES WEST OF ROCHESTER, 3.2 MILES WEST ON COUNTY ROAD 34 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 34 AT THE WEST EDGE OF ROCHESTER, 167.12 FEET EAST-NORTHEAST OF KROC MNDT RM 1, 51.2 FEET NORTH OF COUNTY ROAD 34, 580.0 FEET EAST OF HARVEST AVENUE NORTHWEST, 6.8 FEET SOUTH-SOUTHEAST OF A FENCE CORNER, 5.6 FEET SOUTH-SOUTHEAST OF A POWER POLE, 4.3 FEET SOUTH OF A COUNTY RIGHT-OF-WAY DISK, 55.0 FEET NORTH OF STATION 366+20.7, 3.5 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1223.751	.197			1125.473	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1224.013							RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.655 12B = -98.655 09 = -98.589 03 = -98.399

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 01 25.57933	92 32 55.19354			596803.159	169438.936	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 01 25.56998	92 32 55.19467			596803.081	169437.989	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>Geodetic Position</u>									<u>Year</u> <u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 01 25.69958	92 32 54.54286					.100	2	CLASSICAL SURVEY	1977 16059

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3006386.417	704677.687			1759087.541	15992790.067	.066	2	ADJUSTMENT	1999 17648

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3006386.351	704676.739			1759087.464	15992789.120	.066	2	ADJUSTMENT	1986 17289

<u>NAD27</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>
<u>MN State Plane - South Zone</u>									<u>Year</u> <u>Reference</u>
<u>X</u>	<u>Y</u>								
2381778.092	376603.380					.100	2	CLASSICAL SURVEY	1977 16059



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC-PP2349-3N-14JUL2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC-PP2349-2-14JUL2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC-PP2349-1-14JUL2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	Jul 14, 2010
	Jul 14, 2010
	Jul 14, 2010



Mn/DOT Name: KROC MNDT RM 1

NGS Name: KROC RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3661](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	36	107 N	15 W	440124.94	923257.30		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2012) Stamping: KROC NO 1 1973

4.0 MILES WEST OF THE WEST OF ROCHESTER, 3.2 MILES WEST ON COUNTY ROAD 34 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 34 AT THE WEST EDGE OF ROCHESTER, 45.5 FEET NORTH OF THE CENTERLINE OF COUNTY ROAD 34, 3.5 FEET EAST-NORTHEAST OF A CUT OFF POWER POLE, 4.0 FEET SOUTH OF A STEEL WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.655 12B = -98.655 09 = -98.589 03 = -98.399

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_1-CJ3661-3N-14JUL2010.jpg	N	Jul 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_1-CJ3661-2-14JUL2010.jpg		Jul 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_1-CJ3661-1-14JUL2010.jpg		Jul 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: KROC MNDT RM 2

NGS Name: KROC RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2350](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1043
USGS Quad: DOUGLAS

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	36	107 N	15 W	440148.69	923346.57	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1973	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016) **Stamping:** KROC NO 2 1973

4.0 MILES WEST OF ROCHESTER, 3.2 MILES WEST ON COUNTY ROAD 34 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 34 AT THE WEST EDGE OF ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 207, 67.5 FEET SOUTH-SOUTHEAST OF THE SOUTH RAIL OF A RAILROAD TRACK, 55.5 FEET NORTH-NORTHWEST OF TRUNK HIGHWAY 14, 2.6 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1080.549	.016	2/1				VERTICAL CONTROL SURVEY	2024 VHAVA
1080.588	.016	2/1				VERTICAL ADJUSTMENT	2006 00000497
1080.585	.016	2/1				VERTICAL CONTROL SURVEY	2001 VKASS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			981.950	.009	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			982.026	.010	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1080.575	.131		982.216	.066	1996	HORIZONTAL ADJUSTMENT	2002 GPS1779
1080.575	.131		982.216	.066	1996	GPS - STATIC	2001 HKASS
1077.754	.262		979.480	.197	1996	HORIZONTAL ADJUSTMENT	1999 17648

NGVD29			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1078.016						RECIPROCAL VERTICAL ANGLE	1973 HORZ

Geoid Separations(ft): GEOID18 = -98.648 12B = -98.645 09 = -98.579 03 = -98.389

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 48.69423	92 33 46.57455	593038.749	171763.263	.016		ADJUSTMENT	2012 GPS2800	

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 48.69434	92 33 46.57544	593038.684	171763.274	.020		ADJUSTMENT	2007 GPS2300	

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 48.69396	92 33 46.57484	593038.728	171763.236	.033	C	ADJUSTMENT	2002 GPS1779	
44 01 48.69396	92 33 46.57484	593038.729	171763.236	.033	C	GPS - STATIC	2001 HKASS	
44 01 48.69574	92 33 46.57521	593038.700	171763.416	.131	3	ADJUSTMENT	1999 17648	

NAD83(1986)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 48.68656	92 33 46.57611	593038.639	171762.486	.131	3	ADJUSTMENT	1986 17289	

NAD27							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 01 48.81614	92 33 45.92282			.100	3	CLASSICAL SURVEY	1977 16059	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3002591.809	706951.557	1755322.423	15995109.570	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3002591.744	706951.567	1755322.358	15995109.581	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3002591.788	706951.530	1755322.402	15995109.542	.033	C	ADJUSTMENT	2002	GPS1779
3002591.788	706951.530	1755322.402	15995109.543	.033	C	GPS - STATIC	2001	HKASS
3002591.758	706951.709	1755322.374	15995109.722	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3002591.709	706950.779	1755322.313	15995108.793	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2377983.447	378877.386			.100	3	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_2-PP2350-3NW-04APR2023.jpg	NW	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_2-PP2350-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/KROC_RM_2-PP2350-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: L 24

NGS Name: L 24

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	106 N	14 W	435835.00	922659.00	2	

NGS ACRN: [OO0017](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	GOOD	Horz=YES Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (2016)

Stamping: 1041.802 L 24 1933

IN THE SOUTHEAST CORNER OF ROCHESTER, 0.2 MILE EAST ALONG 28TH STREET SOUTHEAST FROM TRUNK HIGHWAY 63 (SOUTH BROADWAY), THEN 0.2 MILE SOUTH ON 3RD AVENUE SOUTHEAST, THEN 0.4 MILE EAST ON 30TH STREET SOUTHEAST, THEN 800.0 FEET SOUTH ON A DRIVEWAY, IN THE CENTER OF THE EAST HEADWALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1041.868	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1041.806	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1041.806	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1041.806	.016	2				VERTICAL CONTROL SURVEY	1971 L22214
1041.802	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT
1041.802	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1041.802	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.471 09 = -98.382 03 = -98.195

*** No Horizontal Positions in the Database ***

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/L_24-OO0017-3SW-27JUL2010.jpg	SW	Jul 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/L_24-OO0017-2-27JUL2010.jpg		Jul 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/L_24-OO0017-1-27JUL2010.jpg		Jul 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LARRY

NGS Name: LARRY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9068](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	7	108 N	14 W	441001.98	923252.29	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) **Stamping:** LARRY 2012

IN ORONOCO, 0.05 MILE SOUTHEAST ALONG 5TH STREET NORTHWEST FROM THE JUNCTION OF 5TH STREET NORTHWEST AND COUNTY ROAD 12 (BRIDGE EAST/5TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 65.15, 31.1 FEET SOUTHWEST OF SOUTHBOUND 5TH STREET NORTHWEST, 1.5 FEET NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
977.524	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
977.524	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825
977.524	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
977.409	.262			878.991	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.527 09 = -98.418 03 = -98.274

Lat/Lon and County Coordinates (Feet)

NAD83(2007)		Olmsted County						Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 10 01.97896	92 32 52.29194	596781.307	221734.319	.131	3	GPS - RTRN	2012	RTRN2012	

State Plane and UTM Coordinates (Feet)

NAD83(2007)		UTM - Zone 15						Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3005669.522	756962.628	1759012.425	16045062.550	.131	3	GPS - RTRN	2012	RTRN2012	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LARRY-DO9068-3SW-13NOV2012.jpg	SW	Nov 13, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LARRY-DO9068-2-13NOV2012.jpg		Nov 13, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LARRY-DO9068-1-13NOV2012.jpg		Nov 13, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LEMPKE

NGS Name: LEMPKE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1775](#) [Get Map](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	10	107 N	12 W	440534.58	921440.90	2	C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010) Stamping: LEMPKE 2010

7.2 MILES NORTH OF EYOTA, 6.5 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 42 MILEPOINT 6.55, 59.4 FEET WEST OF TRUNK HIGHWAY 42, 59.3 FEET SOUTH OF 65TH STREET NORTHEAST, 33.1 FEET SOUTHEAST OF A POWER POLE, 1.6 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1255.526	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1255.526	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1255.526	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order /(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1255.526			1157.350	.010	2011	HORIZONTAL ADJUSTMENT	2014 GPS3018
1255.526	.131		1157.635	.066	1996	GPS - STATIC	2014 HOLMS
1255.526			1157.353	.010	2011	GPS - STATIC	2014 HOLMS
1255.401	.262		1157.376	.197	2007	GPS - RTRN	2012 RTRN2012
			1157.350	.010	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1255.509	.131		1157.481	.066	2007	HORIZONTAL ADJUSTMENT	2011 GPS2814
1255.542	.131		1157.481	.066	2007	GPS - STATIC	2011 HFRON
1255.542	.131		1157.635	.066	1996	GPS - STATIC	2010 HFRON

Geoid Separations(ft): GEOID18 = -98.156 12B = -98.156 09 = -98.025 03 = -97.923

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 05 34.57958	92 14 40.90125		676555.895	195157.933	.007		ADJUSTMENT	2014	GPS3018
44 05 34.57953	92 14 40.90120		676555.899	195157.927	.007	C	GPS - STATIC	2014	HOLMS
44 05 34.57958	92 14 40.90125		676555.895	195157.933	.007		ADJUSTMENT	2012	GPS2800
<u>NAD83(2007)</u>			<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 05 34.57800	92 14 40.90064		676555.941	195157.773	.131	3	GPS - RTRN	2012	RTRN2012
44 05 34.57963	92 14 40.90198		676555.841	195157.937	.033	C	ADJUSTMENT	2011	GPS2814
44 05 34.57963	92 14 40.90198		676555.841	195157.937	.033	C	GPS - STATIC	2011	HFRON
<u>NAD83(1996)</u>			<u>Olmsted County</u>				<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>								
44 05 34.57931	92 14 40.90128		676555.893	195157.905	.033	C	GPS - STATIC	2014	HOLMS
44 05 34.57931	92 14 40.90128		676555.893	195157.905	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085781.848	731453.110	1838780.360	16018579.302	.007		ADJUSTMENT	2014	GPS3018
3085781.852	731453.105	1838780.364	16018579.297	.007	C	GPS - STATIC	2014	HOLMS
3085781.848	731453.110	1838780.360	16018579.302	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085781.896	731452.951	1838780.406	16018579.143	.131	3	GPS - RTRN	2012	RTRN2012
3085781.795	731453.114	1838780.307	16018579.307	.033	C	ADJUSTMENT	2011	GPS2814
3085781.795	731453.114	1838780.307	16018579.307	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085781.847	731453.083	1838780.358	16018579.275	.033	C	GPS - STATIC	2014	HOLMS
3085781.847	731453.083	1838780.358	16018579.275	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LEMPKE-DN1775-3W-20MAY2010.jpg	W	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LEMPKE-DN1775-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LEMPKE-DN1775-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LIME

NGS Name: LIME

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2849](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	22	106 N	11 W	435819.46	920721.88	2	C	2013	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: LIME 2013

0.75 MILE EAST-SOUTHEAST OF DOVER, 0.95 MILE EAST-SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 231.35, 45.8 FEET SOUTH OF TRUNK HIGHWAY 14, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: STONE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1147.681	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1147.681	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1147.681			1049.496	.013	2011	HORIZONTAL ADJUSTMENT	2024	GPS3722
1147.681	.131		1049.709	.066	1996	GPS - STATIC	2024	HWHIT2
1147.681			1049.496	.013	2011	GPS - STATIC	2024	HWHIT2
1147.675			1049.496	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1147.675	.131		1049.709	.066	1996	GPS - STATIC	2014	HOLMS
1147.675			1049.496	.015	2011	GPS - STATIC	2014	HOLMS
1147.626	.262		1049.437	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.205 12B = -98.192 09 = -98.090 03 = -97.969

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 19.45680	92 07 21.87679	709021.009	151381.105	.010		ADJUSTMENT	2024	GPS3722
43 58 19.45680	92 07 21.87679	709021.009	151381.105	.010	C	GPS - STATIC	2024	HWHIT2
43 58 19.45680	92 07 21.87679	709021.009	151381.105	.016		ADJUSTMENT	2014	GPS3018
43 58 19.45680	92 07 21.87679	709021.009	151381.105	.016	C	GPS - STATIC	2014	HOLMS
43 58 19.45738	92 07 21.87802	709020.919	151381.163	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 58 19.45670	92 07 21.87716	709020.982	151381.095	.033	C	GPS - STATIC	2024	HWHIT2
43 58 19.45670	92 07 21.87716	709020.982	151381.095	.033	C	GPS - STATIC	2014	HOLMS



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3118824.500	688117.157	1871276.910	15974852.907	.010		ADJUSTMENT	2024	GPS3722
3118824.500	688117.157	1871276.910	15974852.907	.010	C	GPS - STATIC	2024	HWHIT2
3118824.500	688117.157	1871276.910	15974852.907	.016		ADJUSTMENT	2014	GPS3018
3118824.500	688117.157	1871276.910	15974852.907	.016	C	GPS - STATIC	2014	HOLMS
3118824.409	688117.214	1871276.819	15974852.965	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3118824.473	688117.146	1871276.883	15974852.897	.033	C	GPS - STATIC	2024	HWHIT2
3118824.473	688117.146	1871276.883	15974852.897	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LIME-DP2849-3S-25APR2013.jpg	S	Apr 25, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LIME-DP2849-2-25APR2013.jpg		Apr 25, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LIME-DP2849-1-25APR2013.jpg		Apr 25, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LOPPNOW

NGS Name: LOPPNOW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2345](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1004
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	107 N	15 W	440418.72	923528.17		2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2012) Stamping: LOPPNOW 1935

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4, 122.15 FEET NORTHWEST OF LOPPNOW RM 3, 80.0 FEET WEST OF A DRIVE, 73.72 FEET EAST OF LOPPNOW RM 4, 67.0 FEET NORTH OF COUNTY ROAD 4, 57.2 FEET SOUTH-SOUTHWEST OF THE SOUTHEAST CORNER OF A METAL BARN, 51.5 FEET SOUTHEAST OF THE SOUTHWEST CORNER OF A METAL BARN, 77.0 FEET EAST-NORTHEAST OF A POWER POLE AND A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1275.260	.197			1177.071	.131	1996		HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1274.997								RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 18.71878	92 35 28.16953	585556.112	186925.186	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 18.70993	92 35 28.16899	585556.155	186924.290	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 18.84300	92 35 27.51200			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2994909.105	722011.210	1747827.690	16010257.259	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2994909.160	722010.315	1747827.734	16010256.364	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2370300.922	393937.109			.100	2	CLASSICAL SURVEY	1937	03491



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW-PP2345-3N-05MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW-PP2345-2-05MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW-PP2345-1-05MAY2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	May 5, 2010
	May 5, 2010
	May 5, 2010



Mn/DOT Name: LOPPNOW AZ MK

NGS Name: LOPPNOW AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3703](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	107 N	14 W	440421.00	923526.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	2002	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: Stamping: LOPPNOW 1935 1967

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300



Mn/DOT Name: LOPPNOW AZ MK 2

NGS Name: LOPPNOW AZ MK 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2348](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1004
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	107 N	14 W	440534.98	923219.35		2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1967	2002	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1978)

Stamping: LOPPNOW 1935 1967

6.0 MILES NORTHWEST OF ROCHESTER, 3.6 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 WEST, THEN 0.4 MILE WEST ON COUNTY ROAD 22, THEN CONTINUE 1.1 MILES WEST ON 55TH STREET NORTHWEST (GRAVEL ROAD), THEN 0.95 MILE NORTH ON 50TH AVENUE NORTHWEST (GRAVEL ROAD), 280.0 FEET SOUTH OF A TEE JUNCTION, 27.0 FEET EAST OF A ROAD, AT THE SOUTH EDGE OF A FIELD ENTRANCE, 76.7 FEET SOUTHEAST OF A FENCE CORNER, 3.7 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1181.756	.197		1083.548	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1181.986						RECIPROCAL VERTICAL ANGLE	1967	HORZ

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.569 09 = -98.471 03 = -98.323

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 05 34.97839	92 32 19.34845	599306.579	194706.569	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 05 34.96887	92 32 19.34746	599306.656	194705.605	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 05 35.10354	92 32 18.69852			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3008553.524	729973.828	1761564.220	16018049.220	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3008553.613	729972.866	1761564.297	16018048.257	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2383945.158	401899.773			.100	2	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: LOPPNOW RM 1

NGS Name: LOPPNOW RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3704](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	107 N	15 W	440419.06	923527.09		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1978	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: Stamping: LOPPNOW 1935

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300



Mn/DOT Name: LOPPNOW RM 2

NGS Name: LOPPNOW RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3705](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	107 N	15 W	440418.00	923527.53		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1978	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description:

Stamping:

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300



Mn/DOT Name: LOPPNOW RM 3

NGS Name: LOPPNOW RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3706](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	14	107 N	15 W	440417.51	923528.11			1967	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2012)

Stamping: LOPPNOW NO 3 C&GS 1935 1967

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4, 61.0 FEET WEST OF A FENCE CORNER, 54.0 FEET SOUTH OF THE CENTER OF THE ROAD, 5.0 FEET SOUTH OF AN ELECTRIFIED FENCE, 6.0 FEET SOUTH OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_3-CJ3706-3S-06MAY2010.jpg	S	May 6, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_3-CJ3706-2-06MAY2010.jpg		May 6, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_3-CJ3706-1-06MAY2010.jpg		May 6, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LOPPNOW RM 4

NGS Name: LOPPNOW RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ3707](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	14	107 N	15 W	440418.73	923529.18			1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2012)

Stamping: LOPPNOW 1935 NO 4 1977

4.0 MILES NORTHEAST OF BYRON, 3.7 MILES WEST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 2.4 MILES NORTH ON COUNTY ROAD 104, THEN 2.25 MILES WEST ON COUNTY ROAD 4, 75.0 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF A METAL BARN, 57.0 FEET NORTH OF THE CENTER OF A ROAD, 2.5 FEET EAST OF A POLE WITH A YARD LIGHT AND A WITNESS SIGN.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.550 09 = -98.461 03 = -98.300

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_4-CJ3707-3N-05MAY2010.jpg	N	May 5, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_4-CJ3707-2-05MAY2010.jpg		May 5, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOPPNOW_RM_4-CJ3707-1-05MAY2010.jpg		May 5, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LOWES

NGS Name: LOWES

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7520](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	26	106 N	14 W	435744.52	922748.73	2	C	2013	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 50 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) Stamping: LOWES 2013

IN ROCHESTER, 1.0 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 36.4, 55.4 FEET EAST OF WESTBOUND TRUNK HIGHWAY 63, 1.5 FEET WEST OF A WITNESS POST.

Station Pair: GALAXY - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.020	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1049.020	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1049.040	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1049.020			950.566	.018	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1049.020	.131		950.776	.066	1996	GPS - STATIC	2024	HTH63
1049.020			950.566	.018	2011	GPS - STATIC	2024	HTH63
1048.971	.262		950.494	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.458 12B = -98.477 09 = -98.395 03 = -98.195

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 44.52051	92 27 48.72635	619319.410	147164.922	.010		ADJUSTMENT	2024	GPS3721
43 57 44.52051	92 27 48.72635	619319.410	147164.922	.010	C	GPS - STATIC	2024	HTH63
43 57 44.51989	92 27 48.72657	619319.394	147164.859	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 44.52035	92 27 48.72657	619319.394	147164.905	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029194.785	682707.023	1781616.507	15970548.399	.010		ADJUSTMENT	2024	GPS3721
3029194.785	682707.023	1781616.507	15970548.399	.010	C	GPS - STATIC	2024	HTH63
3029194.770	682706.960	1781616.491	15970548.336	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029194.769	682707.006	1781616.491	15970548.382	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOWES-DP7520-3E-15MAY2023.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOWES-DP7520-2-15MAY2023.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LOWES-DP7520-1-15MAY2023.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	May 15, 2023
	May 15, 2023
	May 15, 2023



Mn/DOT Name: LUND MNDT

NGS Name: LUND

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2272](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/1039

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	24	107 N	14 W	440342.10	922706.88		2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (1978) Stamping: LUND 1973

1.0 MILE NORTH OF ROCHESTER, 1.8 MILES NORTH ON TRUNK HIGHWAY 63 FROM SILVER LAKE IN ROCHESTER, 1917.18 FEET NORTHEAST OF LUND MNDT RM 1, 300.0 FEET EAST OF TRUNK HIGHWAY 63, 24.5 FEET SOUTH-SOUTHWEST OF AN OAK TREE, 28.0 FEET WEST-NORTHWEST OF A TWIN OAK TREE, 6.4 FEET NORTH-NORTHWEST OF A WITNESS POST.

Station Notes

3-30-2010 THIS STATION HAS BEEN MINED OUT BY PIT OPERATIONS.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1115.155	.197		1017.035	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1114.991						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.468 12B = -98.471 09 = -98.373 03 = -98.238

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 42.09614	92 27 06.88168	622176.037	183391.910	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 42.08616	92 27 06.88168	622176.043	183390.900	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 03 42.21880	92 27 06.24245			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3031569.049	718965.421	1784435.297	16006762.733	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3031569.068	718964.410	1784435.304	16006761.723	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2406960.575	390891.274			.100	2	CLASSICAL SURVEY	1977	16059



<u>Station Photos</u>		<u>Dir</u>	<u>Date</u>
<u>Type</u>	<u>File Name</u>		
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND-PP2272-3E-30MAR2010.jpg	E	Mar 30, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LUND MNDT RM 1

NGS Name: LUND RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2273](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1039
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	23	107 N	14 W	440336.56	922731.99	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1973	2015	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 19 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
UNKNOWN	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: LUND NO 1 1973

IN ROCHESTER, NEAR THE JUNCTION OF COUNTY ROAD 22 (37TH STREET NORTHEAST) AND EAST RIVER ROAD NORTHEAST, 103.0 FEET SOUTH OF 37TH STREET NORTHEAST, 48.0 FEET SOUTH OF A TRAFFIC LIGHT, 33.0 FEET WEST OF EAST RIVER ROAD NORTHEAST, 11.0 FEET WEST OF THE FRONT OF A CURB AT A STORM GRATE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
991.409	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
991.409	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
991.409	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
			892.935	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
991.402	.131		893.023	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
991.402	.131		893.023	.066	2007	GPS - STATIC	2011	HFRON
991.402	.131		893.184	.066	1996	GPS - STATIC	2010	HFRON
984.250	.197		886.110	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
994.092						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.491 09 = -98.395 03 = -98.258

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 36.56480	92 27 31.99250	620345.500	182821.517	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 36.56489	92 27 31.99334	620345.438	182821.526	.033	C	ADJUSTMENT	2011	GPS2814
44 03 36.56489	92 27 31.99334	620345.438	182821.526	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 36.56456	92 27 31.99270	620345.485	182821.493	.033	C	GPS - STATIC	2010	HFRON
44 03 36.56581	92 27 31.99081	620345.622	182821.620	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 36.55588	92 27 31.99082	620345.627	182820.614	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 03 36.68835	92 27 31.35052			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone

UTM - Zone 15

Project Info

<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029746.444	718370.787	1782606.124	16006190.723	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone

UTM - Zone 15

Project Info

<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029746.382	718370.795	1782606.063	16006190.732	.033	C	ADJUSTMENT	2011	GPS2814
3029746.382	718370.795	1782606.063	16006190.732	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone

UTM - Zone 15

Project Info

<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029746.430	718370.763	1782606.110	16006190.699	.033	C	GPS - STATIC	2010	HFRON
3029746.565	718370.892	1782606.247	16006190.826	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone

UTM - Zone 15

Project Info

<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3029746.583	718369.887	1782606.253	16006189.821	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone

UTM - Zone 15

Project Info

<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2405138.118	390296.735			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_1-PP2273-3S-30MAR2010.jpg	S	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_1-PP2273-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_1-PP2273-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LUND MNDT RM 2

NGS Name: LUND RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2271](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1039
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	13	107 N	14 W	440438.38	922701.89	2	2	1973	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: LUND NO 2 1973

2.0 MILES NORTH-NORTHEAST OF ROCHESTER, 1.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 (37TH STREET) IN ROCHESTER, 68.0 FEET WEST OF TRUNK HIGHWAY 63, 55.26 FEET EAST-NORTHEAST OF STATION BLIND MNDT, 4.5 FEET SOUTH-SOUTHEAST OF A POWER POLE NUMBER 21909, 3.7 FEET NORTHEAST OF A WITNESS POST.

Station Notes

THIS MARK IS ALSO USED AS A REFERENCE MARK TO STATION BLIND MNDT (PP2287).

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1032.692	.016	2/1							VERTICAL ADJUSTMENT	2017	00000900
1032.692	.016	2/1							VERTICAL ADJUSTMENT	2012	00000719
1032.695	.016	2/1							VERTICAL CONTROL SURVEY	2010	VFRON
1032.695	.016	2/1							VERTICAL ADJUSTMENT	2008	00000425-32
1032.695	.016	2/1							VERTICAL CONTROL SURVEY	2007	VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1032.632	.262					934.171	.197	2011	GPS - OPUS	2021	GPSBM
1032.685	.262					934.224	.197	2011	GPS - OPUS	2021	GPSBM
1032.787	.262					934.326	.197	2011	GPS - RTRN	2021	RTRN2021
1026.901	.197					928.788	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1033.495						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.461 12B = -98.464 09 = -98.359 03 = -98.231

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 38.37662	92 27 01.89403	622508.032	189093.278	.131	3	GPS - OPUS	2021	GPSBM
44 04 38.37659	92 27 01.89497	622507.963	189093.274	.131	3	GPS - OPUS	2021	GPSBM
44 04 38.37706	92 27 01.89428	622508.013	189093.322	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 38.37772	92 27 01.89301	622508.105	189093.390	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 38.36766	92 27 01.89277	622508.129	189092.371	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 38.50050	92 27 01.25346			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3031825.144	724670.119	1784761.347	16012461.992	.131	3	GPS - OPUS	2021	GPSBM
3031825.075	724670.114	1784761.279	16012461.989	.131	3	GPS - OPUS	2021	GPSBM
3031825.125	724670.163	1784761.329	16012462.037	.131	3	GPS - RTRN	2021	RTRN2021

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3031825.216	724670.231	1784761.421	16012462.104	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3031825.253	724669.213	1784761.446	16012461.086	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2407216.765	396596.042			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_2-PP2271-3W-04JAN2021.jpg	W	Jan 4, 2021
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_2-PP2271-2-04JAN2021.jpg		Jan 4, 2021
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUND_RM_2-PP2271-1-04JAN2021.jpg		Jan 4, 2021

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LUTZI MNDT

NGS Name: LUTZI

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000813](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	105 N	12 W	435517.36	921419.99		2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2009	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (1978)

Stamping: LUTZI 1978

4.0 MILES SOUTH-SOUTHWEST OF EYOTA, 2.25 MILES SOUTH ON COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, 30.0 FEET WEST OF COUNTY ROAD 7, 24.6 FEET NORTHWEST OF A POWER POLE NUMBER 42194, 81.24 FEET WEST-NORTHWEST OF LUTZI MNDT RM 1, 67.05 FEET NORTH-NORTHEAST OF LUTZI MNDT RM 2, 82.5 FEET WEST-NORTHWEST OF A WITNESS POST, 69.0 FEET NORTH-NORTHEAST OF A WITNESS POST, 21.5 FEET EAST OF A WITNESS POST.

Station Notes

THE OLMSTED COUNTY SURVEYOR FOUND THE STEM OF THE DISK IN BADLY DAMAGED CONCRETE DOWN 0.1 FEET.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1275.260	.197		1177.517	.131	1996	HORIZONTAL ADJUSTMENT		1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1275.194						RECIPROCAL VERTICAL ANGLE		1978	HORZ

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.058 09 = -97.936 03 = -97.828

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 17.36028	92 14 19.98986	678595.755	132668.764	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 17.34885	92 14 19.99045	678595.722	132667.606	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 17.48099	92 14 19.39970			.100	2	CLASSICAL SURVEY	1980	16259

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3088653.940	669002.455	1840882.513	15956117.630	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3088653.922	669001.297	1840882.481	15956116.473	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2464043.564	340928.699			.100	2	CLASSICAL SURVEY	1980	16259



<u>Station Photos</u>			
<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI-OO0813-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI-OO0813-1-16JUN2010.jpg		Jun 16, 2010
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **			



Mn/DOT Name: LUTZI MNDT RM 1

NGS Name: LUTZI RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5897](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	2	105 N	12 W	435517.00	921419.00			1978	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** LUTZI RM 1 1978

4.0 MILES SOUTH-SOUTHWEST OF EYOTA, 2.25 MILES SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, 97.0 FEET EAST-SOUTHEAST OF A POWER POLE NUMBER 42194, 46.0 FEET EAST OF THE CENTERLINE OF COUNTY ROAD 7, 3.2 FEET WEST OF A FENCE, 2.0 FEET WEST OF A STEEL WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.061 09 = -97.936 03 = -97.828

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_1-CI5897-3E-16JUN2010.jpg	E	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_1-CI5897-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_1-CI5897-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: LUTZI MNDT RM 2

NGS Name: LUTZI RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5898](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	105 N	12 W	435517.01	921419.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010) **Stamping:** LUTZI RM 2 1978

4.0 MILES SOUTH-SOUTHWEST OF EYOTA, 2.25 MILES SOUTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, 50.4 FEET WEST OF THE CENTERLINE OF COUNTY ROAD 7, 49.0 FEET SOUTH-SOUTHEAST OF A POWER POLE NUMBER 42194, 2.0 FEET EAST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.061 09 = -97.936 03 = -97.828

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_2-CI5898-3NW-16JUN2010.jpg	NW	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_2-CI5898-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/LUTZI_RM_2-CI5898-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: M 24

NGS Name: M 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000018](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	105 N	13 W	435527.00	922451.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1978)

Stamping: 1267.858 M241933

3.3 MILES EAST OF THE SOUTH PART OF ROCHESTER, 3.3 MILES EAST-NORTHEAST ALONG COUNTY ROAD 16 FROM THE JUNCTION OF COUNTY ROAD 16 AND TRUNK HIGHWAY 63 IN THE SOUTH PART OF ROCHESTER.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1267.924	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1267.858	.007	1				VERTICAL CONTROL SURVEY	1971	L22211
1267.858	.007	1				VERTICAL CONTROL SURVEY	1971	L105 MINN
1267.858	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1267.858	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN
1267.858	.007	1				VERTICAL CONTROL SURVEY	1933	L105 MINN

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.149 09 = -98.084 03 = -97.920

* No Horizontal Positions in the Database *



Mn/DOT Name: M 24 RESET

NGS Name: M 24 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1516](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	105 N	13 W	435527.25	922450.85	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	VERTICAL CONTROL DISK	NGS

Description: (2016)

Stamping: M 24 RESET 1978

AT THE WEST EDGE OF SIMPSON, 0.3 MILE WEST ALONG COUNTY ROAD 16 FROM THE JUNCTION OF COUNTY ROAD 16 AND COUNTY ROAD 1 IN SIMPSON, 89.0 FEET NORTH OF COUNTY ROAD 16, 69.5 FEET NORTHEAST OF A POWER POLE NUMBER 43782, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1266.553	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1266.539	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1266.513	.016	2				VERTICAL CONTROL SURVEY	1978	L105 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1266.451	.262		1168.301	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.149 09 = -98.084 03 = -97.920

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
43 55 27.24768	92 24 50.84796	632414.870	133339.552	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
3042471.915	669058.232	1794720.219	15956742.066	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/M_24_RESET-OO1516-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/M_24_RESET-OO1516-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/M_24_RESET-OO1516-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MANION

NGS Name: MANION

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO0881	Get Map
NW	7	105 N	12 W	435509.64	921837.66		C	NGS Quad / Sta Num : 43092141/1027	
								USGS Quad: MARION	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2011	GOOD	Horz=NO Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2011)

Stamping: MANION 1935

2.5 MILES SOUTHEAST OF MARION, 3.0 MILES SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION TO TRUNK HIGHWAY 52 MILEPOINT 43.7, THEN 1.0 MILE SOUTH ON 82ND AVENUE SOUTHEAST (DIRT ROAD), THEN 0.1 MILE EAST ON 70TH STREET SOUTHEAST (DIRT ROAD), 300.0 FEET SOUTH OF 70TH STREET SOUTHEAST, 160.0 FEET EAST OF THE SOUTHEAST CORNER OF A HOUSE, 109.0 FEET EAST OF THE CENTER OF DRIVEWAY NUMBER 8342, 56.0 FEET SOUTHWEST OF A POWER POLE NUMBER 16515, 157.61 FEET NORTHEAST OF MANION RM 1, 107.44 FEET EAST-SOUTHEAST OF MANION RM 2.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1293.639	.262		1195.647	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1195.736	.197	2007	GPS - RTRN	2011	RTRN2011
			1195.746	.012	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1293.633	.131		1195.893	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1293.633	.131		1195.893	.066	1996	GPS - STATIC	2002	HI90
1292.648	.197		1194.962	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1292.616						RECIPROCAL VERTICAL ANGLE	1935	HORZ

Geoid Separations(ft): GEOID18 = -98.005 12B = -97.995 09 = -97.903 03 = -97.792

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 09.63953	92 18 37.65823	659741.909	131740.121	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 09.63929	92 18 37.65975	659741.798	131740.095	.131	3	GPS - RTRN	2011	RTRN2011
43 55 09.63978	92 18 37.65919	659741.839	131740.145	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 09.63945	92 18 37.65838	659741.898	131740.113	.033	C	ADJUSTMENT	2003	GPS1770
43 55 09.63945	92 18 37.65838	659741.899	131740.114	.033	C	GPS - STATIC	2002	HI90
43 55 09.63827	92 18 37.65947	659741.819	131739.992	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 09.62675	92 18 37.66016	659741.777	131738.825	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position							Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 09.76000	92 18 37.05600			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3069815.640	667822.825	1822037.351	15955170.585	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3069815.529	667822.798	1822037.240	15955170.559	.131	3	GPS - RTRN	2011	RTRN2011
3069815.569	667822.849	1822037.281	15955170.610	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3069815.629	667822.816	1822037.340	15955170.576	.033	C	ADJUSTMENT	2003	GPS1770
3069815.629	667822.817	1822037.340	15955170.577	.033	C	GPS - STATIC	2002	HI90
3069815.551	667822.695	1822037.262	15955170.456	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3069815.525	667821.528	1822037.221	15955169.290	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2445205.616	339749.022			.100	2	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION-OO0881-3SE-16JUN2010.jpg	SE	Jun 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION-OO0881-2-16JUN2010.jpg		Jun 16, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION-OO0881-1-16JUN2010.jpg		Jun 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MANION AZ MK

NGS Name: MANION AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5913](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	6	105 N	12 W	435509.00	921802.00		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2011	GOOD	Horz=YES Vert=YES	YES		PROJECTS 9 IN.	STEEL SPIKE IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2011) **Stamping:** MANION 1935

2.5 MILES SOUTHEAST OF MARION, 3.0 MILES SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION, THEN 1.0 MILE SOUTH ON 82ND AVENUE SOUTHEAST (DIRT ROAD), THEN 0.65 MILE EAST ON 70TH STREET SOUTHEAST (DIRT ROAD), 28.0 FEET NORTH OF 70TH STREET, 2.0 FEET WEST OF A WITNESS SIGN.

Station Notes

THE CONCRETE IS BROKEN OFF ON ONE SIDE, BUT THE MARK SEEMS STABLE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj			Year	Reference
1290.713	.262		1192.813	.197	2007	GPS - RTRN		2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.005 12B = -98.002 09 = -97.903 03 = -97.792

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc		Order	Determination Method	Project Info	
Latitude	Longitude	X	Y					Year	Reference
43 55 12.67731	92 18 05.50028	662093.452	132065.164	.131	3	GPS - RTRN		2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc		Order	Determination Method	Project Info	
X	Y	X	Y					Year	Reference
3072162.458	668179.129	1824387.594	15955497.837	.131	3	GPS - RTRN		2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_AZ_MK-CI5913-3W-12MAY2010.jpg	W	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_AZ_MK-CI5913-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_AZ_MK-CI5913-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MANION RM 1

NGS Name: MANION RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5914](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	7	105 N	12 W	435508.55	921839.19		3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016)

Stamping: MANION NO 1 1955

2.5 MILES SOUTHEAST OF MARION, 3.0 MILES SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION TO TRUNK HIGHWAY 52 TO MILEPOINT 43.7, THEN 1.0 MILE SOUTH ON 82ND AVENUE SOUTHEAST (DIRT ROAD), THEN 0.1 MILE EAST ON 70TH STREET SOUTHEAST (DIRT ROAD), 157.61 FEET SOUTHWEST OF STATION MANION, 27.0 FEET SOUTH OF THE CENTER OF A DRIVEWAY, 11.5 FEET SOUTH-SOUTHEAST OF A POWER POLE NUMBER 16516.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1293.117	.262		1195.214	.197	2007	GPS - RTRN	2011	RTRN2011	

Geoid Separations(ft): GEOID18 = -98.005 12B = -97.995 09 = -97.903 03 = -97.792

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order	Year	Reference
43 55 08.54657	92 18 39.19468	659630.260	131628.618	.131	3	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method		Project Info	
X	Y	X	Y	Acc	Order	Year	Reference
3069705.494	667709.855	1821925.860	15955059.018	.131	3	2011	RTRN2011

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_1-CI5914-3W-28SEP2011.jpg	W	Sep 28, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_1-CI5914-2-28SEP2011.jpg		Sep 28, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_1-CI5914-1-28SEP2011.jpg		Sep 28, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MANION RM 2

NGS Name: MANION RM 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	7	105 N	12 W	435509.88	921839.09		3

NGS ACRN: [CI5915](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2011	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016)

Stamping: MANION NO 2 1935

2.5 MILES SOUTHEAST OF MARION, 3.0 MILES SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION TO TRUNK HIGHWAY 52 MILEPOINT 43.7, THEN 1.0 MILE SOUTH ON 82ND AVENUE SOUTHEAST (DIRT ROAD), THEN 0.1 MILE EAST ON 70TH STREET SOUTHEAST (DIRT ROAD), 107.44 FEET WEST-NORTHWEST OF STATION MANION, 59.5 FEET EAST OF THE NORTHEAST CORNER OF A HOUSE, 12.0 FEET EAST OF THE CENTER OF DRIVEWAY NUMBER 8342.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1291.615	.262			1193.715	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.005 12B = -97.995 09 = -97.903 03 = -97.792

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 55 09.88228	92 18 39.08641			659637.191	131763.934	.131	3	GPS - RTRN	2011 RTRN2011

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3069710.622	667845.239			1821932.653	15955194.284	.131	3	GPS - RTRN	2011 RTRN2011

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_2-CI5915-3E-28SEP2011.jpg	E	Sep 28, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_2-CI5915-2-28SEP2011.jpg		Sep 28, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MANION_RM_2-CI5915-1-28SEP2011.jpg		Sep 28, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MARION MNDT

NGS Name: MARION

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000148](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/1008
USGS Quad: MARION

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	34	106 N	13 W	435630.81	922154.60	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2012	GOOD	Horz=NO Vert=NO	YES		RECESSED 6 IN.	STEEL SPIKE IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016) **Stamping:** MARION 1961

0.75 MILE WEST OF MARION, 0.3 MILE SOUTHEAST OF INTERSTATE HIGHWAY 90, 0.8 MILE SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION, THEN 0.75 MILE WEST ON 55TH STREET SOUTHEAST (GRAVEL ROAD), 179.58 FEET EAST-NORTHEAST OF MARION RM 2, 14.0 FEET WEST-SOUTHWEST OF A POWER POLE, 63.38 FEET WEST OF MARION RM 1, 34.0 FEET NORTH OF A FIELD ROAD, 1.5 FEET LOWER THAN THE ROAD, 4.5 FEET EAST-SOUTHEAST OF A WITNESS POST.

Station Notes

THE MARK IS ON PRIVATE PROPERTY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1262.717	.016	2/0					VERTICAL ADJUSTMENT	1991 00000025

NGVD29				Ellipsoid (NAD83)			Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1262.671	.016	2/0					UNKNOWN/APPROXIMATE	1992 UNCHECKD
1262.671	.016	2					VERTICAL CONTROL SURVEY	1972 L105 MINN
1262.671	.016	2					VERTICAL CONTROL SURVEY	1971 L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
				1164.525	.007	2011	HORIZONTAL ADJUSTMENT	2014 GPS2902-B
1262.717				1164.525	.006	2011	HORIZONTAL ADJUSTMENT	2013 GPS2902
1262.727				1164.499	.006	2011	GPS - STATIC	2013 HPRED
1262.727	.131			1164.778	.066	1996	GPS - STATIC	2013 HPRED
				1164.525	.010	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
1262.520	.262			1164.489	.197	2007	GPS - RTRN	2011 RTRN2011
				1164.630	.012	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1262.694	.131			1164.778	.066	1996	HORIZONTAL ADJUSTMENT	2003 GPS1770
1262.694	.131			1164.778	.066	1996	GPS - STATIC	2002 HI90
1262.727	.197			1164.942	.131	1996	HORIZONTAL ADJUSTMENT	1999 17648

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.110 09 = -98.028 03 = -97.897

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.80674	92 21 54.60293	645271.313	139858.181	.010		ADJUSTMENT	2014	GPS2902-B
43 56 30.80674	92 21 54.60293	645271.313	139858.181	.007		ADJUSTMENT	2013	GPS2902
43 56 30.80661	92 21 54.60318	645271.295	139858.167	.007	C	GPS - STATIC	2013	HPRED
43 56 30.80674	92 21 54.60293	645271.313	139858.181	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.80714	92 21 54.60351	645271.270	139858.221	.131	3	GPS - RTRN	2011	RTRN2011
43 56 30.80695	92 21 54.60391	645271.241	139858.202	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.80659	92 21 54.60314	645271.298	139858.165	.033	C	GPS - STATIC	2013	HPRED
43 56 30.80659	92 21 54.60314	645271.298	139858.165	.033	C	ADJUSTMENT	2003	GPS1770
43 56 30.80659	92 21 54.60314	645271.298	139858.165	.033	C	GPS - STATIC	2002	HI90
43 56 30.80818	92 21 54.59920	645271.585	139858.328	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 56 30.79663	92 21 54.60066	645271.486	139857.158	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 56 30.92966	92 21 53.98042			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3055239.419	675746.848	1807564.699	15963270.794	.010		ADJUSTMENT	2014	GPS2902-B
3055239.419	675746.848	1807564.699	15963270.794	.007		ADJUSTMENT	2013	GPS2902
3055239.401	675746.835	1807564.680	15963270.781	.007	C	GPS - STATIC	2013	HPRED
3055239.419	675746.848	1807564.699	15963270.794	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3055239.376	675746.888	1807564.656	15963270.834	.131	3	GPS - RTRN	2011	RTRN2011
3055239.348	675746.868	1807564.627	15963270.815	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3055239.404	675746.833	1807564.683	15963270.778	.033	C	GPS - STATIC	2013	HPRED
3055239.404	675746.833	1807564.683	15963270.778	.033	C	ADJUSTMENT	2003	GPS1770
3055239.404	675746.832	1807564.683	15963270.778	.033	C	GPS - STATIC	2002	HI90
3055239.689	675746.999	1807564.970	15963270.942	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3055239.606	675745.828	1807564.872	15963269.772	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2430630.453	347673.202			.100	2	CLASSICAL SURVEY	1976	15739



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION-OO0148-3N-27NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION-OO0148-2-27NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION-OO0148-1-27NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	Nov 27, 2012
	Nov 27, 2012
	Nov 27, 2012



Mn/DOT Name: MARION RM 1

NGS Name: MARION RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000149](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	106 N	13 W	435630.81	922153.74	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	GOOD	Horz=NO Vert=NO	YES		PROJECTS 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: MARION NO. 1 1961

0.75 MILE WEST OF MARION, 0.3 MILE SOUTH OF INTERSTATE HIGHWAY 90, 0.8 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION, THEN 0.75 MILE WEST ON 55TH STREET SOUTHEAST (GRAVEL ROAD), 63.4 FEET EAST OF STATION MARION MNDT, 50.0 FEET EAST OF A POWER POLE, 36.0 FEET NORTH OF A FIELD ROAD, 1.5 FEET WEST OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1262.707	.016	2/0						VERTICAL ADJUSTMENT		1991	00000025
<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1262.662	.016	2/0						UNKNOWN/APPROXIMATE		1992	UNCHECKD
1262.662	.016	2						VERTICAL CONTROL SURVEY		1972	L105 MINN
1262.662	.016	2						VERTICAL CONTROL SURVEY		1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1262.560	.262			1164.532	.197	2007		GPS - RTRN		2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.110 09 = -98.028 03 = -97.897

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>				<u>Olmsted County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
43 56 30.80682	92 21 53.73772			645334.619	139858.612		.131	3	GPS - RTRN	2011	RTRN2011

State Plane and UTM Coordinates (Feet)

<u>NAD83(2007)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>										
3055302.709	675748.122			1807627.978	15963271.289		.131	3	GPS - RTRN	2011	RTRN2011

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION_RM_1-000149-3N-27NOV2012.jpg	N	Nov 27, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION_RM_1-000149-2-27NOV2012.jpg		Nov 27, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MARION_RM_1-000149-1-27NOV2012.jpg		Nov 27, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MARION RM 2

NGS Name: MARION RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI5929](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
NE	34	106 N	13 W	
	435630.11	922156.86		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: Stamping: MARION NO 2 1961

0.75 MILE WEST OF MARION, 0.3 MILE SOUTH OF INTERSTATE HIGHWAY 90, 0.8 MILE SOUTHEAST ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90 IN MARION, THEN 0.75 MILE WEST ON 55TH STREET SOUTHEAST (GRAVEL ROAD), 179.58 FEET SOUTHWEST OF STATION MARION MNDT, 37.0 FEET SOUTH OF THE CENTERLINE OF THE ROAD, 2.3 FEET EAST OF A POWER POLE, 1.0 FOOT LOWER THAN THE ROAD.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.113 09 = -98.028 03 = -97.897



Mn/DOT Name: MAYO MNDT

NGS Name: MAYO

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2274](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1038
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Mon. Agency</u>
SW	35	107 N	14 W	440118.47	922759.59		2	1973	1973	GOOD	Horz=? Vert=?	NO			SEE DESCRIPTION	MNDT
<u>Monument Type</u> SEE DESCRIPTIVE TEXT																
<u>Disk Type</u> TRAVERSE STATION DISK																
<u>Mon. Agency</u> MNDT																

Description: (1973)

Stamping:

IN ROCHESTER, AT THE JUNCTION OF 2ND STREET SOUTHWEST AND 2ND AVENUE SOUTHWEST, ON THE EAST END OF A PENTHOUSE ROOF ON THE MAYO CLINIC BUILDING, STATION MAYO MNDT IS THE CENTER HOLE IN THE EAST OF TWO ROOF DRAINS.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>							<u>Project Info</u>		
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				
1287.727	.197		1189.561	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	
<u>NGVD29</u>							<u>Project Info</u>		
<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				
1287.990						RECIPROCAL VERTICAL ANGLE	1973	HORZ	

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.543 09 = -98.461 03 = -98.290

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>		
<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>			
44 01 18.47311	92 27 59.59453	618406.211	168826.458	.066	2	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>							<u>Project Info</u>		
<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>			
44 01 18.46266	92 27 59.59511	618406.175	168825.400	.066	2	ADJUSTMENT	1986	17289	
<u>NAD27</u>							<u>Project Info</u>		
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>								
44 01 18.59386	92 27 58.95546			.100	2	CLASSICAL SURVEY	1977	16059	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>							<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>			
3027993.652	704352.540	1780681.860	15992199.709	.066	2	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>							<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>			
3027993.629	704351.482	1780681.824	15992198.651	.066	2	ADJUSTMENT	1986	17289	
<u>NAD27</u>							<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
<u>X</u>	<u>Y</u>								
2403385.090	376278.334			.100	2	CLASSICAL SURVEY	1977	16059	



Mn/DOT Name: MCGOWAN MNDT

NGS Name: MCGOWAN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DI5407](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	22	105 N	14 W	435327.89	922914.72	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1995	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	BAR MAG IN DRILL HOLE

Monument Type

STEEL ROD (NO SLEEVE) (DEPTH 25 FT)

Disk Type

METAL ROD

Mon. Agency

MNDT

Description: (2004)

Stamping: MCGOWAN 1995

2.5 MILES NORTH OF STEWARTVILLE, 0.25 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 31.1, 194.5 FEET SOUTH OF OLD TRUNK HIGHWAY 30, 73.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, 129.8 FEET SOUTH OF A LIGHT POLE, 127.3 FEET NORTH-NORTHWEST OF THE WEST LEG OF A LA CROSSE/AUSTIN SIGN POST, 62.0 FEET WEST-SOUTHWEST OF TRUNK HIGHWAY 63 SOUTH/TRUNK HIGHWAY 30 EAST SIGN POST, 1.4 FEET WEST-NORTHWEST OF A WITNESS POST.

Station Pair: CYCLONE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1252.543	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1252.543	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1252.543	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1252.543	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-33
1252.543	.016	2/1				VERTICAL ADJUSTMENT	2008	00000533
1252.543	.016	2/1				VERTICAL CONTROL SURVEY	2007	VALOY
1252.543	.016	2/1				VERTICAL CONTROL SURVEY	2005	VSTEW

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1252.543			1154.279	.012	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1252.543	.131		1154.492	.066	1996	GPS - STATIC	2024	HTH63
1252.543			1154.279	.012	2011	GPS - STATIC	2024	HTH63
1252.543	.262		1154.319	.197	2011	GPS - RTRN	2023	RTRN2023
1252.543			1154.279	.014	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
1252.543	.131		1154.492	.066	1996	GPS - STATIC	2017	HMNCORS07
1252.543			1154.279	.014	2011	GPS - STATIC	2017	HMNPH
1252.475	.262		1154.223	.197	2011	GPS - RTRN	2016	RTRN2016
1252.507	.262		1154.260	.197	2011	GPS - RTRN	2015	RTRN2015
1252.543			1154.279	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1252.543	.131		1154.525	.066	1996	GPS - STATIC	2014	HOLMS
1252.543			1154.279	.017	2011	GPS - STATIC	2014	HOLMS
1252.471	.262		1154.223	.197	2011	GPS - RTRN	2013	RTRN2013
1252.484	.262		1154.299	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.228 12B = -98.248 09 = -98.185 03 = -97.989

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.007		ADJUSTMENT	2024	GPS3721
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.007	C	GPS - STATIC	2024	HTH63
43 53 27.89213	92 29 14.71682	613164.965	121144.062	.131	3	GPS - RTRN	2023	RTRN2023
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.010		ADJUSTMENT	2018	GPS3119
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.010	C	GPS - STATIC	2017	HMNPH
43 53 27.89144	92 29 14.71682	613164.966	121143.992	.131	3	GPS - RTRN	2016	RTRN2016
43 53 27.89151	92 29 14.71706	613164.948	121143.999	.131	3	GPS - RTRN	2015	RTRN2015
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.020		ADJUSTMENT	2014	GPS3018
43 53 27.89181	92 29 14.71750	613164.916	121144.029	.020	C	GPS - STATIC	2014	HOLMS
43 53 27.89176	92 29 14.71675	613164.971	121144.024	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89126	92 29 14.71759	613164.909	121143.973	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 27.89172	92 29 14.71781	613164.893	121144.020	.033	C	GPS - STATIC	2024	HTH63
43 53 27.89172	92 29 14.71781	613164.893	121144.020	.033	C	GPS - STATIC	2017	HMNCORS07
43 53 27.89159	92 29 14.71753	613164.913	121144.006	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3023387.381	656608.681	1775490.709	15944532.571	.007		ADJUSTMENT	2024	GPS3721
3023387.381	656608.681	1775490.709	15944532.571	.007	C	GPS - STATIC	2024	HTH63
3023387.431	656608.714	1775490.758	15944532.604	.131	3	GPS - RTRN	2023	RTRN2023
3023387.381	656608.681	1775490.709	15944532.571	.010		ADJUSTMENT	2018	GPS3119
3023387.381	656608.681	1775490.709	15944532.571	.010	C	GPS - STATIC	2017	HMNPH
3023387.432	656608.644	1775490.759	15944532.534	.131	3	GPS - RTRN	2016	RTRN2016
3023387.414	656608.651	1775490.741	15944532.541	.131	3	GPS - RTRN	2015	RTRN2015
3023387.381	656608.681	1775490.709	15944532.571	.020		ADJUSTMENT	2014	GPS3018
3023387.381	656608.681	1775490.709	15944532.571	.020	C	GPS - STATIC	2014	HOLMS
3023387.436	656608.677	1775490.764	15944532.567	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3023387.376	656608.625	1775490.702	15944532.515	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3023387.359	656608.671	1775490.686	15944532.562	.033	C	GPS - STATIC	2024	HTH63
3023387.359	656608.671	1775490.686	15944532.562	.033	C	GPS - STATIC	2017	HMNCORS07
3023387.380	656608.659	1775490.707	15944532.549	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MCGOWAN-DI5407-3W-18APR2023.jpg	W	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MCGOWAN-DI5407-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MCGOWAN-DI5407-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MEDICAL MNDT

NGS Name: MEDICAL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3962](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	26	106 N	13 W	435704.19	922126.06		C	1996	2011	DESTROYED	Horz=NO Vert=NO	YES			MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 5 FT)	SURVEY DISK	MNDT

Description: (1996) Stamping: MEDICAL 1996

0.5 MILE NORTHWEST OF MARION, AT THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52, AT THE INTERSTATE HIGHWAY 90 MILEPOINT 218.0, 106.0 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF WESTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55809 OVER TRUNK HIGHWAY 52, 78.5 FEET EAST-NORTHEAST OF THE NORTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90 BRIDGE NUMBER 55810 OVER TRUNK HIGHWAY 52, 49.9 FEET SOUTH-SOUTHEAST OF WESTBOUND INTERSTATE HIGHWAY 90, 34.1 FEET NORTH-NORTHWEST OF EASTBOUND INTERSTATE HIGHWAY 90, 4.1 FEET EAST-NORTHEAST OF A GUARD RAIL NOSE, 4.6 FEET EAST-NORTHEAST OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
			1030.766	.008	2011	HORIZONTAL ADJUSTMENT		2012	GPS2800
			1030.871	.010	2007	HORIZONTAL ADJUSTMENT		2007	GPS2300
1128.935	.131		1031.022	.066	1996	HORIZONTAL ADJUSTMENT		2003	GPS1770
1128.902	.131		1031.022	.066	1996	GPS - STATIC		2002	HI90

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.126 09 = -98.035 03 = -97.903

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 04.18562	92 21 26.05639	647337.100	143252.306	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 04.18585	92 21 26.05739	647337.026	143252.329	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 04.18548	92 21 26.05662	647337.083	143252.292	.033	C	ADJUSTMENT	2003	GPS1770
43 57 04.18548	92 21 26.05662	647337.081	143252.292	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3057259.671	679167.887	1809626.217	15966665.561	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3057259.597	679167.909	1809626.144	15966665.584	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3057259.654	679167.872	1809626.201	15966665.547	.033	C	ADJUSTMENT	2003	GPS1770
3057259.654	679167.872	1809626.201	15966665.547	.033	C	GPS - STATIC	2002	HI90



<u>Station Photos</u>	
<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL-DF3962-3SW-04AUG2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL-DF3962-2-04AUG2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL-DF3962-1-04AUG2010.jpg
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **	

<u>Dir</u>	<u>Date</u>
SW	Aug 4, 2010
	Aug 4, 2010
	Aug 4, 2010



Mn/DOT Name: MEDICAL MNDT RESET

NGS Name: MEDICAL RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ5544](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	26	106 N	13 W	435704.18	922126.05	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 5 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** MEDICAL 1996 2011

0.5 MILE NORTHWEST OF MARION, AT THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 (THE JUNCTION IS 0.5 MILE NORTH OF MARION), AT INTERSTATE HIGHWAY 90 MILEPOINT 217.95, 106.0 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF WESTBOUND INTERSTATE HIGHWAY 90, 78.5 FEET EAST-NORTHEAST OF THE NORTHEAST CORNER OF EASTBOUND INTERSTATE HIGHWAY 90, 49.9 FEET SOUTH-SOUTHEAST OF WESTBOUND INTERSTATE HIGHWAY 90, 34.1 FEET NORTH-NORTHWEST OF EASTBOUND INTERSTATE HIGHWAY 90, 4.1 FEET EAST-NORTHEAST OF A GUARD RAIL END, 4.6 FEET EAST-NORTHEAST OF A WITNESS POST.

Station Pair: JELLY - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1128.751	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1128.738	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1128.738	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1128.738	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1128.738	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1128.548	.262		1030.424	.197	2011	GPS - RTRN	2016	RTRN2016
			1030.588	.009	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1128.738			1030.585	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1128.738			1030.585	.007	2011	GPS - STATIC	2013	HPRED
1128.738	.131		1030.848	.066	1996	GPS - STATIC	2013	HPRED
1128.580	.262		1030.546	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.126 09 = -98.035 03 = -97.903

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 04.18472	92 21 26.05497	647337.204	143252.215	.131	3	GPS - RTRN	2016	RTRN2016
43 57 04.18572	92 21 26.05638	647337.100	143252.316	.013		ADJUSTMENT	2014	GPS2902-B
43 57 04.18576	92 21 26.05637	647337.101	143252.320	.010		ADJUSTMENT	2013	GPS2902
43 57 04.18576	92 21 26.05637	647337.101	143252.320	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 04.18490	92 21 26.05710	647337.048	143252.233	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 04.18541	92 21 26.05636	647337.102	143252.285	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3057259.776	679167.798	1809626.322	15966665.471	.131	3	GPS - RTRN	2016	RTRN2016
3057259.671	679167.897	1809626.218	15966665.572	.013		ADJUSTMENT	2014	GPS2902-B
3057259.672	679167.901	1809626.219	15966665.575	.010		ADJUSTMENT	2013	GPS2902
3057259.672	679167.901	1809626.219	15966665.575	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3057259.620	679167.813	1809626.166	15966665.488	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3057259.673	679167.866	1809626.220	15966665.540	.033	C	GPS - STATIC	2013	HPRED

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL_RESET-DO5544-3W-27SEP2011.jpg	W	Sep 27, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL_RESET-DO5544-2-27SEP2011.jpg		Sep 27, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MEDICAL_RESET-DO5544-1-27SEP2011.jpg		Sep 27, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MENTEL

NGS Name: MENTEL

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	105 N	13 W	435544.29	922342.36	2	3

NGS ACRN: [DQ8151](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016)

Stamping: MENTEL 2016

5.8 MILES SOUTHEAST OF ROCHESTER, 2.7 MILES SOUTHWEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUCK HIGHWAY 52 (THE JUNCTION IS 6.0 MILES SOUTHEAST OF ROCHESTER), AT INTERSTATE HIGHWAY 90 MILEPOINT 215.3, 83.5 FEET NORTHWEST OF WESTBOUND INTERSTATE HIGHWAY 90, 16.5 FEET SOUTHEAST OF A RIGHT-OF-WAY FENCE, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Station Pair: GARMIN MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1270.043	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1270.037	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1270.027	.262		1171.904	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.120 09 = -98.051 03 = -97.900

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 55 44.28764	92 23 42.35682	637416.872	135096.201	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3047449.696	670881.143	1799718.340	15958502.969	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MENTEL-DQ8151-3NW-12SEP2016.jpg	NW	Sep 12, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MENTEL-DQ8151-2-12SEP2016.jpg		Sep 12, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/MENTEL-DQ8151-1-12SEP2016.jpg		Sep 12, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MHD 1087

NGS Name: MHD 1087

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	34	107 N	11 W	440133.00	920820.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	DESTROYED	Horz=NO Vert=NO	NO	55513		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE WING WALL	SURVEY DISK	MNDT

Description: (1972)

Stamping:

3.4 MILES NORTH OF DOVER, IN THE SOUTHEAST CORNER OF COUNTY ROAD 10 BRIDGE NUMBER 55513 OVER THE MIDDLE FORK OF THE WHITEWATER RIVER, 19.0 FEET EAST OF THE ROAD.

Station Notes

NEW BRIDGE 55583 WAS BUILT IN 2009.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1086.615	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.225 12B = -98.222 09 = -98.097 03 = -97.985

* No Horizontal Positions in the Database *



Mn/DOT Name: MNCORS EYTA EYOTA ARP

NGS Name: EYOTA CORS ARP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DL3644](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	25	106 N	12 W	435720.25	921219.40	2	A

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2016	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SEE DESCRIPTION

Mon. Agency

MNDT

Description: (2008)

Stamping: UNSTAMPED - CORS ARP

2.5 MILES SOUTHEAST OF EYOTA, 1.7 MILES EAST OF THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90, AT INTERSTATE HIGHWAY 90 MILEPOINT 225.75, 88.7 FEET NORTH OF WESTBOUND INTERSTATE HIGHWAY 90, 68.2 FEET WEST OF AN ENTRANCE, 65.8 FEET WEST OF A ROAD WEATHER INFORMATION SITE (RWIS) TOWER, STATION MNCORS EYTA EYOTA ARP IS THE TOP OF A BRASS PLUG AT THE TOP OF A CONCRETE PILLAR. NATIONAL GEODETIC SURVEY (NGS) SITE IDENTIFIER IS MNEY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1318.213	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1318.167	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1318.131	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1318.131	.016	2/1				VERTICAL CONTROL SURVEY	2008	VEYOT



Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1318.213			1220.217	.017	2011	HORIZONTAL ADJUSTMENT	2025	GPS3811
1318.213			1220.217	.017	2011	GPS - STATIC	2025	HMNARP7
1318.213			1220.217	.011	2011	HORIZONTAL ADJUSTMENT	2024	GPS3722
1318.213	.131		1220.250	.066	1996	GPS - STATIC	2024	HWHIT2
1318.213			1220.217	.011	2011	GPS - STATIC	2024	HWHIT2
1318.213			1220.099	.014	2011	HORIZONTAL ADJUSTMENT	2022	GPS3553
1318.213	.131		1220.250	.066	1996	GPS - STATIC	2022	HSPLIT
1318.213			1220.099	.014	2011	GPS - STATIC	2022	HSPLIT
1318.213			1220.178	.015	2011	HORIZONTAL ADJUSTMENT	2021	GPS3461
1318.213	.131		1220.250	.066	1996	GPS - STATIC	2021	HSCOTT
1318.213			1220.178	.015	2011	GPS - STATIC	2021	HSCOTT
			1220.178	.012	2011	HORIZONTAL ADJUSTMENT	2019	CORS-MYCS2
1318.167			1220.027	.006	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
1318.094	.131		1220.250	.066	1996	GPS - STATIC	2017	HMNCORS07
1318.167			1220.027	.006	2011	GPS - STATIC	2017	HMNPH
			1220.168	.002	2011	GPS - STATIC	2015	HMNCORS15
1318.131			1220.158	.024	2011	HORIZONTAL ADJUSTMENT	2015	GPS3073
1318.131	.131		1220.424	.066	1996	GPS - STATIC	2015	HFILL
1318.131			1220.152	.024	2011	GPS - STATIC	2015	HFILL
1318.131			1220.158	.031	2011	HORIZONTAL ADJUSTMENT	2015	GPS3053
1318.131			1220.158	.007	2011	HORIZONTAL ADJUSTMENT	2014	GPS3050
1318.131			1220.145	.031	2011	GPS - STATIC	2014	HGILM
1318.131	.131		1220.204	.066	1996	GPS - STATIC	2014	HMOWE
1318.131			1220.119	.007	2011	GPS - STATIC	2014	HMOWE
1318.131			1220.158	.026	2011	HORIZONTAL ADJUSTMENT	2014	GPS3021
1318.131			1220.142	.026	2011	GPS - STATIC	2014	HNORTH
			1220.158	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1318.131			1220.158	.017	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1318.131	.131		1220.296	.066	1996	GPS - STATIC	2013	HCHES
1318.131			1220.175	.017	2011	GPS - STATIC	2013	HCHES
1318.131			1220.158	.010	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1318.140			1220.178	.010	2011	GPS - STATIC	2013	HPRED
1318.140	.131		1220.204	.066	1996	GPS - STATIC	2013	HPRED
1318.206	.098		1220.158	.049	2011	GPS - STATIC	2012	HMNCORS05
			1220.158	.000	2011	HORIZONTAL ADJUSTMENT	2012	CORS-MYCS
			1220.158	.000	2011	HORIZONTAL ADJUSTMENT	2011	CORS3429
1318.140	.131		1220.178	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1318.140	.131		1220.178	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2764
1318.140	.131		1220.178	.066	2007	GPS - STATIC	2011	HFRON
1318.140	.131		1220.204	.066	1996	GPS - STATIC	2010	HALTU
1318.140	.131		1220.178	.066	2007	GPS - STATIC	2010	HALTU
1318.140	.131		1220.204	.066	1996	GPS - STATIC	2010	HFRON
			1220.178	.000	2007	HORIZONTAL ADJUSTMENT	2009	CORS2770
1318.206	.098		1220.204	.049	1996	GPS - STATIC	2006	HMNCORS02

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.24796	92 12 19.39979	687314.763	145186.922	.003		ADJUSTMENT	2025	GPS3811
43 57 20.24796	92 12 19.39979	687314.763	145186.922	.003	C	GPS - STATIC	2025	HMNARP7
43 57 20.24796	92 12 19.39979	687314.763	145186.922	.007		ADJUSTMENT	2024	GPS3722
43 57 20.24796	92 12 19.39979	687314.763	145186.922	.007	C	GPS - STATIC	2024	HWHIT2
43 57 20.24755	92 12 19.39997	687314.751	145186.881	.007		ADJUSTMENT	2022	GPS3553
43 57 20.24755	92 12 19.39997	687314.751	145186.881	.007	C	GPS - STATIC	2022	HSPLIT
43 57 20.24756	92 12 19.39979	687314.764	145186.882	.007		ADJUSTMENT	2021	GPS3461
43 57 20.24756	92 12 19.39979	687314.764	145186.882	.007	C	GPS - STATIC	2021	HSCOTT
43 57 20.24757	92 12 19.39981	687314.763	145186.883	.007		ADJUSTMENT	2019	CORS-MYCS2
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.003		ADJUSTMENT	2018	GPS3119
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.003	C	GPS - STATIC	2017	HMNPH
43 57 20.24750	92 12 19.39965	687314.774	145186.876	.003	A	GPS - STATIC	2015	HMNCORS15
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.016		ADJUSTMENT	2015	GPS3073
43 57 20.24758	92 12 19.39965	687314.774	145186.884	.016	C	GPS - STATIC	2015	HFILL
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.020		ADJUSTMENT	2015	GPS3053
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.003		ADJUSTMENT	2014	GPS3050
43 57 20.24750	92 12 19.39970	687314.771	145186.876	.020	C	GPS - STATIC	2014	HGILM
43 57 20.24739	92 12 19.39963	687314.776	145186.864	.003	C	GPS - STATIC	2014	HMOWE
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.016		ADJUSTMENT	2014	GPS3021
43 57 20.24783	92 12 19.39970	687314.770	145186.909	.016	C	GPS - STATIC	2014	HNORTH
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.007		ADJUSTMENT	2014	GPS2902-B
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.010		ADJUSTMENT	2013	GPS2950
43 57 20.24748	92 12 19.39963	687314.776	145186.874	.010	C	GPS - STATIC	2013	HCHES
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.007		ADJUSTMENT	2013	GPS2902
43 57 20.24752	92 12 19.39973	687314.768	145186.878	.007	C	GPS - STATIC	2013	HPRED
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.016	B	GPS - STATIC	2012	HMNCORS05
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.003		ADJUSTMENT	2012	CORS-MYCS
43 57 20.24748	92 12 19.39965	687314.774	145186.874	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.24754	92 12 19.40020	687314.734	145186.879	.033	C	ADJUSTMENT	2011	GPS2814
43 57 20.24754	92 12 19.40020	687314.734	145186.879	.033	C	ADJUSTMENT	2011	GPS2764
43 57 20.24754	92 12 19.40020	687314.734	145186.879	.033	C	GPS - STATIC	2011	HFron
43 57 20.24754	92 12 19.40020	687314.734	145186.879	.033	C	GPS - STATIC	2010	HALTU
43 57 20.24754	92 12 19.40020	687314.734	145186.879	.003	A	ADJUSTMENT	2009	CORS2770

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.24702	92 12 19.40004	687314.746	145186.827	.033	C	GPS - STATIC	2024	HWHIT2
43 57 20.24702	92 12 19.40004	687314.746	145186.827	.033	C	GPS - STATIC	2022	HSPLIT
43 57 20.24702	92 12 19.40004	687314.746	145186.827	.033	C	GPS - STATIC	2021	HSCOTT
43 57 20.24702	92 12 19.40004	687314.746	145186.827	.033	C	GPS - STATIC	2017	HMNCORS07
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2015	HFILL
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2014	HMOWE
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2013	HCHES
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2013	HPRED
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2010	HALTU
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.033	C	GPS - STATIC	2010	HFron
43 57 20.24759	92 12 19.40022	687314.732	145186.884	.016	B	GPS - STATIC	2006	HMNCORS02

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3097204.637	681634.662	1849585.492	15968639.426	.003		ADJUSTMENT	2025	GPS3811
3097204.637	681634.662	1849585.492	15968639.426	.003	C	GPS - STATIC	2025	HMNARP7
3097204.637	681634.662	1849585.492	15968639.426	.007		ADJUSTMENT	2024	GPS3722
3097204.637	681634.662	1849585.492	15968639.426	.007	C	GPS - STATIC	2024	HWHIT2
3097204.625	681634.620	1849585.479	15968639.385	.007		ADJUSTMENT	2022	GPS3553
3097204.625	681634.620	1849585.479	15968639.385	.007	C	GPS - STATIC	2022	HSPLIT
3097204.638	681634.621	1849585.492	15968639.385	.007		ADJUSTMENT	2021	GPS3461
3097204.638	681634.621	1849585.492	15968639.385	.007	C	GPS - STATIC	2021	HSCOTT
3097204.636	681634.622	1849585.491	15968639.386	.007		ADJUSTMENT	2019	CORS-MYCS2
3097204.648	681634.613	1849585.503	15968639.378	.003		ADJUSTMENT	2018	GPS3119
3097204.648	681634.613	1849585.503	15968639.378	.003	C	GPS - STATIC	2017	HMNPH
3097204.648	681634.615	1849585.503	15968639.380	.003	A	GPS - STATIC	2015	HMNCORS15
3097204.648	681634.613	1849585.503	15968639.378	.016		ADJUSTMENT	2015	GPS3073
3097204.648	681634.624	1849585.502	15968639.388	.016	C	GPS - STATIC	2015	HFILL
3097204.648	681634.613	1849585.503	15968639.378	.020		ADJUSTMENT	2015	GPS3053
3097204.648	681634.613	1849585.503	15968639.378	.003		ADJUSTMENT	2014	GPS3050
3097204.644	681634.615	1849585.499	15968639.380	.020	C	GPS - STATIC	2014	HGILM
3097204.650	681634.605	1849585.504	15968639.368	.003	C	GPS - STATIC	2014	HMOWE
3097204.648	681634.613	1849585.503	15968639.378	.016		ADJUSTMENT	2014	GPS3021
3097204.644	681634.649	1849585.498	15968639.413	.016	C	GPS - STATIC	2014	HNORTH
3097204.648	681634.613	1849585.503	15968639.378	.007		ADJUSTMENT	2014	GPS2902-B
3097204.648	681634.613	1849585.503	15968639.378	.010		ADJUSTMENT	2013	GPS2950
3097204.650	681634.613	1849585.504	15968639.378	.010	C	GPS - STATIC	2013	HCHES
3097204.648	681634.613	1849585.503	15968639.378	.007		ADJUSTMENT	2013	GPS2902
3097204.643	681634.617	1849585.497	15968639.382	.007	C	GPS - STATIC	2013	HPRED
3097204.648	681634.613	1849585.503	15968639.378	.016	B	GPS - STATIC	2012	HMNCORS05
3097204.648	681634.613	1849585.503	15968639.378	.003		ADJUSTMENT	2012	CORS-MYCS
3097204.648	681634.613	1849585.503	15968639.378	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3097204.608	681634.619	1849585.462	15968639.383	.033	C	ADJUSTMENT	2011	GPS2814
3097204.608	681634.619	1849585.462	15968639.383	.033	C	ADJUSTMENT	2011	GPS2764
3097204.608	681634.619	1849585.462	15968639.383	.033	C	GPS - STATIC	2011	HFRON
3097204.608	681634.619	1849585.462	15968639.383	.033	C	GPS - STATIC	2010	HALTU
3097204.608	681634.619	1849585.462	15968639.383	.003	A	ADJUSTMENT	2009	CORS2770

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3097204.621	681634.566	1849585.474	15968639.331	.033	C	GPS - STATIC	2024	HWHIT2
3097204.621	681634.566	1849585.474	15968639.331	.033	C	GPS - STATIC	2022	HSPLIT
3097204.621	681634.566	1849585.474	15968639.331	.033	C	GPS - STATIC	2021	HSCOTT
3097204.621	681634.566	1849585.474	15968639.331	.033	C	GPS - STATIC	2017	HMNCORS07
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2015	HFILL
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2014	HMOWE
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2013	HCHES
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2013	HPRED
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2010	HALTU
3097204.606	681634.624	1849585.461	15968639.388	.033	C	GPS - STATIC	2010	HFRON
3097204.606	681634.624	1849585.461	15968639.388	.016	B	GPS - STATIC	2006	HMNCORS02

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_ARP-DL3644-3E-01AUG2006.jpg	E	Aug 1, 2006
Moment:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_ARP-DL3644-2-01AUG2006.jpg		Aug 1, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_ARP-DL3644-1-01AUG2006.jpg		Aug 1, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS EYTA EYOTA L1PC1

NGS Name: EYOTA CORS L1 PHASE CENTER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DL3645](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	25	106 N	12 W	435720.25	921219.40		A

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SEE DESCRIPTION

Mon. Agency

MNDT

Description: (2012)

Stamping:

2.5 MILES SOUTHEAST OF EYOTA, 1.7 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, TO INTERSTATE HIGHWAY 90 MILEPOINT 225.75, 88.7 FEET NORTH OF INTERSTATE HIGHWAY 90, 68.2 FEET WEST OF AN ENTRANCE, 65.8 FEET WEST OF ROAD WEATHER INFORMATION SITE (RWIS) SITE NUMBER 11 WEATHER TOWER. THE STATION IS A ZEPHYR GEODETIC ANTENNA SERIAL NUMBER 60088950.

Station Notes

NATIONAL GEODETIC SURVEY (NGS) SITE ID IS MNEY.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1220.378	.000	2011	1220.378	.000	2011	HORIZONTAL ADJUSTMENT	2011	CORS3429	
1220.398	.000	2007	1220.398	.000	2007	HORIZONTAL ADJUSTMENT	2009	CORS2770	

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 20.24752	92 12 19.39966	687314.773	145186.878	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 20.24758	92 12 19.40021	687314.733	145186.883	.003	A	ADJUSTMENT	2009	CORS2770

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097204.647	681634.617	1849585.502	15968639.382	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097204.607	681634.623	1849585.462	15968639.387	.003	A	ADJUSTMENT	2009	CORS2770

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_L1_PHASE_CENTER-DL3645-3N-01AUG2006.jpg	N	Aug 1, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_L1_PHASE_CENTER-DL3645-2-01AUG2006.jpg		Aug 1, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA_CORS_L1_PHASE_CENTER-DL3645-1-08AUG2006.jpg		Aug 8, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS EYTA EYOTA L1PC2

NGS Name: EYOTA CORS L1 PHASE CENTER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM4317](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	25	106 N	12 W	435720.25	921219.40		A

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	MNDT

Description: (2012)

Stamping:

2.5 MILES SOUTHEAST OF EYOTA, 1.7 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, TO INTERSTATE HIGHWAY 90 MILEPOINT 225.75, 88.7 FEET NORTH OF INTERSTATE HIGHWAY 90, 68.2 FEET WEST OF AN ENTRANCE, 65.8 FEET WEST OF THE ROAD WEATHER INFORMATION SITE (RWIS) SITE NUMBER 11 WEATHER TOWER. STATION MNCORS EYTA EYOTA L1PC2 IS A ZEPHYR GEODETIC LF MODEL SERIAL NUMBER 1441028161.

Station Notes

NATIONAL GEODETIC SURVEY (NGS) SITE ID IS MNEY.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj			Year	Reference
1220.378	.000		1220.378	.000	2011	HORIZONTAL ADJUSTMENT		2011	CORS3429
1220.398	.000		1220.398	.000	2007	HORIZONTAL ADJUSTMENT		2009	CORS2770

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.24752	92 12 19.39966	687314.773	145186.878	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 57 20.24758	92 12 19.40021	687314.733	145186.883	.003	A	ADJUSTMENT	2009	CORS2770

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3097204.647	681634.617	1849585.502	15968639.382	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3097204.607	681634.623	1849585.462	15968639.387	.003	A	ADJUSTMENT	2009	CORS2770

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA CORS L1 PHASE CENTER-DM4317-3N-15NOV2010.jpg	N	Nov 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA CORS L1 PHASE CENTER-DM4317-2-15NOV2010.jpg		Nov 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/EYOTA CORS L1 PHASE CENTER-DM4317-1-15NOV2010.jpg		Nov 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS STWV STEWARTVILLE ARP

NGS Name: STEWARTVILLE CORS ARP

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DL7616](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	105 N	14 W	435409.05	922855.93	2	A

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2004	2014	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SEE DESCRIPTION

Mon. Agency

MNDT

Description: (2016)

Stamping:

3.2 MILES NORTH OF STEWARTVILLE, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 32.0, 70.0 FEET NORTH-NORTHEAST OF A WEATHER STATION TOWER, 64.0 FEET EAST-SOUTHEAST OF NORTHBOUND TRUNK HIGHWAY 63, 56.4 FEET NORTHEAST OF MILEPOST 32. STATION MNCORS STWV STEWARTVILLE ARP IS A BRASS PLUG ON THE TOP OF A CONCRETE PILLAR. NATIONAL GEODETIC SURVEY (NGS) SITE IDENTIFIER IS MNSV.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1286.618	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1286.618	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB
1286.618	.016	2/1				VERTICAL ADJUSTMENT	2008	00000533
1286.621	.016	2/1				VERTICAL CONTROL SURVEY	2005	VSTEW

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1286.618			1188.370	.011	2011	HORIZONTAL ADJUSTMENT	2025	GPS3830
1286.618			1188.370	.017	2011	HORIZONTAL ADJUSTMENT	2025	GPS3811
1286.618			1188.370	.009	2011	HORIZONTAL ADJUSTMENT	2025	GPS3808
1286.618			1188.370	.011	2011	GPS - STATIC	2025	HBYLLY
1286.618			1188.370	.008	2011	HORIZONTAL ADJUSTMENT	2025	GPS3800
1286.618			1188.370	.017	2011	GPS - STATIC	2025	HMNARP7
1286.618			1188.370	.009	2011	GPS - STATIC	2025	H23BLUE2
1286.618			1188.370	.008	2011	HORIZONTAL ADJUSTMENT	2024	GPS3772
1286.618			1188.370	.008	2011	GPS - STATIC	2024	HMNARP5
1286.618			1188.370	.012	2011	HORIZONTAL ADJUSTMENT	2024	GPS3728
1286.618			1188.370	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1286.618			1188.370	.009	2011	HORIZONTAL ADJUSTMENT	2024	GPS3723
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2024	H23FARI2
1286.618			1188.370	.012	2011	GPS - STATIC	2024	H23FARI2
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2024	HTH63
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2024	H23MART
1286.618			1188.370	.009	2011	GPS - STATIC	2024	H23MART
1286.618			1188.370	.009	2011	HORIZONTAL ADJUSTMENT	2024	GPS3718
1286.618			1188.370	.010	2011	GPS - STATIC	2024	HTH63
1286.618			1188.370	.009	2011	GPS - STATIC	2024	H23FARI1
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2024	H23FARI1
			1188.370	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3701
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2024	HELLE
1286.618			1188.370	.010	2011	GPS - STATIC	2024	HELLE
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2023	HGLRD
1286.618			1188.370	.010	2011	GPS - STATIC	2023	HGLRD
1286.618			1188.370	.010	2011	HORIZONTAL ADJUSTMENT	2023	GPS3572
1286.618			1188.370	.012	2011	HORIZONTAL ADJUSTMENT	2022	GPS3489
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2022	HJUDS
1286.618			1188.370	.011	2011	HORIZONTAL ADJUSTMENT	2022	GPS3487
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2022	HBLUE2
1286.618			1188.370	.011	2011	GPS - STATIC	2022	HBLUE2
1286.618			1188.370	.012	2011	GPS - STATIC	2022	HJUDS
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2020	HTH30
1286.618			1188.370	.007	2011	GPS - STATIC	2020	HTH30
1286.618			1188.370	.009	2011	HORIZONTAL ADJUSTMENT	2020	GPS3360
1286.618	.131		1188.515	.066	1996	GPS - STATIC	2020	HTH5
1286.618			1188.370	.009	2011	GPS - STATIC	2020	HTH5
1286.618			1188.370	.007	2011	HORIZONTAL ADJUSTMENT	2020	GPS3378
			1188.370	.006	2011	HORIZONTAL ADJUSTMENT	2019	CORS-MYCS2
1286.618			1188.360	.003	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
1286.539	.131		1188.515	.066	1996	GPS - STATIC	2017	HMNCORS07
1286.618			1188.360	.003	2011	GPS - STATIC	2017	HMNPH
			1188.370	.002	2011	GPS - STATIC	2015	HMNCORS15
1286.618			1188.360	.020	2011	HORIZONTAL ADJUSTMENT	2015	GPS3073
1286.618	.131		1188.600	.066	1996	GPS - STATIC	2015	HFILL
1286.618			1188.367	.020	2011	GPS - STATIC	2015	HFILL
1286.618			1188.360	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3046
1286.618	.131		1188.433	.066	1996	GPS - STATIC	2014	HFREB
1286.618			1188.360	.014	2011	HORIZONTAL ADJUSTMENT	2014	GPS3043
1286.618			1188.285	.008	2011	GPS - STATIC	2014	HFREB
1286.618	.131		1188.538	.066	1996	GPS - STATIC	2014	HNEW14
1286.618			1188.334	.014	2011	GPS - STATIC	2014	HNEW14
1286.618			1188.360	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3034
1286.618			1188.278	.008	2011	GPS - STATIC	2014	HSTEE
			1188.360	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1286.618			1188.360	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS2997
1286.618			1188.360	.023	2011	HORIZONTAL ADJUSTMENT	2014	GPS2996



1286.618		1188.393	.018	2011	GPS - STATIC	2014	HGWYN
1286.618		1188.360	.023	2011	GPS - STATIC	2014	HBRICE
1286.618	.131	1188.433	.066	1996	GPS - STATIC	2014	HGWYN
1286.618		1188.360	.013	2011	HORIZONTAL ADJUSTMENT	2013	GPS2969
1286.618		1188.360	.018	2011	HORIZONTAL ADJUSTMENT	2013	GPS2966
1286.618		1188.377	.013	2011	GPS - STATIC	2013	HCROI
1286.618		1188.360	.014	2011	HORIZONTAL ADJUSTMENT	2013	GPS2964
1286.618	.131	1188.600	.066	1996	GPS - STATIC	2013	HMKTO2
1286.618		1188.354	.018	2011	GPS - STATIC	2013	HMKTO2
1286.618		1188.387	.014	2011	GPS - STATIC	2013	HNMAN
1286.618		1188.360	.033	2011	HORIZONTAL ADJUSTMENT	2013	GPS2953
1286.618		1188.360	.017	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1286.618		1188.360	.021	2011	HORIZONTAL ADJUSTMENT	2013	GPS2948
1286.618	.131	1188.600	.066	1996	GPS - STATIC	2013	HCHES
1286.618		1188.354	.017	2011	GPS - STATIC	2013	HCHES
1286.618		1188.377	.021	2011	GPS - STATIC	2013	HCLINT
1286.618		1188.364	.033	2011	GPS - STATIC	2013	HROOT
1286.618		1188.360	.010	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1286.612		1188.377	.010	2011	GPS - STATIC	2013	HPRED
1286.612	.131	1188.433	.066	1996	GPS - STATIC	2013	HPRED
1286.644	.098	1188.360	.049	2011	GPS - STATIC	2012	HMNCORS05
		1188.360	.000	2011	HORIZONTAL ADJUSTMENT	2012	CORS-MYCS
		1188.360	.000	2011	HORIZONTAL ADJUSTMENT	2011	CORS3429
		1188.354	.000	2007	HORIZONTAL ADJUSTMENT	2010	CORS2771
1286.612	.098	1188.433	.049	1996	GPS - STATIC	2006	HMNCORS02

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.277 09 = -98.218 03 = -98.018



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2025	GPS3830
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003		ADJUSTMENT	2025	GPS3811
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003		ADJUSTMENT	2025	GPS3808
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2025	HBLYLL
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003		ADJUSTMENT	2025	GPS3800
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003	C	GPS - STATIC	2025	HMNARP7
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003	C	GPS - STATIC	2025	H23BLUE2
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003	C	GPS - STATIC	2024	H23BLUE1
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003		ADJUSTMENT	2024	GPS3772
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003	C	GPS - STATIC	2024	HMNARP5
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2024	GPS3728
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2024	GPS3721
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2024	GPS3723
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2024	H23FARI2
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2024	H23MART
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2024	GPS3718
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2024	HTH63
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2024	H23FARI1
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2024	GPS3701
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2024	HELLE
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003		ADJUSTMENT	2023	GPS3572
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.003	C	GPS - STATIC	2023	HGLRD
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2022	GPS3489
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2022	GPS3487
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2022	HBLUE2
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2022	HJUDS
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2020	HTH30
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2020	GPS3360
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007	C	GPS - STATIC	2020	HTH5
43 54 09.04783	92 28 55.92989	614518.811	125318.836	.007		ADJUSTMENT	2020	GPS3378
43 54 09.04782	92 28 55.92990	614518.810	125318.835	.003		ADJUSTMENT	2019	CORS-MYCS2
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003		ADJUSTMENT	2018	GPS3119
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003	C	GPS - STATIC	2017	HMNPH
43 54 09.04783	92 28 55.92983	614518.815	125318.836	.003	A	GPS - STATIC	2015	HMNCORS15
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2015	GPS3073
43 54 09.04786	92 28 55.92983	614518.815	125318.839	.010	C	GPS - STATIC	2015	HFILL
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003		ADJUSTMENT	2014	GPS3046
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.007		ADJUSTMENT	2014	GPS3043
43 54 09.04789	92 28 55.92994	614518.807	125318.842	.003	C	GPS - STATIC	2014	HFREB
43 54 09.04794	92 28 55.92999	614518.803	125318.847	.007	C	GPS - STATIC	2014	HNEW14
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003		ADJUSTMENT	2014	GPS3034
43 54 09.04788	92 28 55.92990	614518.810	125318.841	.003	C	GPS - STATIC	2014	HSTEE
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.007		ADJUSTMENT	2014	GPS2902-B
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2014	GPS2997
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2014	GPS2996
43 54 09.04785	92 28 55.92980	614518.817	125318.838	.010	C	GPS - STATIC	2014	HBRICE
43 54 09.04780	92 28 55.92981	614518.817	125318.833	.010	C	GPS - STATIC	2014	HGWYN
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.007		ADJUSTMENT	2013	GPS2969
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2013	GPS2966
43 54 09.04781	92 28 55.92977	614518.819	125318.834	.007	C	GPS - STATIC	2013	HCROI
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2013	GPS2964
43 54 09.04786	92 28 55.92987	614518.812	125318.839	.010	C	GPS - STATIC	2013	HMKTO2
43 54 09.04782	92 28 55.92979	614518.818	125318.835	.010	C	GPS - STATIC	2013	HNMAN
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2013	GPS2953
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.010		ADJUSTMENT	2013	GPS2950
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.013		ADJUSTMENT	2013	GPS2948
43 54 09.04780	92 28 55.92983	614518.815	125318.833	.010	C	GPS - STATIC	2013	HCHES
43 54 09.04781	92 28 55.92982	614518.816	125318.834	.013	C	GPS - STATIC	2013	HCLINT



43 54 09.04799	92 28 55.92979	614518.818	125318.852	.010	C	GPS - STATIC	2013	HROOT
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.007		ADJUSTMENT	2013	GPS2902
43 54 09.04787	92 28 55.92981	614518.816	125318.840	.007	C	GPS - STATIC	2013	HPRED
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.016	B	GPS - STATIC	2012	HMNCORS05
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003		ADJUSTMENT	2012	CORS-MYCS
43 54 09.04780	92 28 55.92976	614518.820	125318.833	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 09.04769	92 28 55.93099	614518.730	125318.822	.003	A	ADJUSTMENT	2010	CORS2771

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 09.04753	92 28 55.92986	614518.813	125318.806	.066		NCAT	2025	HBYLLY
43 54 09.04753	92 28 55.92986	614518.813	125318.806	.066		NCAT	2025	H23BLUE2
43 54 09.04753	92 28 55.92986	614518.813	125318.806	.066		NCAT	2024	H23BLUE1
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2024	H23FARI2
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2024	HTH63
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2024	H23MART
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2024	H23FARI1
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2024	HELLE
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2023	HGLRD
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2022	HJUDS
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2022	HBLUE2
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2020	HTH30
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2020	HTH5
43 54 09.04772	92 28 55.93016	614518.791	125318.825	.033	C	GPS - STATIC	2017	HMNCORS07
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2015	HFILL
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2014	HFREB
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2014	HNEW14
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2014	HSTEE
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2014	HGWYN
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2013	HMKTO2
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2013	HCHES
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.033	C	GPS - STATIC	2013	HPRED
43 54 09.04779	92 28 55.93051	614518.765	125318.832	.016	B	GPS - STATIC	2006	HMNCORS02



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2025	GPS3830
3024685.537	660800.805	1776839.853	15948706.922	.003		ADJUSTMENT	2025	GPS3811
3024685.537	660800.805	1776839.853	15948706.922	.003		ADJUSTMENT	2025	GPS3808
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2025	HBVLLY
3024685.537	660800.805	1776839.853	15948706.922	.003		ADJUSTMENT	2025	GPS3800
3024685.537	660800.805	1776839.853	15948706.922	.003	C	GPS - STATIC	2025	HMNARP7
3024685.537	660800.805	1776839.853	15948706.922	.003	C	GPS - STATIC	2025	H23BLUE2
3024685.537	660800.805	1776839.853	15948706.922	.003	C	GPS - STATIC	2024	H23BLUE1
3024685.537	660800.805	1776839.853	15948706.922	.003		ADJUSTMENT	2024	GPS3772
3024685.537	660800.805	1776839.853	15948706.922	.003	C	GPS - STATIC	2024	HMNARP5
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2024	GPS3728
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2024	GPS3721
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2024	GPS3723
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2024	H23FARI2
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2024	H23MART
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2024	GPS3718
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2024	HTH63
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2024	H23FARI1
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2024	GPS3701
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2024	HELLE
3024685.537	660800.805	1776839.853	15948706.922	.003		ADJUSTMENT	2023	GPS3572
3024685.537	660800.805	1776839.853	15948706.922	.003	C	GPS - STATIC	2023	HGLRD
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2022	GPS3489
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2022	GPS3487
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2022	HBLUE2
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2022	HJUDS
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2020	HTH30
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2020	GPS3360
3024685.537	660800.805	1776839.853	15948706.922	.007	C	GPS - STATIC	2020	HTH5
3024685.537	660800.805	1776839.853	15948706.922	.007		ADJUSTMENT	2020	GPS3378
3024685.536	660800.804	1776839.852	15948706.921	.003		ADJUSTMENT	2019	CORS-MYCS2
3024685.546	660800.802	1776839.862	15948706.919	.003		ADJUSTMENT	2018	GPS3119
3024685.546	660800.802	1776839.862	15948706.919	.003	C	GPS - STATIC	2017	HMNPH
3024685.541	660800.805	1776839.857	15948706.922	.003	A	GPS - STATIC	2015	HMNCORS15
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2015	GPS3073
3024685.541	660800.808	1776839.857	15948706.925	.010	C	GPS - STATIC	2015	HFILL
3024685.546	660800.802	1776839.862	15948706.919	.003		ADJUSTMENT	2014	GPS3046
3024685.546	660800.802	1776839.862	15948706.919	.007		ADJUSTMENT	2014	GPS3043
3024685.533	660800.811	1776839.849	15948706.928	.003	C	GPS - STATIC	2014	HFREB
3024685.529	660800.816	1776839.845	15948706.933	.007	C	GPS - STATIC	2014	HNEW14
3024685.546	660800.802	1776839.862	15948706.919	.003		ADJUSTMENT	2014	GPS3034
3024685.536	660800.810	1776839.852	15948706.927	.003	C	GPS - STATIC	2014	HSTEE
3024685.546	660800.802	1776839.862	15948706.919	.007		ADJUSTMENT	2014	GPS2902-B
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2014	GPS2997
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2014	GPS2996
3024685.543	660800.807	1776839.859	15948706.924	.010	C	GPS - STATIC	2014	HBRICE
3024685.543	660800.802	1776839.859	15948706.919	.010	C	GPS - STATIC	2014	HGWYN
3024685.546	660800.802	1776839.862	15948706.919	.007		ADJUSTMENT	2013	GPS2969
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2013	GPS2966
3024685.546	660800.803	1776839.862	15948706.920	.007	C	GPS - STATIC	2013	HCROI
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2013	GPS2964
3024685.538	660800.808	1776839.854	15948706.925	.010	C	GPS - STATIC	2013	HMKTO2
3024685.544	660800.804	1776839.860	15948706.921	.010	C	GPS - STATIC	2013	HNMAN
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2013	GPS2953
3024685.546	660800.802	1776839.862	15948706.919	.010		ADJUSTMENT	2013	GPS2950
3024685.546	660800.802	1776839.862	15948706.919	.013		ADJUSTMENT	2013	GPS2948
3024685.541	660800.802	1776839.857	15948706.919	.010	C	GPS - STATIC	2013	HCHES



3024685.542	660800.803	1776839.858	15948706.920	.013	C	GPS - STATIC	2013	HCLINT
3024685.544	660800.821	1776839.860	15948706.938	.010	C	GPS - STATIC	2013	HROOT
3024685.546	660800.802	1776839.862	15948706.919	.007		ADJUSTMENT	2013	GPS2902
3024685.543	660800.809	1776839.859	15948706.926	.007	C	GPS - STATIC	2013	HPRED
3024685.546	660800.802	1776839.862	15948706.919	.016	B	GPS - STATIC	2012	HMNCORS05
3024685.546	660800.802	1776839.862	15948706.919	.003		ADJUSTMENT	2012	CORS-MYCS
3024685.546	660800.802	1776839.862	15948706.919	.003	A	ADJUSTMENT	2011	CORS3429

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3024685.457	660800.789	1776839.772	15948706.907	.003	A	ADJUSTMENT	2010	CORS2771

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3024685.540	660800.775	1776839.855	15948706.891	.066		NCAT	2025	HBYLLY
3024685.540	660800.775	1776839.855	15948706.891	.066		NCAT	2025	H23BLUE2
3024685.540	660800.775	1776839.855	15948706.891	.066		NCAT	2024	H23BLUE1
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2024	H23FARI2
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2024	HTH63
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2024	H23MART
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2024	H23FARI1
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2024	HELLE
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2023	HGLRD
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2022	HJUDS
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2022	HBLUE2
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2020	HTH30
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2020	HTH5
3024685.517	660800.794	1776839.833	15948706.911	.033	C	GPS - STATIC	2017	HMNCORS07
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2015	HFILL
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2014	HFREB
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2014	HNEW14
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2014	HSTEE
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2014	HGWYN
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2013	HMKTO2
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2013	HCHES
3024685.492	660800.800	1776839.808	15948706.917	.033	C	GPS - STATIC	2013	HPRED
3024685.492	660800.800	1776839.808	15948706.917	.016	B	GPS - STATIC	2006	HMNCORS02

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_ARP-DL7616-3E-20JUN2007.jpg	E	Jun 20, 2007
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_ARP-DL7616-2-20JUN2007.jpg		Jun 20, 2007
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_ARP-DL7616-1-20JUN2007.jpg		Jun 20, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS STWV STEWARTVILLE L1PC1

NGS Name: STEWARTVILLE CORS L1 PHASE CEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DL7617](#)

[Get Map](#)

NGS Quad / Sta Num : 43092144/

USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	15	105 N	14 W	435409.05	922855.93		A

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2005	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SEE DESCRIPTION

Mon. Agency

MNDT

Description: (2016)

Stamping:

3.2 MILES NORTH OF STEWARTVILLE, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 32.0, 70.0 FEET NORTH-NORTHEAST OF A WEATHER STATION TOWER, 64.0 FEET EAST-SOUTHEAST OF NORTHBOUND TRUNK HIGHWAY 63, 56.4 FEET NORTHEAST OF MILEPOINT 32. THE STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA. THE STATION IS A ZEPHYR GEODETIC ANTENNA SERIAL NUMBER 12693800.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			1188.580	.000	2011	HORIZONTAL ADJUSTMENT	2011 CORS3429
			1188.574	.000	2007	HORIZONTAL ADJUSTMENT	2010 CORS2771

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.277 09 = -98.218 03 = -98.018

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 09.04784	92 28 55.92978	614518.819	125318.837	.003	A	ADJUSTMENT	2011 CORS3429	

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 09.04773	92 28 55.93101	614518.729	125318.826	.003	A	ADJUSTMENT	2010 CORS2771	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
3024685.545	660800.806	1776839.861	15948706.923	.003	A	ADJUSTMENT	2011 CORS3429	

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
3024685.455	660800.794	1776839.771	15948706.911	.003	A	ADJUSTMENT	2010 CORS2771	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DL7617-3NW-13OCT2006.jpg	NW	Oct 13, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DL7617-2-13OCT2006.jpg		Oct 13, 2006
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DL7617-1-08AUG2006.jpg		Aug 8, 2006

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS STWV STEWARTVILLE L1PC2

NGS Name: STEWARTVILLE CORS L1 PHASE CEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM4318](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	15	105 N	14 W	435409.05	922855.93		A

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2010	GOOD	Horz=YES Vert=YES	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	MNDT

Description: (2016)

Stamping:

3.2 MILES NORTH OF STEWARTVILLE, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 32.0, 70.0 FEET NORTH-NORTHEAST OF A WEATHER STATION TOWER, 64.0 FEET EAST-SOUTHEAST OF NORTHBOUND TRUNK HIGHWAY 63, 56.4 FEET NORTHEAST OF MILEPOINT 32. STATION MNCORS STWV STEWARTVILLE L1PC2 IS THE L1 PHASE CENTER OF THE GPS ANTENNA. THE STATION IS A ZEPHYR GEODETIC LF MODEL 2 ANTENNA SERIAL NUMBER 1441027834.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			1188.580	.000	2011	HORIZONTAL ADJUSTMENT	2011 CORS3429
			1188.574	.000	2007	HORIZONTAL ADJUSTMENT	2010 CORS2771

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.277 09 = -98.218 03 = -98.018

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 09.04784	92 28 55.92978	614518.819	125318.837	.003	A	ADJUSTMENT	2011 CORS3429	

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
43 54 09.04773	92 28 55.93101	614518.729	125318.826	.003	A	ADJUSTMENT	2010 CORS2771	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
3024685.545	660800.806	1776839.861	15948706.923	.003	A	ADJUSTMENT	2011 CORS3429	

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
3024685.455	660800.794	1776839.771	15948706.911	.003	A	ADJUSTMENT	2010 CORS2771	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DM4318-3NW-15NOV2010.jp	NW	Nov 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DM4318-2-15NOV2010.jpg		Nov 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CORS_L1_PHASE_CEN-DM4318-1-15NOV2010.jpg		Nov 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: MNCORS STWV STEWARTVILLE L1PC3

NGS Name: STEWARTVILLE CORS L1 PHASE CEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DR1517](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	105 N	14 W	435409.05	922855.93		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2005	2010	GOOD	Horz=NO Vert=?	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SEE DESCRIPTION	MNDT

Description:

Stamping:

3.2 MILES NORTH OF STEWARTVILLE, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 32.0, 70.0 FEET NORTH-NORTHEAST OF A WEATHER STATION TOWER, 64.0 FEET EAST-SOUTHEAST OF NORTHBOUND TRUNK HIGHWAY 63, 56.4 FEET NORTHEAST OF MILEPOINT 32. STATION MNCORS STWV STEWARTVILLE L1PC3 IS THE L1 PHASE CENTER OF THE GPS ANTENNA.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.277 09 = -98.218 03 = -98.018



Mn/DOT Name: N 132

NGS Name: N 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0119](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	35	107 N	14 W	440136.00	922745.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2005	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MAT FOUNDATION (NON-PAVEMENT)	BENCH MARK DISK	NGS

Description: (1934) Stamping: N 132 1934

IN ROCHESTER, 182.0 FEET EAST OF THE RAILROAD EXPRESS STATION, IN THE SOUTHEAST CORNER OF THE BASE OF A WATER COLUMN, 6.0 FEET NORTH OF THE RAILROAD.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
992.357	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
992.272	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.530 09 = -98.445 03 = -98.281

* No Horizontal Positions in the Database *



Mn/DOT Name: N 24

NGS Name: N 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0019](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	15	105 N	14 W	435344.94	922900.52	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1933	2013	POOR	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (2012)

Stamping: 1263.305 N 24 1933

2.8 MILES NORTH OF STEWARTVILLE, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, THEN 0.2 MILE EAST ON 90TH STREET SOUTHEAST, THEN 0.3 MILE NORTH ON A RAILROAD TRAIL, 22.0 FEET EAST OF THE TRAIL, IN THE CENTER OF THE CAPSTONE OF A CULVERT, 1.0 FOOT WEST OF THE EAST FACE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1263.344	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1263.223	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1263.223	.016	2					VERTICAL CONTROL SURVEY	1972	L106 MINN
1263.223	.016	2					VERTICAL CONTROL SURVEY	1971	L22214
1263.308	.033	3					VERTICAL CONTROL SURVEY	1957	USGS-VERT
1263.305	.016	2					VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1263.305	.007	1					VERTICAL CONTROL SURVEY	1933	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1263.383	.262			1165.129	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.235 12B = -98.251 09 = -98.192 03 = -97.995

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position									
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 53 44.94193	92 29 00.51967	614195.579	122876.020	.131	3	GPS - RTRN	2013	RTRN2013	

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone									
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3024394.844	658354.093	1776519.199	15946264.840	.131	3	GPS - RTRN	2013	RTRN2013	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/N_24-OO0019-3E-02APR2013.jpg	E	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/N_24-OO0019-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/N_24-OO0019-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: NEW HAVEN 14

NGS Name: NEW HAVEN 14

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2850](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	14	108 N	15 W	440923.19	923517.39		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2010)

Stamping: NEW HAVEN 14 2010

2.5 MILES WEST OF ORONOCO, 3.5 MILES WEST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 SOUTH OF ORONOCO, 0.15 MILE NORTHWEST ALONG COUNTY ROAD 3, 1.2 MILES NORTHEAST ALONG COUNTY ROAD 31, 33.0 FEET EAST OF COUNTY ROAD 31, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1030.316			931.819	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1030.306	.131		932.036	.066	1996	GPS - STATIC	2014	HOLMS
1030.316			931.819	.017	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.500 12B = -98.500 09 = -98.402 03 = -98.241

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 23.19362	92 35 17.38595	586220.601	217761.853	.020		ADJUSTMENT	2014	GPS3018
44 09 23.19362	92 35 17.38595	586220.601	217761.853	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 09 23.19341	92 35 17.38632	586220.574	217761.831	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2995163.758	752850.635	1748460.445	16041081.015	.020		ADJUSTMENT	2014	GPS3018
2995163.758	752850.635	1748460.445	16041081.015	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2995163.731	752850.614	1748460.418	16041080.994	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_14-DP2850-3W-08OCT2010.jpg	W	Oct 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_14-DP2850-2-08OCT2010.jpg		Oct 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_14-DP2850-1-08OCT2010.jpg		Oct 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: NEW HAVEN 17

NGS Name: NEW HAVEN 17

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2851](#)

[Get Map](#)

NGS Quad / Sta Num : 44092324/

USGS Quad: PINE ISLAND

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	17	108 N	15 W	440911.49	923930.10		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2016)

Stamping: NEW HAVEN 17 2010

6.0 MILES WEST OF ORONOCO, 3.5 MILES WEST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 SOUTH OF ORONOCO, 1.4 MILES NORTHWEST ALONG COUNTY ROAD 3, 1.8 MILES WEST ALONG 105TH STREET NORTHWEST, 0.1 MILE NORTH ALONG COUNTY ROAD 113, 55.0 FEET EAST OF COUNTY ROAD 113, 90.2 FEET EAST OF A POWER POLE, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1178.895			1080.654	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1178.895	.131		1080.903	.066	1996	GPS - STATIC	2014	HOLMS
1178.895			1080.654	.019	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.238 09 = -98.153 03 = -97.985

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 11.48644	92 39 30.10497	567799.448	216510.724	.023		ADJUSTMENT	2014	GPS3018
44 09 11.48644	92 39 30.10497	567799.448	216510.724	.023	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 09 11.48619	92 39 30.10534	567799.421	216510.699	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2976762.961	751355.080	1730048.755	16039811.614	.023		ADJUSTMENT	2014	GPS3018
2976762.961	751355.080	1730048.755	16039811.614	.023	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2976762.935	751355.054	1730048.728	16039811.588	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_17-DP2851-3W-27SEP2010.jpg	W	Sep 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_17-DP2851-2-27SEP2010.jpg		Sep 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_17-DP2851-1-27SEP2010.jpg		Sep 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: NEW HAVEN 35

NGS Name: NEW HAVEN 35

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2852](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	35	108 N	15 W	440637.24	923518.66		C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2010)

Stamping: NEW HAVEN 35 010

4.0 MILES SOUTHWEST OF ORONOCO, 3.6 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 SOUTHWEST OF ORONOCO, 0.15 MILE NORTH ALONG 75TH AVENUE NORTHWEST, 33.0 FEET WEST OF 75TH AVENUE NORTHWEST, 19.0 FEET SOUTH OF A FIELD ENTRANCE WEST, 2.0 FEET EAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1117.816			1019.296	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1117.790	.131		1019.519	.066	1996	GPS - STATIC	2014	HOLMS
1117.816			1019.296	.016	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.527 09 = -98.428 03 = -98.271

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 37.24002	92 35 18.65820	586194.718	200955.634	.020		ADJUSTMENT	2014	GPS3018
44 06 37.24002	92 35 18.65820	586194.718	200955.634	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 37.23991	92 35 18.65857	586194.691	200955.623	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u> <u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2995361.175	736047.429	1748451.740	16024282.185	.020		ADJUSTMENT	2014	GPS3018
2995361.175	736047.429	1748451.740	16024282.185	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>				<u>Project Info</u>		
<u>MN State Plane - South Zone</u> <u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2995361.148	736047.418	1748451.713	16024282.173	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_35-DP2852-3W-10NOV2010.jpg	W	Nov 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_35-DP2852-2-10NOV2010.jpg		Nov 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NEW_HAVEN_35-DP2852-1-10NOV2010.jpg		Nov 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: NOSLEN

NGS Name: NOSLEN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8788](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	4	106 N	13 W	440036.69	922245.24	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 45 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: NOSLEN 2012

4.0 MILES EAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 217.9, 72.6 FEET WEST OF COUNTY ROAD 11 (50TH AVENUE SOUTHEAST), 78.0 FEET NORTH-NORTHEAST OF TRUNK HIGHWAY 14, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1059.919	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1059.919	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1059.922	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1059.922			961.665	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1059.922	.131		961.898	.066	1996	GPS - STATIC	2014	HOLMS
1059.922			961.665	.010	2011	GPS - STATIC	2014	HOLMS
1059.922			961.665	.013	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1059.922	.131		961.898	.066	1996	GPS - STATIC	2013	HCHES
1059.922			961.665	.013	2011	GPS - STATIC	2013	HCHES
1059.804	.262		961.658	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.261 12B = -98.271 09 = -98.146 03 = -98.025

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 36.69137	92 22 45.23552	641404.317	164732.980	.013		ADJUSTMENT	2014	GPS3018
44 00 36.69136	92 22 45.23541	641404.325	164732.979	.013	C	GPS - STATIC	2014	HOLMS
44 00 36.69137	92 22 45.23552	641404.317	164732.980	.016		ADJUSTMENT	2013	GPS2950
44 00 36.69137	92 22 45.23552	641404.317	164732.980	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 36.69047	92 22 45.23637	641404.255	164732.889	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 36.69116	92 22 45.23563	641404.309	164732.959	.033	C	GPS - STATIC	2014	HOLMS
44 00 36.69116	92 22 45.23563	641404.309	164732.959	.033	C	GPS - STATIC	2013	HCHES

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3051042.023	700565.786	1803674.313	15988131.228	.013		ADJUSTMENT	2014	GPS3018
3051042.031	700565.786	1803674.320	15988131.227	.013	C	GPS - STATIC	2014	HOLMS
3051042.023	700565.786	1803674.313	15988131.228	.016		ADJUSTMENT	2013	GPS2950
3051042.023	700565.786	1803674.313	15988131.228	.016	C	GPS - STATIC	2013	HCHES

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3051041.963	700565.694	1803674.251	15988131.137	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3051042.015	700565.765	1803674.305	15988131.207	.033	C	GPS - STATIC	2014	HOLMS
3051042.015	700565.765	1803674.305	15988131.207	.033	C	GPS - STATIC	2013	HCHES

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NOSLEN-DO8788-3N-14NOV2012.jpg	N	Nov 14, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NOSLEN-DO8788-2-14NOV2012.jpg		Nov 14, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/NOSLEN-DO8788-1-14NOV2012.jpg		Nov 14, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OCTO MNDT

NGS Name: OCTO

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2285](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	12	107 N	14 W	440513.32	922647.71		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2005	DESTROYED	Horz=NO Vert=NO	NO			MARK IS STEEL PIPE

Monument Type	Disk Type	Mon. Agency
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MNDT

Description: (1977)

Stamping: OCTO 1977

4.8 MILES NORTH OF ROCHESTER, 2.2 MILES EAST ON 37TH STREET FROM THE JUNCTION OF 37TH STREET AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN NORTH 1.9 MILES ON TRUNK HIGHWAY 63, ON THE WEST RIGHT-OF-WAY OF TRUNK HIGHWAY 63 AT MILEPOINT 45.3, 61.5 FEET WEST OF TRUNK HIGHWAY 63, 37.11 FEET NORTHEAST OF A NAIL AND A DISK ON THE NORTHWEST SIDE OF A CORNER FENCE POST, 44.83 FEET SOUTH-SOUTHEAST OF A NAIL AND A DISK ON THE NORTHEAST SIDE OF A TELEPHONE POLE, 11.0 FEET NORTH OF AN ENTRANCE, 28.9 FEET EAST-SOUTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1042.977	.197		944.877	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1043.305						RECIPROCAL VERTICAL ANGLE	1978	HORZ	

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.451 09 = -98.343 03 = -98.222

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 05 13.31506	92 26 47.70664	623523.585	192637.249	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 05 13.30500	92 26 47.70627	623523.618	192636.230	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order	Reference
44 05 13.43397	92 26 47.06501			.100	2	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3032793.362	728226.917	1785772.854	16016005.478	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3032793.408	728225.899	1785772.888	16016004.459	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		Determination Method			Project Info	
X	Y	X	Y	Acc	Order	Reference
2408185.092	400152.309			.100	2	16253



Mn/DOT Name: OLE

NGS Name: OLE

County: OLMSTED, MN (Sheet 1)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	10	106 N	12 W	440022.70	921457.86	2	C

NGS ACRN:	PP2243	Get Map
NGS Quad / Sta Num :	44092223/1008	
USGS Quad:	PLAINVIEW SW	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 18 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2012)

Stamping: OLE 1935

1.5 MILES NORTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 224.80, 69.5 FEET WEST OF TRUNK HIGHWAY 42, 48.0 FEET SOUTH OF 10TH STREET SOUTHEAST, 135.84 FEET NORTH OF STATION OLE RM 1, 130.66 FEET EAST OF STATION OLE RM 2, 18.5 FEET SOUTH-SOUTHEAST OF A POWER POLE NUMBER 38147, 17.0 FEET SOUTH OF STATION TT 31 E, 2.0 FEET EAST OF A WITNESS POST. STATION OLE IS IN A PVC TUBE.

Station Pair: OLE AZ MK - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1290.729	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1290.729	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1290.726	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1290.729			1192.681	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1290.726	.131		1192.918	.066	1996	GPS - STATIC	2013	HCHES
1290.729			1192.691	.007	2011	GPS - STATIC	2013	HCHES
1290.644	.262		1192.750	.197	2007	GPS - RTRN	2012	RTRN2012
			1192.681	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1290.713	.131		1192.783	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1290.713	.131		1192.783	.066	2007	GPS - STATIC	2011	HFRON
1290.713	.131		1192.908	.066	1996	GPS - STATIC	2010	HFRON
1292.648	.262		1194.912	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1292.616						RECIPROCAL VERTICAL ANGLE	1935	HORZ

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.894 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.70331	92 14 57.86219	675573.581	163565.996	.007		ADJUSTMENT	2013	GPS2950
44 00 22.70327	92 14 57.86207	675573.590	163565.992	.007	C	GPS - STATIC	2013	HCHES
44 00 22.70331	92 14 57.86219	675573.581	163565.996	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.70273	92 14 57.86288	675573.531	163565.936	.131	3	GPS - RTRN	2012	RTRN2012
44 00 22.70341	92 14 57.86324	675573.504	163566.005	.033	C	ADJUSTMENT	2011	GPS2814
44 00 22.70341	92 14 57.86324	675573.504	163566.005	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.70315	92 14 57.86241	675573.565	163565.979	.033	C	GPS - STATIC	2013	HCHES
44 00 22.70315	92 14 57.86241	675573.565	163565.979	.033	C	GPS - STATIC	2010	HFRON
44 00 22.70262	92 14 57.86105	675573.665	163565.926	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 22.69050	92 14 57.86166	675573.630	163564.699	.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 00 22.81800	92 14 57.26600			.100	3	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3085220.627	699854.016	1837830.581	15986999.247	.007		ADJUSTMENT	2013	GPS2950
3085220.636	699854.012	1837830.590	15986999.243	.007	C	GPS - STATIC	2013	HCHES
3085220.627	699854.016	1837830.581	15986999.247	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3085220.578	699853.956	1837830.531	15986999.188	.131	3	GPS - RTRN	2012	RTRN2012
3085220.551	699854.024	1837830.504	15986999.257	.033	C	ADJUSTMENT	2011	GPS2814
3085220.551	699854.024	1837830.504	15986999.257	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3085220.612	699853.999	1837830.565	15986999.231	.033	C	GPS - STATIC	2013	HCHES
3085220.612	699853.999	1837830.565	15986999.231	.033	C	GPS - STATIC	2010	HFRON
3085220.712	699853.948	1837830.665	15986999.178	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3085220.694	699852.720	1837830.631	15986997.951	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2460610.571	371779.341			.100	3	CLASSICAL SURVEY	1937	03491

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE-PP2243-3W-11SEP2012.jpg	W	Sep 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE-PP2243-2-11SEP2012.jpg		Sep 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE-PP2243-1-11SEP2012.jpg		Sep 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLE AZ MK

NGS Name: OLE AZ MK

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	10	106 N	12 W	435957.02	921443.67	2	C

NGS ACRN: [CJ4533](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2013	GOOD	Horz=YES Vert=YES	YES		PROJECTS 4 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (2010)

Stamping: OLE 1935

0.6 MILE NORTHWEST OF EYOTA, 0.2 MILE EAST ON TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14, AT TRUNK HIGHWAY 14 MILEPOINT 224.8, 65.5 FEET NORTH-NORTHEAST OF TRUNK HIGHWAY 14, 21.5 FEET WEST OF A FENCE, 5.2 FEET SOUTH OF A WITNESS POST.

Station Pair: OLE - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1281.320	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1281.329	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1281.329	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1281.329	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1281.329	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1281.329	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1281.329			1183.288	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1281.329	.131		1183.521	.066	1996	GPS - STATIC	2013	HCHES
1281.329			1183.282	.007	2011	GPS - STATIC	2013	HCHES
1281.228	.262		1183.331	.197	2007	GPS - RTRN	2012	RTRN2012
			1183.288	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1281.277	.262		1183.380	.197	2007	GPS - RTRN	2011	RTRN2011
1281.329	.131		1183.387	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1281.329	.131		1183.387	.066	2007	GPS - STATIC	2011	HFRON
1281.329	.131		1183.515	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.018 09 = -97.897 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.01521	92 14 43.66679	676632.280	160973.155	.007		ADJUSTMENT	2013	GPS2950
43 59 57.01518	92 14 43.66674	676632.284	160973.152	.007	C	GPS - STATIC	2013	HCHES
43 59 57.01521	92 14 43.66679	676632.280	160973.155	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.01477	92 14 43.66731	676632.242	160973.110	.131	3	GPS - RTRN	2012	RTRN2012
43 59 57.01433	92 14 43.66592	676632.344	160973.067	.131	3	GPS - RTRN	2011	RTRN2011
43 59 57.01532	92 14 43.66784	676632.203	160973.166	.033	C	ADJUSTMENT	2011	GPS2814
43 59 57.01532	92 14 43.66784	676632.203	160973.166	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 59 57.01506	92 14 43.66701	676632.264	160973.140	.033	C	GPS - STATIC	2013	HCHES
43 59 57.01506	92 14 43.66701	676632.264	160973.140	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3086313.680	697275.749	1838891.466	15984408.532	.007		ADJUSTMENT	2013	GPS2950
3086313.684	697275.746	1838891.470	15984408.529	.007	C	GPS - STATIC	2013	HCHES
3086313.680	697275.749	1838891.466	15984408.532	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3086313.643	697275.704	1838891.428	15984408.487	.131	3	GPS - RTRN	2012	RTRN2012
3086313.746	697275.662	1838891.530	15984408.443	.131	3	GPS - RTRN	2011	RTRN2011
3086313.603	697275.759	1838891.389	15984408.542	.033	C	ADJUSTMENT	2011	GPS2814
3086313.603	697275.759	1838891.389	15984408.542	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3086313.665	697275.734	1838891.450	15984408.516	.033	C	GPS - STATIC	2013	HCHES
3086313.665	697275.734	1838891.450	15984408.516	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_AZ_MK-CJ4533-3N-31MAR2010.jpg	N	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_AZ_MK-CJ4533-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_AZ_MK-CJ4533-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLE RM 1

NGS Name: OLE RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4534](#)

[Get Map](#)

NGS Quad / Sta Num : 44092223/

USGS Quad: PLAINVIEW SW

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	10	106 N	12 W	440021.37	921457.62	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2012	GOOD	Horz=YES Vert=YES	YES		PROJECTS 7 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2007)

Stamping: OLE NO 1 1935

1.5 MILE NORTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 224.80, 184.0 FEET SOUTH OF A TOWNSHIP ROAD, 135.84 FEET SOUTH OF STATION OLE, 52.0 FEET WEST OF TRUNK HIGHWAY 42, 5.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1288.393	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1288.393	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1288.390	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year	Reference
1288.301	.262		1190.404	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.894 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Project Info				
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 00 21.37088	92 14 57.61945	675592.415	163431.213	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Project Info				
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3085241.253	699719.508	1837849.543	15986864.539	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_1-CJ4534-3W-31MAR2010.jpg	W	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_1-CJ4534-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_1-CJ4534-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLE RM 2

NGS Name: OLE RM 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	10	106 N	12 W	440022.85	921459.64	2	3

NGS ACRN: [CJ4535](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2012	GOOD	Horz=YES Vert=YES	YES		PROJECTS 12 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2007)

Stamping: OLE NO 2 1935

1.5 MILES NORTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 NORTHWEST OF EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 224.80, 200.0 FEET WEST OF TRUNK HIGHWAY 42, 130.66 FEET WEST OF STATION OLE, 35.0 FEET SOUTH OF A TOWNSHIP ROAD, 5.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1291.690	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1291.690	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1291.687	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1291.572	.262		1193.675	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.894 03 = -97.808

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 22.85315	92 14 59.63885	675443.604	163580.119	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085090.486	699866.404	1837700.643	15987013.234	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_2-CJ4535-3E-31MAR2010.jpg	E	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_2-CJ4535-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLE_RM_2-CJ4535-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLMS MNDT

NGS Name: OLMS

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	15	105 N	12 W	435407.24	921530.70	2	B

NGS ACRN: [AC4935](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1995	2015	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
STEEL ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD	MNDT

Description: (2008)

Stamping: OLMS 1995

5.0 MILES NORTHWEST OF CHATFIELD, 3.75 MILES WEST-NORTHWEST ALONG TRUNK HIGHWAY 30 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 235.9, THEN 2.0 MILES NORTH ON COUNTY ROAD 7, 38.5 FEET EAST-SOUTHEAST OF COUNTY ROAD 7, 108.1 FEET SOUTH-SOUTHWEST OF A POWER POLE WITH 1 GUY WIRE, 64.0 FEET NORTH-NORTHEAST OF A FIELD ENTRANCE, 3.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1248.577	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1248.577	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1248.577	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1248.577	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-35
1248.580	.016	2/1				VERTICAL CONTROL SURVEY	2007	VOLMS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1248.577			1150.516	.011	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119
1248.577	.131		1150.769	.066	1996	GPS - STATIC	2017	HMNCORS07
1248.577			1150.516	.011	2011	GPS - STATIC	2017	HMNPH
1248.547	.262		1150.510	.197	2011	GPS - RTRN	2015	RTRN2015
1248.577			1150.516	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
			1150.516	.007	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1248.577	.131		1150.769	.066	1996	GPS - STATIC	2014	HOLMS
1248.577			1150.513	.010	2011	GPS - STATIC	2014	HOLMS
1248.577			1150.516	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950
1248.577	.131		1150.756	.066	1996	GPS - STATIC	2013	HCHES
1248.577			1150.513	.009	2011	GPS - STATIC	2013	HCHES
1248.577			1150.516	.006	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1248.587			1150.516	.006	2011	GPS - STATIC	2013	HPRED
1248.587	.131		1150.769	.066	1996	GPS - STATIC	2013	HPRED
			1150.516	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1248.472	.262		1150.542	.197	2007	GPS - RTRN	2011	RTRN2011
			1150.608	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1248.620	.098		1150.769	.049	1996	GPS - STATIC	2005	GPS2036
1248.620	.098		1150.769	.049	1996	GPS - STATIC	2004	GPS1994
1248.521	.131		1150.769	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1248.521	.131		1150.769	.066	1996	GPS - STATIC	2002	HI90
1248.613	.098		1150.769	.049	1996	GPS - STATIC	1997	GPS805-B
1248.613	.131		1150.769	.066	1996	GPS - STATIC	1997	GPS805-C

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.041 09 = -97.930 03 = -97.821

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.010		ADJUSTMENT	2018	GPS3119
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.010	C	GPS - STATIC	2017	HMNPH
43 54 07.23792	92 15 30.70024	673476.912	125526.120	.131	3	GPS - RTRN	2015	RTRN2015
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.010		ADJUSTMENT	2014	GPS3018
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.007		ADJUSTMENT	2014	GPS2902-B
43 54 07.23842	92 15 30.70079	673476.872	125526.170	.010	C	GPS - STATIC	2014	HOLMS
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.007		ADJUSTMENT	2013	GPS2950
43 54 07.23847	92 15 30.70087	673476.866	125526.175	.007	C	GPS - STATIC	2013	HCHES
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.007		ADJUSTMENT	2013	GPS2902
43 54 07.23822	92 15 30.70058	673476.887	125526.150	.007	C	GPS - STATIC	2013	HPRED
43 54 07.23850	92 15 30.70091	673476.863	125526.178	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 07.23765	92 15 30.70072	673476.877	125526.092	.131	3	GPS - RTRN	2011	RTRN2011
43 54 07.23865	92 15 30.70178	673476.799	125526.193	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	2017	HMNCORS07
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	2014	HOLMS
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	2013	HCHES
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	2013	HPRED
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.016	B	GPS - STATIC	2005	GPS2036
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.016	B	GPS - STATIC	2004	GPS1994
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	ADJUSTMENT	2003	GPS1770
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	2002	HI90
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.016	B	GPS - STATIC	1997	GPS805-B
43 54 07.23829	92 15 30.70103	673476.854	125526.157	.033	C	GPS - STATIC	1997	GPS805-C

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083631.067	661792.863	1835772.816	15948972.874	.010		ADJUSTMENT	2018	GPS3119
3083631.067	661792.863	1835772.816	15948972.874	.010	C	GPS - STATIC	2017	HMNPH
3083631.117	661792.805	1835772.866	15948972.816	.131	3	GPS - RTRN	2015	RTRN2015
3083631.067	661792.863	1835772.816	15948972.874	.010		ADJUSTMENT	2014	GPS3018
3083631.067	661792.863	1835772.816	15948972.874	.007		ADJUSTMENT	2014	GPS2902-B
3083631.076	661792.855	1835772.825	15948972.866	.010	C	GPS - STATIC	2014	HOLMS
3083631.067	661792.863	1835772.816	15948972.874	.007		ADJUSTMENT	2013	GPS2950
3083631.070	661792.860	1835772.819	15948972.871	.007	C	GPS - STATIC	2013	HCHES
3083631.067	661792.863	1835772.816	15948972.874	.007		ADJUSTMENT	2013	GPS2902
3083631.092	661792.835	1835772.841	15948972.846	.007	C	GPS - STATIC	2013	HPRED
3083631.067	661792.863	1835772.816	15948972.874	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083631.083	661792.777	1835772.831	15948972.788	.131	3	GPS - RTRN	2011	RTRN2011
3083631.003	661792.877	1835772.752	15948972.889	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	2017	HMNCORS07
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	2014	HOLMS
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	2013	HCHES
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	2013	HPRED
3083631.059	661792.841	1835772.807	15948972.853	.016	B	GPS - STATIC	2005	GPS2036
3083631.059	661792.841	1835772.807	15948972.853	.016	B	GPS - STATIC	2004	GPS1994
3083631.059	661792.841	1835772.807	15948972.853	.033	C	ADJUSTMENT	2003	GPS1770
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	2002	HI90
3083631.059	661792.841	1835772.807	15948972.853	.016	B	GPS - STATIC	1997	GPS805-B
3083631.059	661792.841	1835772.807	15948972.853	.033	C	GPS - STATIC	1997	GPS805-C

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMS-AC4935-3SE-28SEP2011.jpg	SE	Sep 28, 2011
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMS-AC4935-2-28SEP2011.jpg		Sep 28, 2011
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMS-AC4935-1-28SEP2011.jpg		Sep 28, 2011

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLMSTED

NGS Name: OLMSTED

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1016](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/1004
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	29	106 N	14 W	435724.60	923106.70		2	1935	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2010)

Stamping: OLMSTED 1935

6.0 MILES SOUTH-SOUTHWEST OF ROCHESTER, 3.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 2.75 MILES WEST ON COUNTY ROAD 117 SOUTHWEST (40TH STREET SOUTHWEST), THEN 0.5 MILE SOUTH ON COUNTY ROAD 8 SOUTHWEST, 150.0 FEET SOUTH OF THE ENTRANCE TO 4435 BAMBER VALLEY ROAD, 125.13 FEET EAST OF OLMSTED RM 2, 54.0 FEET WEST OF THE ROAD, 12.0 FEET SOUTHWEST OF A POWER POLE, 1.5 FEET EAST OF THE EDGE OF A CONCRETE SLAB, 5.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>
1251.638	.197		1153.472	.131	1996	1999	17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>
1251.999						1935	HORZ

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.589 09 = -98.517 03 = -98.304

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.59522	92 31 06.69909	604848.568	145072.456	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.58499	92 31 06.70031	604848.484	145071.419	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.72100	92 31 06.05900			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3014754.283	680422.499	1767154.017	15968442.297	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3014754.213	680421.461	1767153.934	15968441.261	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2390145.448	352349.003			.100	2	CLASSICAL SURVEY	1937	03491



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED-OO1016-3NW-27APR2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED-OO1016-2-27APR2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED-OO1016-1-27APR2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NW	Apr 27, 2010
	Apr 27, 2010
	Apr 27, 2010



Mn/DOT Name: OLMSTED AZ MK

NGS Name: OLMSTED AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6053](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	20	106 N	14 W	435756.00	923105.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: Stamping: OLMSTED 1973

6.0 MILES SOUTH-SOUTHWEST OF ROCHESTER, 3.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN WEST 2.75 MILES ON COUNTY ROAD 117 SOUTHWEST (40TH STREET SOUTHWEST), THEN 0.1 MILE NORTH ON COUNTY ROAD 8 SOUTHWEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.602 09 = -98.533 03 = -98.323



Mn/DOT Name: OLMSTED AZ MK 2

NGS Name: OLMSTED AZ MK 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [QQ1017](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/1004
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	20	106 N	14 W	435756.03	923106.39		C	1973	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2012)

Stamping: OLMSTED 1935 1973

3.0 MILES SOUTH OF ROCHESTER, 3.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 2.75 MILES WEST ON COUNTY ROAD 117 SOUTHWEST (40TH STREET SOUTHWEST), THEN 0.1 MILE NORTH ON COUNTY ROAD 8, 94.5 FEET WEST-NORTHWEST OF A POWER POLE, 43.5 FEET WEST OF COUNTY ROAD 8, 10.0 FEET NORTH OF A FIELD ENTRANCE, 5.4 FEET SOUTH-SOUTHEAST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1247.094			1148.525	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1247.097	.131		1148.794	.066	1996	GPS - STATIC	2014	HOLMS
1247.094			1148.525	.016	2011	GPS - STATIC	2014	HOLMS
1247.012	.262		1148.475	.197	2007	GPS - RTRN	2012	RTRN2012
1238.186	.197		1140.001	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1237.990						RECIPROCAL VERTICAL ANGLE	1973	HORZ

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.602 09 = -98.533 03 = -98.323

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 56.02572	92 31 06.39362	604855.544	148255.364	.026		ADJUSTMENT	2014	GPS3018
43 57 56.02572	92 31 06.39362	604855.544	148255.364	.026	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 56.02572	92 31 06.39614	604855.360	148255.363	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 56.02553	92 31 06.39405	604855.513	148255.345	.033	C	GPS - STATIC	2014	HOLMS
43 57 56.02274	92 31 06.39055	604855.770	148255.063	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 56.01278	92 31 06.39168	604855.692	148254.054	.066	2	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 56.14579	92 31 05.74967			.100	2	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3014718.944	683604.945	1767157.791	15971623.831	.026		ADJUSTMENT	2014	GPS3018
3014718.944	683604.945	1767157.791	15971623.831	.026	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3014718.760	683604.942	1767157.607	15971623.830	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3014718.913	683604.926	1767157.760	15971623.812	.033	C	GPS - STATIC	2014	HOLMS
3014719.174	683604.648	1767158.017	15971623.531	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3014719.110	683603.638	1767157.940	15971622.522	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2390110.395	355530.845			.100	2	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_AZ_MK_2-OO1017-3W-11SEP2012.jpg	W	Sep 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_AZ_MK_2-OO1017-2-11SEP2012.jpg		Sep 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_AZ_MK_2-OO1017-1-11SEP2012.jpg		Sep 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: OLMSTED RM 1

NGS Name: OLMSTED RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6054](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	29	106 N	14 W	435725.90	923106.40		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2019)

Stamping:

6.0 MILES SOUTH-SOUTHWEST OF ROCHESTER, 3.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 2.75 MILES WEST ON COUNTY ROAD 117 SOUTHWEST (40TH STREET SOUTHWEST), THEN 0.5 MILE SOUTH ON COUNTY ROAD 8 SOUTHWEST, 134.36 FEET NORTH OF STATION OLMSTED IN A FENCE CORNER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.589 09 = -98.517 03 = -98.304



Mn/DOT Name: OLMSTED RM 2

NGS Name: OLMSTED RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI6055](#) [Get Map](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	29	106 N	14 W	435724.47	923108.40		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2016)

Stamping: OLMSTED NO 2 1935

6.0 MILES SOUTH-SOUTHWEST OF ROCHESTER, 3.0 MILES SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 2.75 MILES WEST ON COUNTY ROAD 117 SOUTHWEST (40TH STREET SOUTHWEST), THEN 0.5 MILE SOUTH ON COUNTY ROAD 8 SOUTHWEST, 125.13 FEET WEST OF STATION OLMSTED IN A FENCE LINE, 1.0 FOOT EAST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.589 09 = -98.517 03 = -98.300

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_RM_2-CI6055-3S-27APR2010.jpg	S	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_RM_2-CI6055-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OLMSTED_RM_2-CI6055-1-27APR2010.jpg		Apr 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ORION 20

NGS Name: ORION 20

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2853](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	20	105 N	12 W	435302.73	921732.93		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 6 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2016)

Stamping: ORION 20 2010

5.5 MILES NORTHWEST OF CHATFIELD, 1.5 MILES NORTH ALONG COUNTY ROAD 19 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND COUNTY ROAD 19, THEN 0.4 MILE EAST ALONG COUNTY ROAD 139, THEN 1.3 MILES EAST ALONG 95TH STREET, 46.0 FEET WEST OF THE CENTERLINE OF A TOWNSHIP ROAD, 2.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1277.255				1179.282	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1277.281	.131			1179.525	.066	1996	GPS - STATIC	2014	HOLMS	
1277.255				1179.282	.018	2011	GPS - STATIC	2014	HOLMS	
1277.153	.262			1179.191	.197	2011	GPS - RTRN	2013	RTRN2013	

Geoid Separations(ft): GEOID18 = -97.966 12B = -97.966 09 = -97.871 03 = -97.766

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 02.73313	92 17 32.92777	664577.193	118924.661	.020		ADJUSTMENT	2014	GPS3018
43 53 02.73313	92 17 32.92777	664577.193	118924.661	.020	C	GPS - STATIC	2014	HOLMS
43 53 02.73260	92 17 32.92798	664577.178	118924.607	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 02.73265	92 17 32.92805	664577.173	118924.612	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3074820.796	655073.882	1826883.367	15942365.251	.020		ADJUSTMENT	2014	GPS3018
3074820.796	655073.882	1826883.367	15942365.251	.020	C	GPS - STATIC	2014	HOLMS
3074820.782	655073.828	1826883.352	15942365.197	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3074820.777	655073.833	1826883.347	15942365.202	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION_20-DP2853-3N-01APR2013.jpg	N	Apr 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION_20-DP2853-2-01APR2013.jpg		Apr 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION_20-DP2853-1-01APR2013.jpg		Apr 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ORION MNDT

NGS Name: ORION

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DF3966](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	25	106 N	12 W	435717.73	921218.43	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1996	2016	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 3 IN.	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 5 FT)	SURVEY DISK	MNDT

Description: (2010) **Stamping:** ORION 1996

2.5 MILES SOUTHEAST OF EYOTA, 1.75 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, AT INTERSTATE HIGHWAY 90 MILEPOINT 225.8, 82.2 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 17.0 FEET NORTH OF A FENCE, 17.0 FEET NORTH OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference			
1309.620	.016	2/1						VERTICAL ADJUSTMENT	2011	00000690			
1309.617	.016	2/1						VERTICAL CONTROL SURVEY	2008	VEYOT			

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj			Year	Reference			
1309.620				1211.586	.010	2011		HORIZONTAL ADJUSTMENT	2014	GPS3018			
1309.617	.131			1211.809	.066	1996		GPS - STATIC	2014	HOLMS			
1309.620				1211.586	.010	2011		GPS - STATIC	2014	HOLMS			
				1211.586	.010	2011		HORIZONTAL ADJUSTMENT	2012	GPS2800			
				1211.681	.011	2007		HORIZONTAL ADJUSTMENT	2007	GPS2300			
1309.610	.131			1211.809	.066	1996		HORIZONTAL ADJUSTMENT	2003	GPS1770			
1309.610	.131			1211.809	.066	1996		GPS - STATIC	2002	HI90			

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 17.72616	92 12 18.42957	687387.940	144932.172	.013		ADJUSTMENT	2014	GPS3018
43 57 17.72633	92 12 18.42959	687387.938	144932.189	.013	C	GPS - STATIC	2014	HOLMS
43 57 17.72616	92 12 18.42957	687387.940	144932.172	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 17.72610	92 12 18.43063	687387.862	144932.165	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)		Olmsted County				Project Info		
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 17.72589	92 12 18.42974	687387.927	144932.144	.033	C	GPS - STATIC	2014	HOLMS
43 57 17.72589	92 12 18.42974	687387.927	144932.144	.033	C	ADJUSTMENT	2003	GPS1770
43 57 17.72589	92 12 18.42974	687387.926	144932.145	.033	C	GPS - STATIC	2002	HI90

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097281.196	681380.931	1849658.893	15968384.852	.013		ADJUSTMENT	2014	GPS3018
3097281.194	681380.948	1849658.892	15968384.869	.013	C	GPS - STATIC	2014	HOLMS
3097281.196	681380.931	1849658.893	15968384.852	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097281.118	681380.923	1849658.816	15968384.845	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3097281.184	681380.904	1849658.881	15968384.824	.033	C	GPS - STATIC	2014	HOLMS
3097281.184	681380.904	1849658.881	15968384.824	.033	C	ADJUSTMENT	2003	GPS1770
3097281.184	681380.903	1849658.881	15968384.824	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION-DF3966-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION-DF3966-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORION-DF3966-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ORION MNDT RESET

NGS Name: ORION RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8161](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	25	106 N	12 W	435717.73	921218.43	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2021	GOOD	Horz=YES Vert=YES	NO		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** ORION 1996 2016

2.5 MILES SOUTHEAST OF EYOTA, 1.75 MILES EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF COUNTY ROAD 7 AND INTERSTATE HIGHWAY 90 IN EYOTA, AT INTERSTATE HIGHWAY 90 MILEPOINT 225.8, 82.2 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 17.0 FEET NORTH OF A FENCE, 17.0 FEET NORTH OF A WITNESS POST.

Station Notes

OPPOSITE THE MINNESOTA DEPARTMENT OF TRANSPORTATION WEATHER TOWER AND MNCORS EYTA PILLAR WITH 5580 BS 1.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)		Height	Acc	Adj		Year	Reference	
1309.627	.016	2/1					VERTICAL ADJUSTMENT	2019	00000938	
1309.584	.016	2/1					VERTICAL CONTROL SURVEY	2017	VI90D6	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order/(Class)		Height	Acc	Adj		Year	Reference	
1309.568	.262			1211.510	.197	2011	GPS - OPUS	2021	GPSBM	
1309.525	.262			1211.467	.197	2011	GPS - OPUS	2021	GPSBM	
1309.587	.262			1211.526	.197	2011	GPS - RTRN	2021	RTRN2021	
1309.568	.262			1211.520	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.048 09 = -97.936 03 = -97.834

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County				Determination Method		Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference	
43 57 17.72626	92 12 18.43013	687387.898	144932.182	.131	3	GPS - OPUS	2021	GPSBM	
43 57 17.72633	92 12 18.43013	687387.898	144932.188	.131	3	GPS - OPUS	2021	GPSBM	
43 57 17.72628	92 12 18.43001	687387.907	144932.184	.131	3	GPS - RTRN	2021	RTRN2021	
43 57 17.72633	92 12 18.42961	687387.936	144932.189	.131	3	GPS - RTRN	2016	RTRN2016	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15				Determination Method		Project Info	
MN State Plane - South Zone		X	Y	Acc	Order		Year	Reference	
3097281.154	681380.940	1849658.852	15968384.861	.131	3	GPS - OPUS	2021	GPSBM	
3097281.154	681380.947	1849658.852	15968384.868	.131	3	GPS - OPUS	2021	GPSBM	
3097281.163	681380.943	1849658.861	15968384.863	.131	3	GPS - RTRN	2021	RTRN2021	
3097281.192	681380.948	1849658.890	15968384.869	.131	3	GPS - RTRN	2016	RTRN2016	



Mn/DOT Name: ORONOCO 10

NGS Name: ORONOCO 10

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2854](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	10	108 N	14 W	441021.53	922928.52		C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2010)

Stamping: ORONOCO 10 2010

2.0 MILES EAST OF ORONOCO, 2.9 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, 75.0 FEET SOUTH OF COUNTY ROAD 12, 2.0 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1149.542			1051.064	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1149.545	.131		1051.271	.066	1996	GPS - STATIC	2014	HOLMS
1149.542			1051.064	.018	2011	GPS - STATIC	2014	HOLMS
1149.371	.262		1050.995	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.491 09 = -98.379 03 = -98.258

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 10 21.53273	92 29 28.52445	611624.298	223786.026	.023		ADJUSTMENT	2014	GPS3018
44 10 21.53273	92 29 28.52445	611624.298	223786.026	.023	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 10 21.53252	92 29 28.52344	611624.372	223786.005	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 10 21.53260	92 29 28.52465	611624.284	223786.013	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3020482.192	759211.232	1773846.808	16047128.604	.023		ADJUSTMENT	2014	GPS3018
3020482.192	759211.232	1773846.808	16047128.604	.023	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3020482.265	759211.213	1773846.882	16047128.583	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3020482.177	759211.219	1773846.794	16047128.590	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_10-DP2854-3W-30NOV2010.jpg	W	Nov 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_10-DP2854-2-30NOV2010.jpg		Nov 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_10-DP2854-1-30NOV2010.jpg		Nov 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ORONOCO 27

NGS Name: ORONOCO 27

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2855](#)
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	27	108 N	14 W	440747.40	922905.12		C	2010	2023	DISTURBED	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: ORONOCO 27 2010

3.5 MILES SOUTHEAST OF ORONOCO, 2.0 MILES EAST ALONG COUNTY ROAD 112 FROM THE JUNCTION OF COUNTY ROAD 112 AND TRUNK HIGHWAY 52 AT THE SOUTH EDGE OF ORONOCO, THEN 1.0 MILE SOUTH ON COUNTY ROAD 112, THEN 0.2 MILE EAST ALONG COUNTY ROAD 121, 30.0 FEET NORTH OF COUNTY ROAD 121, 25.0 FEET WEST OF MILLER PLACE NORTHWEST EXTENDED, 31.0 FEET WEST OF A FIELD ENTRANCE NORTH, 64.0 FEET NORTH OF A POWER POLE, 2.0 FEET SOUTH OF A WITNESS POST.

Station Notes

DISTURBED BY CONSTRUCTION DURING OLMSTED COUNTY ROAD 121.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1090.641			992.147	.012	2011	HORIZONTAL ADJUSTMENT		2014	GPS3018
1090.647	.131		992.400	.066	1996	GPS - STATIC		2014	HOLMS
1090.641			992.147	.012	2011	GPS - STATIC		2014	HOLMS
1090.490	.262		992.091	.197	2007	GPS - RTRN		2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.510 12B = -98.510 09 = -98.399 03 = -98.281

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 07 47.40274	92 29 05.12171	613411.780	208186.431	.020		ADJUSTMENT	2014	GPS3018
44 07 47.40274	92 29 05.12171	613411.780	208186.431	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 07 47.40249	92 29 05.12317	613411.674	208186.405	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 07 47.40250	92 29 05.12189	613411.767	208186.406	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3022476.742	743638.565	1775649.520	16031537.623	.020		ADJUSTMENT	2014	GPS3018
3022476.742	743638.565	1775649.520	16031537.623	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3022476.635	743638.538	1775649.414	16031537.597	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3022476.729	743638.541	1775649.507	16031537.599	.033	C	GPS - STATIC	2014	HOLMS



<u>Station Photos</u>		<u>Dir</u>	<u>Date</u>
<u>Type</u>	<u>File Name</u>	W	
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_27-DP2855-3W-18OCT2023.jpg		Oct 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_27-DP2855-2-18OCT2023.jpg		Oct 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ORONOCO_27-DP2855-1-30NOV2010.jpg		Nov 30, 2010
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **			



Mn/DOT Name: OUTLET

NGS Name: OUTLET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DN1778](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	26	107 N	14 W	440248.66	922726.05	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2010)

Stamping: OUTLET 2010

IN ROCHESTER, 0.1 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND NORTHERN HEIGHTS DRIVE IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 42.4, 72.2 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, 108.0 FEET SOUTH OF RIVERVIEW HEIGHTS DRIVE, 44.7 FEET WEST-SOUTHWEST OF A LIGHT POLE, 35.6 FEET SOUTH OF A POWER POLE, 1.1 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1045.428	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1045.428	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1045.428	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1045.398	.262		946.908	.197	2011	GPS - OPUS	2021	GPSBM
1045.569	.262		947.081	.197	2011	GPS - RTRN	2021	RTRN2021
			946.950	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1045.438	.131		947.036	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1045.438	.131		947.036	.066	2007	GPS - STATIC	2011	HFRON
1045.438	.131		947.196	.066	1996	GPS - STATIC	2010	HFRON

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.491 09 = -98.402 03 = -98.258

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 48.66454	92 27 26.05309	620806.243	177973.263	.131	3	GPS - OPUS	2021	GPSBM
44 02 48.66488	92 27 26.05319	620806.236	177973.298	.131	3	GPS - RTRN	2021	RTRN2021
44 02 48.66473	92 27 26.05342	620806.219	177973.282	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 48.66484	92 27 26.05425	620806.158	177973.293	.033	C	ADJUSTMENT	2011	GPS2814
44 02 48.66484	92 27 26.05425	620806.158	177973.293	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 02 48.66450	92 27 26.05360	620806.206	177973.259	.033	C	GPS - STATIC	2010	HFRON

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030271.585	713529.573	1783071.594	16001345.019	.131	3	GPS - OPUS	2021	GPSBM
3030271.577	713529.607	1783071.586	16001345.053	.131	3	GPS - RTRN	2021	RTRN2021
3030271.561	713529.592	1783071.569	16001345.038	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030271.500	713529.602	1783071.509	16001345.048	.033	C	ADJUSTMENT	2011	GPS2814
3030271.500	713529.602	1783071.509	16001345.048	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3030271.548	713529.568	1783071.556	16001345.014	.033	C	GPS - STATIC	2010	HFRON

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OUTLET-DN1778-3W-20MAY2010.jpg	W	May 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OUTLET-DN1778-2-20MAY2010.jpg		May 20, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/OUTLET-DN1778-1-20MAY2010.jpg		May 20, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P

NGS Name: P

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0354](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	34	105 N	14 W	435109.00	922918.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	YES			NO MAG MATERIAL

Monument Type

CONCRETE FOOTING - SMALL

Disk Type

SEE DESCRIPTION

Mon. Agency

MNDT

Description: (1970)

Stamping:

IN STEWARTVILLE, IN THE SOUTHWEST QUADRANT OF THE JUNCTION OF MAIN STREET SOUTH AND 4TH STREET, IN THE WEST BOLT OF THE TOP CONNECTING RING OF A FIRE HYDRANT 2.5 FEET ABOVE GROUND.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1230.821	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025	

Geoid Separations(ft): GEOID18 = -98.087 12B = -98.110 09 = -98.044 03 = -97.857

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P-OO0354-2-26MAY2010.jpg		May 26, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 132

NGS Name: P 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0122](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	31	107 N	13 W	440143.40	922544.10	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	2014	DESTROYED	Horz=NO Vert=NO	YES	NONE	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
UNKNOWN	BENCH MARK DISK	NGS

Description: (2010)

Stamping: P 132 1934

IN ROCHESTER, 1.5 MILES NORTH ALONG COUNTY ROAD 22 FROM THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 0.3 MILE WEST-SOUTHWEST ON SILVER CREEK ROAD NORTHEAST, THEN 250.0 FEET SOUTH ON A BIKE PATH TO A BRIDGE, IN THE SOUTHEAST WING WALL OF A BRIDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1017.419	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32	
1017.419	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK	
1017.419	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025	

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference	
1017.334	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN	

Geoid Separations(ft): GEOID18 = -98.415 12B = -98.422 09 = -98.327 03 = -98.182

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132-PP0122-3N-21JUN2010.jpg	N	Jun 21, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132-PP0122-2-21JUN2010.jpg		Jun 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132-PP0122-1-21JUN2010.jpg		Jun 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 132 A

NGS Name: P 132 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6792](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	30	107 N	13 W	440250.60	922543.40	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	SURVEY DISK	MNDT

Description: (2010)

Stamping: P 132 A 2006

0.15 MILE NORTHEAST OF THE NORTHEAST PART OF ROCHESTER, AT THE JUNCTION OF COUNTY ROAD 2 AND COUNTY ROAD 22 IN THE NORTHEAST OF ROCHESTER, 65.2 FEET EAST OF NORTHBOUND COUNTY ROAD 22, 57.4 FEET SOUTH OF EASTBOUND COUNTY ROAD 2, 43.0 FEET SOUTHEAST OF A STOPLIGHT BASE, 1.0 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1223.820	.016	2/1				VERTICAL ADJUSTMENT	2008 00000425-32
1223.830	.016	2/1				VERTICAL CONTROL SURVEY	2007 VYANK

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1223.692	.262		1125.303	.197	2011	GPS - OPUS	2021 GPSBM
1223.705	.262		1125.316	.197	2011	GPS - OPUS	2021 GPSBM
1223.882	.262		1125.493	.197	2011	GPS - RTRN	2021 RTRN2021

Geoid Separations(ft): GEOID18 = -98.389 12B = -98.395 09 = -98.297 03 = -98.169

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year Reference	
44 02 50.67078	92 25 43.12200	628323.165	178219.613	.131	3	GPS - OPUS	2021 GPSBM	
44 02 50.67092	92 25 43.12142	628323.207	178219.628	.131	3	GPS - OPUS	2021 GPSBM	
44 02 50.67060	92 25 43.12197	628323.167	178219.595	.131	3	GPS - RTRN	2021 RTRN2021	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year Reference	
3037783.823	713875.869	1790585.049	16001598.892	.131	3	GPS - OPUS	2021 GPSBM	
3037783.865	713875.884	1790585.091	16001598.907	.131	3	GPS - OPUS	2021 GPSBM	
3037783.826	713875.851	1790585.051	16001598.874	.131	3	GPS - RTRN	2021 RTRN2021	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_A-DK6792-3E-23JAN2006.jpg	E	Jan 23, 2006
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_A-DK6792-2-21JUN2010.jpg		Jun 21, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_A-DK6792-1-21JUN2010.jpg		Jun 21, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 132 B

NGS Name: P 132 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6793](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	21	107 N	13 W	440325.80	922255.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	SURVEY DISK	MNDT

Description: (2010)

Stamping: P 132 B 2006

2.75 MILES NORTHEAST OF ROCHESTER, 2.6 MILES NORTHEAST ALONG COUNTY ROAD 2 FROM THE JUNCTION OF COUNTY ROAD 2 AND COUNTY ROAD 22 NORTHEAST OF ROCHESTER, 43.0 FEET SOUTH OF COUNTY ROAD 2, 32.0 FEET WEST OF DRIVEWAY NUMBER 4828, 17.0 FEET SOUTHEAST OF CABLE PEDESTAL NUMBER 4815, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1252.350	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1252.366	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.258 09 = -98.130 03 = -98.028

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_B-DK6793-3SE-17JUN2010.jpg	SE	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_B-DK6793-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_B-DK6793-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 132 C

NGS Name: P 132 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6794](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	16	107 N	13 W	440416.80	922311.80	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2006	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2006)

Stamping: P 132 C 2006

3.5 MILES NORTHEAST OF ROCHESTER, 0.95 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER TO TRUNK HIGHWAY 63 MILEPOINT 44.2, THEN 1.0 MILE EAST ON COUNTY ROAD 124 (48TH STREET NORTHEAST), THEN 2.1 MILES EAST ON 48TH STREET NORTHEAST, 56.0 FEET EAST OF CABLE PEDESTAL NUMBER AD 13, 45.1 FEET SOUTH-SOUTHWEST OF 48TH STREET NORTHEAST, 15.8 FEET WEST OF AN ENTRANCE, 2.0 FEET NORTH OF A FENCE LINE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1139.233	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1139.243	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.274 09 = -98.153 03 = -98.048

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_C-DK6794-3S-17JUN2010.jpg	S	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_C-DK6794-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_C-DK6794-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 132 D

NGS Name: P 132 D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DK6795](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	18	107 N	13 W	440418.40	922508.90	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2006	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	SURVEY DISK	MNDT

Description: (2010)

Stamping: P 132 D 2006

3.5 MILES NORTHEAST OF ROCHESTER, 0.95 MILE NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 IN ROCHESTER, TO TRUNK HIGHWAY 63 MILEPOINT 44.20, THEN 1.0 MILE EAST ON COUNTY ROAD 124 (48TH STREET NORTHEAST), THEN 0.5 MILE EAST ON 48TH STREET NORTHEAST, 39.0 FEET WEST OF A DRIVEWAY, 37.0 FEET SOUTH OF 48TH STREET NORTHEAST, 1.4 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1023.358	.016	2/1				VERTICAL ADJUSTMENT			2008	00000425-32		
1023.361	.016	2/1				VERTICAL CONTROL SURVEY			2007	VYANK		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1023.338	.262		924.969	.197	2011	GPS - OPUS			2021	GPSBM		
1023.285	.262		924.916	.197	2011	GPS - OPUS			2021	GPSBM		
1023.364	.262		924.995	.197	2011	GPS - RTRN			2021	RTRN2021		

Geoid Separations(ft): GEOID18 = -98.369 12B = -98.373 09 = -98.264 03 = -98.143

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Acc		Order		Determination Method		Project Info	
Latitude	Longitude	X	Y							Year	Reference		
44 04 18.35137	92 25 08.77019	630778.634	187113.652	.131	3	GPS - OPUS				2021	GPSBM		
44 04 18.35141	92 25 08.76958	630778.679	187113.657	.131	3	GPS - OPUS				2021	GPSBM		
44 04 18.35088	92 25 08.76992	630778.654	187113.602	.131	3	GPS - RTRN				2021	RTRN2021		

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Acc		Order		Determination Method		Project Info	
X	Y	X	Y							Year	Reference		
3040120.501	722800.896	1793030.430	16010491.635	.131	3	GPS - OPUS				2021	GPSBM		
3040120.545	722800.901	1793030.474	16010491.640	.131	3	GPS - OPUS				2021	GPSBM		
3040120.522	722800.846	1793030.450	16010491.586	.131	3	GPS - RTRN				2021	RTRN2021		

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_D-DK6795-3SE-17JUN2010.jpg	SE	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_D-DK6795-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_132_D-DK6795-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: P 24

NGS Name: P 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0027](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	34	105 N	14 W	435107.00	922909.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1974)

Stamping: P 24 1933 1240.142

IN STEWARTVILLE, 200.0 FEET SOUTH OF THE JUNCTION OF 2ND AVENUE SOUTHEAST AND 4TH STREET SOUTHEAST, 22.0 FEET EAST OF THE EAST RAIL, 7.8 FEET SOUTHEAST OF THE SOUTHWEST CORNER OF THE RAILROAD STATION, 4.0 FEET SOUTH OF THE SOUTH WALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1240.234	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1240.142	.007	1				VERTICAL CONTROL SURVEY	1971 L22211
1240.142	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1240.142	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.100 09 = -98.035 03 = -97.848

* No Horizontal Positions in the Database *



Mn/DOT Name: P 24 RESET

NGS Name: P 24 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0028](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SE	34	105 N	14 W	435107.00	922908.00	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1974	2013	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE/BITUMINOUS SLAB	VERTICAL CONTROL DISK	NGS

Description: (2010)

Stamping: P 24 RESET 1974

IN EAST STEWARTVILLE, 0.15 MILE EAST ALONG 4TH STREET SOUTHWEST FROM THE JUNCTION OF SOUTH MAIN STREET AND 4TH STREET SOUTHWEST IN STEWARTVILLE, AT TRUNK HIGHWAY 63 MILEPOINT 28.6, 136.0 FEET WEST OF 2ND AVENUE SOUTHEAST, 40.0 FEET SOUTH OF 4TH STREET SOUTHEAST, 30.5 FEET EAST OF THE EAST RAIL OF A RAILROAD, 3.5 FEET WEST OF A MANHOLE COVER, 2.3 FEET NORTH OF A GRAIN BIN, 1.5 FEET EAST OF THE WEST EDGE OF A CONCRETE SLAB FOR THE GRAIN BIN.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1241.992	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1241.996	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1241.914	.007	1				VERTICAL CONTROL SURVEY	1974	L100 MINN

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.100 09 = -98.031 03 = -97.848

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_24_RESET-OO0028-3S-01APR2013.jpg	S	Apr 1, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_24_RESET-OO0028-2-01APR2013.jpg		Apr 1, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/P_24_RESET-OO0028-1-01APR2013.jpg		Apr 1, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PATCH MNDT

NGS Name: PATCH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2282](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	31	108 N	13 W	440706.23	922536.00	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2021	GOOD	Horz=? Vert=YES	YES		PROJECTS 2 IN.	MARK IS STEEL PIPE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MNDT

Description: (2010) Stamping: PATCH 1977

5.0 MILES NORTHEAST OF ROCHESTER, 4.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION WITH 37TH STREET NORTHEAST IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 47.75, 97.0 FEET WEST OF TRUNK HIGHWAY 63, 2.6 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1129.407	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1129.407	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719	
1129.381	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1129.407	.262			1031.005	.197	2011	GPS - RTRN	2022	RTRN2022P	
1129.561	.262			1031.156	.197	2011	GPS - RTRN	2022	RTRN2022T	
1129.348	.262			1030.946	.197	2011	GPS - OPUS	2021	GPSBM	
1129.479	.262			1031.077	.197	2011	GPS - RTRN	2021	RTRN2021	
				1030.995	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1129.394	.131			1031.094	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814	
1129.394	.131			1031.094	.066	2007	GPS - STATIC	2011	HFRON	
1129.394	.131			1031.225	.066	1996	GPS - STATIC	2010	HFRON	
1129.263	.197			1031.199	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1129.591							RECIPROCAL VERTICAL ANGLE	1978	HORZ	

Geoid Separations(ft): GEOID18 = -98.402 12B = -98.399 09 = -98.294 03 = -98.179

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 06.22703	92 25 36.00277	628689.382	204101.940	.131	3	GPS - RTRN	2022	RTRN2022P
44 07 06.22677	92 25 36.00169	628689.461	204101.914	.131	3	GPS - RTRN	2022	RTRN2022T
44 07 06.22618	92 25 36.00282	628689.379	204101.853	.131	3	GPS - OPUS	2021	GPSBM
44 07 06.22681	92 25 36.00212	628689.430	204101.918	.131	3	GPS - RTRN	2021	RTRN2021
44 07 06.22649	92 25 36.00253	628689.400	204101.885	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 06.22657	92 25 36.00332	628689.342	204101.893	.033	C	ADJUSTMENT	2011	GPS2814
44 07 06.22657	92 25 36.00332	628689.342	204101.893	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 06.22627	92 25 36.00265	628689.391	204101.862	.033	C	GPS - STATIC	2010	HFRON
44 07 06.22734	92 25 36.00109	628689.504	204101.972	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 07 06.21714	92 25 36.00060	628689.546	204100.939	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 07 06.34096	92 25 35.35393			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037805.637	739758.087	1790924.722	16027470.535	.131	3	GPS - RTRN	2022	RTRN2022P
3037805.717	739758.062	1790924.801	16027470.509	.131	3	GPS - RTRN	2022	RTRN2022T
3037805.635	739758.001	1790924.719	16027470.449	.131	3	GPS - OPUS	2021	GPSBM
3037805.685	739758.066	1790924.770	16027470.513	.131	3	GPS - RTRN	2021	RTRN2021
3037805.656	739758.033	1790924.740	16027470.480	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037805.598	739758.040	1790924.683	16027470.488	.033	C	ADJUSTMENT	2011	GPS2814
3037805.598	739758.040	1790924.683	16027470.488	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037805.647	739758.011	1790924.731	16027470.458	.033	C	GPS - STATIC	2010	HFRON
3037805.759	739758.121	1790924.845	16027470.567	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037805.815	739757.089	1790924.888	16027469.535	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2413198.030	411682.889			.100	2	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PATCH-PP2282-3W-29MAR2010.jpg	W	Mar 29, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PATCH-PP2282-2-29MAR2010.jpg		Mar 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PATCH-PP2282-1-29MAR2010.jpg		Mar 29, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PBM 87 A

NGS Name: 87 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0168](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	107 N	14 W	440141.64	922820.79	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	GOOD	Horz=NO Vert=YES	YES	55503	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	MNDT

Description: (2010)

Stamping: PBM 87 A 1970

IN ROCHESTER, 300.0 FEET WEST OF 6TH AVENUE NORTHWEST, 250.0 FEET SOUTH OF A RAILROAD BRIDGE, IN THE NORTHEAST CORNER OF WESTBOUND CIVIC CENTER DRIVE BRIDGE OVER CASCADE CREEK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
993.105	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
993.105	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
993.105	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
993.105	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
993.105	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS
993.105	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
993.026	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
993.026	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
993.026	.016	2				VERTICAL CONTROL SURVEY	1971	L22214

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.553 09 = -98.474 03 = -98.304

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/87_A-PP0168-3W-08APR2010.jpg	W	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/87_A-PP0168-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/87_A-PP0168-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PBM D

NGS Name: D

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0353](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	34	105 N	14 W	435136.00	922918.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	3026		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	SEE DESCRIPTION	MNDT

Description: (2010)

Stamping:

IN THE NORTH PART OF STEWARTVILLE, IN THE EAST WALKWAY AT THE SOUTH END OF TRUNK HIGHWAY 63 BRIDGE
NUMBER 3026 OVER THE ROOT RIVER.

Station Notes

BRIDGE 3026 WAS REPLACED BY BRIDGE 55029 IN 1980.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1196.251	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1196.169	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1196.169	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.113 12B = -98.136 09 = -98.067 03 = -97.880

* No Horizontal Positions in the Database *



Mn/DOT Name: PBM M 1

NGS Name: M 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0155](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	6	107 N	13 W	440554.00	922613.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	BURIED	Horz=? Vert=YES	NO	4238		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - MEDIUM	SEE DESCRIPTION	MNDT

Description: (2010)

Stamping: M-1

4.4 MILES NORTH OF ROCHESTER, 0.6 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 14 IN ROCHESTER, 50.0 FEET EAST OF TRUNK HIGHWAY 63, STATION PBM M 1 IS A BRASS PLUG IN THE SOUTH END OF THE EAST HEADWALL OF TRUNK HIGHWAY 63 BOX CULVERT 4238 AT A STREAM.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
983.538	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
983.472	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
983.472	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN

Geoid Separations(ft): GEOID18 = -98.432 12B = -98.428 09 = -98.317 03 = -98.199

* No Horizontal Positions in the Database *



Mn/DOT Name: PCSM

NGS Name: PCSM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO8789](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	5	106 N	13 W	440045.04	922357.80	2	C	2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 20 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012) Stamping: PCSM 2012

3.0 MILES EAST OF ROCHESTER, 3.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63 IN ROCHESTER, AT TRUNK HIGHWAY 14 MILEPOINT 216.90, 79.4 FEET NORTH OF WESTBOUND TRUNK HIGHWAY 14, 70.4 FEET WEST OF THE EXTENDED CENTERLINE OF 40TH AVENUE SOUTHEAST, 1.5 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1102.531	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1102.531	.016	2/1				VERTICAL ADJUSTMENT	2014 00000825
1102.537	.016	2/1				VERTICAL CONTROL SURVEY	2013 VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1102.537			1004.243	.014	2011	HORIZONTAL ADJUSTMENT	2013 GPS2950
1102.537	.131		1004.450	.066	1996	GPS - STATIC	2013 HCHES
1102.537			1004.243	.014	2011	GPS - STATIC	2013 HCHES
1102.458	.262		1004.237	.197	2007	GPS - RTRN	2012 RTRN2012

Geoid Separations(ft): GEOID18 = -98.323 12B = -98.330 09 = -98.222 03 = -98.090

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 00 45.04267	92 23 57.79530	636095.974	165544.761	.016		ADJUSTMENT
44 00 45.04267	92 23 57.79530	636095.974	165544.761	.016	C	GPS - STATIC

<u>NAD83(2007)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 00 45.04165	92 23 57.79610	636095.916	165544.657	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>Olmsted County</u>		<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
44 00 45.04252	92 23 57.79533	636095.972	165544.746	.033	C	GPS - STATIC

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3045723.842	701306.776	1798367.393	15988937.301	.016		ADJUSTMENT
3045723.842	701306.776	1798367.393	15988937.301	.016	C	GPS - STATIC

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3045723.786	701306.671	1798367.336	15988937.198	.131	3	GPS - RTRN

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>		
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>
3045723.840	701306.760	1798367.391	15988937.286	.033	C	GPS - STATIC



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PCSM-DO8789-3N-15NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PCSM-DO8789-2-15NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PCSM-DO8789-1-15NOV2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	Nov 15, 2012
	Nov 15, 2012
	Nov 15, 2012



Mn/DOT Name: PLEASANT GROVE 17

NGS Name: PLEASANT GROVE 17

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2856](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	17	105 N	13 W	435355.39	922433.33		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2016)

Stamping: PLEASANT GROVE 17 2010

1.75 MILES SOUTH OF SIMPSON, 1.75 MILES SOUTH ALONG COUNTY ROAD 1 FROM THE NORTH JUNCTION OF COUNTY ROAD 1 AND COUNTY ROAD 16 IN SIMPSON, 48.0 FEET EAST-SOUTHEAST OF COUNTY ROAD 1, 33.0 FEET NORTH-NORTHEAST OF THE FUGLES MILL ENTRANCE, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj			Year	Reference
1286.402	.262		1188.383	.197	2011	GPS - RTRN		2016	RTRN2016
1286.428			1188.390	.020	2011	HORIZONTAL ADJUSTMENT		2014	GPS3018
1286.441	.131		1188.630	.066	1996	GPS - STATIC		2014	HOLMS
1286.428			1188.390	.020	2011	GPS - STATIC		2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.008 12B = -98.018 09 = -97.943 03 = -97.795

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.38828	92 24 33.32868	633754.353	124045.426	.131	3	GPS - RTRN	2016	RTRN2016
43 53 55.38866	92 24 33.33016	633754.245	124045.464	.023		ADJUSTMENT	2014	GPS3018
43 53 55.38866	92 24 33.33016	633754.245	124045.464	.023	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 53 55.38842	92 24 33.33012	633754.248	124045.440	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3043934.841	659783.481	1796068.404	15947453.238	.131	3	GPS - RTRN	2016	RTRN2016
3043934.731	659783.517	1796068.296	15947453.276	.023		ADJUSTMENT	2014	GPS3018
3043934.731	659783.517	1796068.296	15947453.276	.023	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3043934.735	659783.493	1796068.299	15947453.251	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PLEASANT_GROVE_17-DP2856-3E-08AUG2016.jpg	E	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PLEASANT_GROVE_17-DP2856-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PLEASANT_GROVE_17-DP2856-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: POOR FARM WATER TANK

NGS Name: POOR FARM WATER TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	16	106 N	14 W	435845.00	923010.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1974	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1974)

Stamping:

IN THE SOUTHWEST PART OF ROCHESTER, NEAR THE SOUTH END OF INSTITUTE ROAD SOUTHWEST, 0.25 MILE WEST AND 511.0 FEET SOUTH OF THE SOUTH END OF INSTITUTE ROAD SOUTHWEST.

Station Notes

7-14-2010 NO TANK IN THIS AREA.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.596 09 = -98.530 03 = -98.320



Mn/DOT Name: POWERADE

NGS Name: POWERADE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9063](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	3	108 N	15 W	441136.46	923556.89	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2012	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 66 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: POWERADE 2012

3.0 MILES NORTHWEST OF ORONOCO, 3.15 MILES NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 (5TH STREET NORTHWEST) IN ORONOCO, AT TRUNK HIGHWAY 52 MILEPOINT 69.3, 66.2 FEET SOUTHWEST OF SOUTHBOUND TRUNK HIGHWAY 52, 67.7 FEET NORTHEAST OF THE WEST FRONTAGE ROAD, 0.1 FOOT SOUTHEAST OF THE COUNTY LINE, 1.5 NORTH WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
989.827	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
989.827	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
989.827	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
989.798	.262		891.448	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.438 09 = -98.350 03 = -98.185

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 11 36.46103	92 35 56.89279	583288.334	231246.473	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2992052.942	766293.522	1745515.659	16054556.651	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/POWERADE-DO9063-3SW-10NOV2012.jpg	SW	Nov 10, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/POWERADE-DO9063-2-10NOV2012.jpg		Nov 10, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/POWERADE-DO9063-1-10NOV2012.jpg		Nov 10, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PRED

NGS Name: PRED

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO5545](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	5	105 N	12 W	435539.10	921717.42	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2011	2012	GOOD	Horz=YES Vert=YES	YES		RECESSED 1 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 13 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2011)

Stamping: PRED 2011

3.2 MILES SOUTHEAST OF MARION, 4.25 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 52 MILEPOINT 42.25, 59.2 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 70.2 FEET SOUTHEAST OF A DRIVEWAY, 1.5 FEET NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.576	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1277.576	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1277.579	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
			1179.551	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1277.579			1179.551	.009	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1277.589			1179.551	.009	2011	GPS - STATIC	2013	HPRED
1277.589	.131		1179.798	.066	1996	GPS - STATIC	2013	HPRED

Geoid Separations(ft): GEOID18 = -98.015 12B = -98.018 09 = -97.903 03 = -97.795

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 39.10026	92 17 17.41623	665592.573	134767.352	.016		ADJUSTMENT	2014	GPS2902-B
43 55 39.10024	92 17 17.41617	665592.577	134767.350	.010		ADJUSTMENT	2013	GPS2902
43 55 39.10024	92 17 17.41617	665592.577	134767.350	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 55 39.10014	92 17 17.41638	665592.562	134767.340	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3075624.999	670927.464	1827882.573	15958202.397	.016		ADJUSTMENT	2014	GPS2902-B
3075625.004	670927.462	1827882.577	15958202.395	.010		ADJUSTMENT	2013	GPS2902
3075625.004	670927.462	1827882.577	15958202.395	.010	C	GPS - STATIC	2013	HPRED

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3075624.989	670927.451	1827882.562	15958202.385	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PRED-DO5545-3S-09APR2012.jpg	S	Apr 9, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PRED-DO5545-2-09APR2012.jpg		Apr 9, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PRED-DO5545-1-09APR2012.jpg		Apr 9, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: PRESTON CABLE TV MAST

NGS Name: PRESTON CABLE TV MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0804](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	32	105 N	11 W	435112.64	921005.60		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1980	2024	GOOD	Horz=NO Vert=NO	YES			NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	RADIO/TV TOWER	MNDT

Description: (2010)

Stamping:

1.1 MILES NORTHEAST OF CHATFIELD, 1.35 MILES NORTHEAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 0.2 MILE NORTH AND WEST ON OLD TERRITORIAL ROAD, THEN 0.2 MILE NORTH ON 155TH AVENUE SOUTHEAST, THE MAST IS STEEL, 200.0 FEET HIGH, SUPPORTED BY GUYWIRES AND PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.297 12B = -98.304 09 = -98.215 03 = -98.087

Lat/Lon and County Coordinates (Feet)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 12.63976	92 10 05.60308	697439.930	108049.223	.328	4	ADJUSTMENT	1999	17648

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 12.62859	92 10 05.60380	697439.888	108048.091	.328	4	ADJUSTMENT	1986	17289

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 51 12.76190	92 10 05.02201			.100	4	CLASSICAL SURVEY	1981	16468

State Plane and UTM Coordinates (Feet)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107823.169	644638.103	1859743.429	15931526.677	.328	4	ADJUSTMENT	1999	17648

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107823.141	644636.971	1859743.388	15931525.546	.328	4	ADJUSTMENT	1986	17289

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2483212.691	316564.780			.100	4	CLASSICAL SURVEY	1981	16468

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/PRESTON_CABLE_TV_MAST-OO0804-3N-12MAY2010.jpg	N	May 12, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: Q 132

NGS Name: Q 132

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	106 N	13 W	440116.00	922331.00	2	

NGS ACRN: [PP0123](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

WALL

Disk Type

BENCH MARK DISK

Mon. Agency

NGS

Description: (1934)

Stamping: Q 132 1934

3.9 MILES EAST OF ROCHESTER, 4.2 MILES EAST ON THE RAILROAD FROM THE ROCHESTER RAILROAD EXPRESS STATION, 198.0 FEET NORTHWEST OF RAILROAD MILEPOST 45, 78.0 FEET SOUTHEAST OF A CROSSROAD, IN THE HEADWALL OF A RAILROAD STONE BOX CULVERT, 15.0 FEET SOUTHWEST OF THE RAILROAD.

Station Notes

6-17-2010 FOUND A TIMBER BRIDGE HAS REPLACED THE CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.783	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1057.701	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.297 12B = -98.307 09 = -98.189 03 = -98.064

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/Q_132-PP0123-3E-17JUN2010.jpg	E	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: QUINCY 20

NGS Name: QUINCY 20

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2857](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	20	107 N	11 W	440323.92	921044.86		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 5 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
METAL ROD DRIVEN IN GROUND (<10 FT) (DEPTH 9 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: QUINCY 20 2010

5.0 MILES NORTHEAST OF EYOTA, 2.1 MILES NORTH ON COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND TRUNK HIGHWAY 14 IN EYOTA, THEN 2.0 MILES EAST ON COUNTY ROAD 7/COUNTY ROAD 9, THEN 2.5 MILES NORTH ON COUNTY ROAD 7, THEN 0.5 MILE EAST ON COUNTY ROAD 107, 43.0 FEET SOUTH OF COUNTY ROAD 107, 15.0 FEET EAST OF 152ND AVENUE NORTHEAST EXTENDED, 18.5 FEET SOUTHEAST OF A CABLE BOX, 15.0 FEET EAST OF A FENCE LINE SOUTH AND A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1245.106				1146.937	.014	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1245.122	.131			1147.163	.066	1996	GPS - STATIC	2014	HOLMS
1245.106				1146.937	.014	2011	GPS - STATIC	2014	HOLMS
1245.385	.262			1147.347	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.166 12B = -98.169 09 = -98.041 03 = -97.936

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 23.91719	92 10 44.86446	693900.739	182073.767	.016		ADJUSTMENT	2014	GPS3018
44 03 23.91719	92 10 44.86446	693900.739	182073.767	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 23.91695	92 10 44.86445	693900.740	182073.743	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 23.91699	92 10 44.86468	693900.723	182073.747	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3103297.744	718602.606	1856131.570	16005518.144	.016		ADJUSTMENT	2014	GPS3018
3103297.744	718602.606	1856131.570	16005518.144	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3103297.745	718602.582	1856131.571	16005518.120	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3103297.728	718602.585	1856131.554	16005518.124	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_20-DP2857-3S-19FEB2014.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_20-DP2857-2-19FEB2014.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_20-DP2857-1-19FEB2014.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Feb 19, 2014
	Feb 19, 2014
	Feb 19, 2014



Mn/DOT Name: QUINCY 23

NGS Name: QUINCY 23

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: DP2858	Get Map
NW	23	107 N	11 W	440349.23	920650.78		C	NGS Quad / Sta Num : 44092222/ USGS Quad: ELBA	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 19 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: QUINCY 23 2010

6.0 MILES NORTHEAST OF DOVER, 5.85 MILES NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 14 IN DOVER, THEN 1.25 MILES EAST ALONG 41ST STREET NORTHEAST, 46.0 FEET SOUTHEAST OF 41ST STREET ALONG A CURVE, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1107.163			1008.823	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1107.160	.131		1009.037	.066	1996	GPS - STATIC	2014	HOLMS
1107.163			1008.823	.010	2011	GPS - STATIC	2014	HOLMS
1107.153	.262		1008.945	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.333 12B = -98.346 09 = -98.208 03 = -98.090

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 49.23136	92 06 50.78012	710970.117	184796.776	.016		ADJUSTMENT	2014	GPS3018
44 03 49.23136	92 06 50.78012	710970.117	184796.776	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 49.23177	92 06 50.78051	710970.089	184796.818	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 49.23106	92 06 50.78040	710970.097	184796.746	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3120327.580	721552.704	1873191.427	16008257.491	.016		ADJUSTMENT	2014	GPS3018
3120327.580	721552.704	1873191.427	16008257.491	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3120327.551	721552.744	1873191.398	16008257.532	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3120327.561	721552.673	1873191.407	16008257.460	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_23-DP2858-3W-16NOV2010.jpg	W	Nov 16, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_23-DP2858-2-17NOV2010.jpg		Nov 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_23-DP2858-1-16NOV2010.jpg		Nov 16, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: QUINCY 4

NGS Name: QUINCY 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2859](#)
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	4	107 N	11 W	440612.89	920828.82		C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: QUINCY 4 2010

9.0 MILES NORTH OF DOVER, 10.0 MILES NORTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 14 IN DOVER, THEN 1.3 MILES EAST ALONG 72ND STREET NORTHEAST, THEN CONTINUE 0.1 MILE EAST ON A MINIMUM MAINTENANCE ROAD, 16.0 FEET NORTH OF THE MINIMUM MAINTENANCE ROAD, 77.0 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF AN OLD SCHOOLHOUSE, 47.0 FEET EAST OF A FIELD ENTRANCE SOUTH EXTENDED, 2.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1128.899			1030.556	.011	2011	HORIZONTAL ADJUSTMENT		2014	GPS3018
1128.899	.131		1030.749	.066	1996	GPS - STATIC		2014	HOLMS
1128.899			1030.556	.011	2011	GPS - STATIC		2014	HOLMS
1128.715	.262		1030.539	.197	2007	GPS - RTRN		2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.323 12B = -98.343 09 = -98.176 03 = -98.077

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 12.89237	92 08 28.81770	703674.878	199275.930	.016		ADJUSTMENT	2014	GPS3018
44 06 12.89237	92 08 28.81770	703674.878	199275.930	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 12.89182	92 08 28.81881	703674.797	199275.873	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 06 12.89212	92 08 28.81780	703674.871	199275.904	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3112840.654	735931.774	1865884.215	16022723.477	.016		ADJUSTMENT	2014	GPS3018
3112840.654	735931.774	1865884.215	16022723.477	.016	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3112840.574	735931.716	1865884.135	16022723.420	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3112840.647	735931.748	1865884.208	16022723.452	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_4-DP2859-3W-16NOV2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_4-DP2859-2-16NOV2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/QUINCY_4-DP2859-1-16NOV2010.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
W	Nov 16, 2010
	Nov 16, 2010
	Nov 16, 2010



Mn/DOT Name: R 132

NGS Name: R 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0125](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	3	106 N	13 W	440028.88	922156.17	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	2012	GOOD	Horz=NO Vert=YES	YES	RR M-110	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (2010)

Stamping: R 132 1934

5.3 MILES EAST OF ROCHESTER, 1.0 MILE WEST OF CHESTER, 0.7 MILE EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND 50TH AVENUE SOUTHEAST, AT TRUNK HIGHWAY 14 MILEPOINT 218.6, 200.0 FEET NORTH OF TRUNK HIGHWAY 14, 13.0 FEET SOUTH OF A RAILROAD, IN THE EAST END OF THE SOUTH HEADWALL OF A RAILROAD CULVERT, 2.0 FEET WEST AND 1.7 FEET NORTH OF THE HEADWALL EDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1095.250	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1095.250	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1095.254	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1095.211	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1095.122	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1095.122	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1095.191	.262		997.094	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.225 09 = -98.097 03 = -97.982

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 00 28.88402	92 21 56.16871	644995.647	163966.040	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3054642.909	699846.785	1807264.906	15987368.239	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/R_132-PP0125-3N-17JUN2010.jpg	N	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/R_132-PP0125-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/R_132-PP0125-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RDO MNDT

NGS Name: RDO

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DE9075](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	36	107 N	15 W	440206.21	923330.48	2	C	2000	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 35 FT)	SURVEY DISK	MNDT

Description: (2001) Stamping: RDO 2000

3.75 MILES WEST OF ROCHESTER, 3.75 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER TO TRUNK HIGHWAY 14 MILEPOINT 207.30, THEN 0.15 MILE NORTH ON COUNTY ROAD 104, 115.0 FEET NORTHWEST OF A POWER POLE, 52.0 FEET WEST OF COUNTY ROAD 104, 15.5 FEET SOUTH OF AN ENTRANCE, 4.0 FEET NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1072.508	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1072.508	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1072.504	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>		
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1072.478	.262		973.837	.197	2011	GPS - OPUS	2021	GPSBM
1072.577	.262		973.932	.197	2011	GPS - RTRN	2021	RTRN2021
			973.876	.009	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			973.951	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1072.504	.131		974.142	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1072.504	.131		974.142	.066	1996	GPS - STATIC	2001	HKASS

Geoid Separations(ft): GEOID18 = -98.642 12B = -98.642 09 = -98.573 03 = -98.389

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>			<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>				<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
44 02 06.20542	92 33 30.47540		594207.273	173541.632	.131 3 GPS - OPUS	2021	GPSBM	
44 02 06.20568	92 33 30.47467		594207.326	173541.658	.131 3 GPS - RTRN	2021	RTRN2021	
44 02 06.20602	92 33 30.47471		594207.323	173541.693	.016 ADJUSTMENT	2012	GPS2800	
<u>NAD83(2007)</u>			<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>				<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
44 02 06.20613	92 33 30.47561		594207.257	173541.704	.020 ADJUSTMENT	2007	GPS2300	
<u>NAD83(1996)</u>			<u>Olmsted County</u>			<u>Project Info</u>		
<u>Geodetic Position</u>			<u>X</u>	<u>Y</u>		<u>Year</u>	<u>Reference</u>	
<u>Latitude</u>	<u>Longitude</u>				<u>Acc</u> <u>Order</u> <u>Determination Method</u>			
44 02 06.20577	92 33 30.47501		594207.301	173541.667	.033 C ADJUSTMENT	2002	GPS1779	
44 02 06.20577	92 33 30.47501		594207.302	173541.667	.033 C GPS - STATIC	2001	HKASS	



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3003736.482	708745.126	1756488.635	15996888.344	.131	3	GPS - OPUS	2021	GPSBM
3003736.535	708745.154	1756488.688	15996888.371	.131	3	GPS - RTRN	2021	RTRN2021
3003736.532	708745.188	1756488.685	15996888.405	.016		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3003736.466	708745.198	1756488.619	15996888.416	.020		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3003736.510	708745.162	1756488.663	15996888.380	.033	C	ADJUSTMENT	2002	GPS1779
3003736.510	708745.162	1756488.663	15996888.380	.033	C	GPS - STATIC	2001	HKASS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RDO-DE9075-3W-04APR2023.jpg	W	Apr 4, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RDO-DE9075-2-04APR2023.jpg		Apr 4, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RDO-DE9075-1-04APR2023.jpg		Apr 4, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RLK 22155

NGS Name: RLK 22155

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DS1759](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	16	107 N	14 W	440420.72	923024.03	2	C	2022	2024	GOOD	Horz=YES Vert=YES	NO		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 25 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2022) Stamping: RLK 22155 2022

IN ROCHESTER, 0.15 MILE WEST ALONG COUNTY ROAD 22 FROM THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.6 MILE SOUTH ON THE WEST FRONTAGE ROAD NORTHWEST, THEN 0.1 MILE WEST ON 48TH STREET NORTHWEST, 37.0 FEET SOUTH OF 48TH STREET NORTHWEST, 57.5 FEET WEST NORTHWEST OF A LIGHT POLE, 43.2 FEET EAST-NORTHEAST OF A LIGHT POLE.

Station Notes

NO WITNESS POST. IN MOWED LAWN AREA.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1028.397	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1028.358			929.785	.021	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1028.364	.131		929.982	.066	1996	GPS - STATIC	2024	HTH63
1028.358			929.785	.021	2011	GPS - STATIC	2024	HTH63
1028.361	.262		929.788	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.569 03 = -98.330

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 20.71806	92 30 24.03253	607760.183	187226.666	.010		ADJUSTMENT	2024	GPS3721
44 04 20.71806	92 30 24.03253	607760.183	187226.666	.010	C	GPS - STATIC	2024	HTH63
44 04 20.71831	92 30 24.03185	607760.232	187226.691	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 04 20.71788	92 30 24.03274	607760.168	187226.648	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3017104.937	722607.742	1770021.760	16010581.176	.010		ADJUSTMENT	2024	GPS3721
3017104.937	722607.742	1770021.760	16010581.176	.010	C	GPS - STATIC	2024	HTH63
3017104.986	722607.768	1770021.809	16010581.202	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3017104.922	722607.723	1770021.745	16010581.158	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RLK_22155-DS1759-3S-19APR2023.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RLK_22155-DS1759-2-19APR2023.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RLK_22155-DS1759-1-19APR2023.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
S	Apr 19, 2023
	Apr 19, 2023
	Apr 19, 2023



Mn/DOT Name: ROCHESTER

NGS Name: ROCHESTER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP3134](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1009
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440002.28	922720.63		3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	1977	DESTROYED	Horz=NO Vert=NO	NO		RECESSED 12 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRIANGULATION STATION DISK	NGS

Description: (2010) Stamping: ROCHESTER 1935

IN ROCHESTER, AT THE AIRPORT, SOUTH OF A HANGAR, 0.5 MILE SOUTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 63, THEN 0.45 MILE EAST ON 16TH STREET SOUTHEAST, 258.5 FEET EAST OF THE EAST RAIL OF A RAILROAD, 235.0 FEET NORTH OF WESTBOUND 16TH STREET SOUTHEAST, 157.9 FEET EAST OF A FIRE HYDRANT, 42.3 FEET SOUTH-SOUTHEAST OF ROCHESTER RM 4, 45.7 FEET SOUTH-SOUTHEAST OF A WITNESS POST, 11.1 FEET EAST OF ROCHESTER RM 3.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.264	.262			908.138	.197	1996	HORIZONTAL ADJUSTMENT	1999 17648

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.199							RECIPROCAL VERTICAL ANGLE	1935 HORZ

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.428 03 = -98.251

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
44 00 02.28425	92 27 20.63027	621296.501	161126.908	.131	3	ADJUSTMENT	1999 17648	

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
44 00 02.27363	92 27 20.63124	621296.436	161125.832	.131	3	ADJUSTMENT	1986 17289	

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
44 00 02.40800	92 27 19.99200			.100	3	CLASSICAL SURVEY	1937 03491	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
3030985.823	696692.831	1783578.689	15984506.384	.131	3	ADJUSTMENT	1999 17648	

<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
3030985.772	696691.754	1783578.625	15984505.308	.131	3	ADJUSTMENT	1986 17289	

<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>	
2406377.292	368619.011			.100	3	CLASSICAL SURVEY	1937 03491	



Mn/DOT Name: ROCHESTER 2

NGS Name: ROCHESTER 2 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0891](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1080
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	12	106 N	14 W	435959.46	922722.63		2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (1977)

Stamping: ROCHESTER 2 1977

IN THE SOUTHEAST PART OF ROCHESTER, 0.45 MILE EAST ALONG 16TH STREET SOUTHEAST FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 16TH STREET SOUTHEAST IN ROCHESTER, 128.0 FEET EAST-NORTHEAST OF THE NORTHEAST CORNER OF A SCHOOL BUILDING, 129.75 FEET EAST OF ROCHESTER 2 RM 6, 98.98 FEET WEST OF ROCHESTER 2 RM 5, 56.0 FEET EAST OF THE EAST RAIL OF THE RAILROAD TRACKS, 5.5 FEET SOUTH OF A STREET CURB, 4.5 FEET SOUTHWEST OF A POWER POLE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1013.449	.197			915.323	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648	

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1012.990							RECIPROCAL VERTICAL ANGLE	1977	HORZ	

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.517 09 = -98.432 03 = -98.254

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
43 59 59.45976	92 27 22.63171	621151.797	160840.068	.066	2	ADJUSTMENT	1999	17648		

<u>NAD83(1986)</u>				<u>Olmsted County</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
43 59 59.44916	92 27 22.63268	621151.733	160838.995	.066	2	ADJUSTMENT	1986	17289		

<u>NAD27</u>							<u>Determination Method</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
43 59 59.58376	92 27 21.99314			.100	2	CLASSICAL SURVEY	1977	16059		

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
3030844.961	696404.118	1783434.338	15984219.522	.066	2	ADJUSTMENT	1999	17648		

<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
3030844.910	696403.044	1783434.274	15984218.448	.066	2	ADJUSTMENT	1986	17289		

<u>NAD27</u>							<u>Determination Method</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>		
2406236.448	368330.327			.100	2	CLASSICAL SURVEY	1977	16059		



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-OO0891-3S-11MAY2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-OO0891-2-11MAY2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-OO0891-1-11MAY2010.jpg

<u>Dir</u>	<u>Date</u>
S	May 11, 2010
	May 11, 2010
	May 11, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER 2 RESET

NGS Name: ROCHESTER 2 RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DM3719](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1080
USGS Quad: SIMPSON

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SW	12	106 N	14 W	
	435959.00	922721.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 8 IN.	MARK IS STEEL PIPE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	PIPE CAP	MN-109

Description: (1979) Stamping: ROCHESTER 2 1977 1979

IN SOUTHEAST ROCHESTER, 0.45 MILE EAST ALONG 16TH STREET SOUTHEAST FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 16TH STREET SOUTHEAST IN ROCHESTER, 128.0 FEET EAST-NORTHEAST OF THE NORTHEAST CORNER OF A SCHOOL BUILDING, 129.75 FEET EAST OF ROCHESTER 2 RM 6, 98.98 FEET WEST OF ROCHESTER 2 RM 5, 56.0 FEET EAST OF THE EAST RAIL OF A RAILROAD TRACKS, 5.5 FEET SOUTH OF A STREET CURB, 4.5 FEET SOUTHWEST OF A POWER POLE.

Station Notes

30.0 INCH DEEP SQUARE TUBING, PROBABLY NOT STABLE. SET BY THIS COUNTY IN 1979.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.517 09 = -98.432 03 = -98.254

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-DM3719-3S-24MAY2010.jpg	S	May 24, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-DM3719-2-24MAY2010.jpg		May 24, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RESET-DM3719-1-24MAY2010.jpg		May 24, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER 2 RM 5

NGS Name: ROCHESTER 2 RM 5

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI7060](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	12	106 N	14 W	435959.49	922721.28	2		1977	2010	GOOD	Horz=NO Vert=YES	YES		RECESSED 3 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (2010) Stamping: ROCHESTER 2 NO 5 1977

IN ROCHESTER, 0.07 MILE EAST ALONG 16TH STREET SOUTHEAST FROM THE JUNCTION OF 16TH STREET SOUTHEAST AND COUNTY ROAD 146 IN ROCHESTER, 155.0 FEET EAST OF THE EAST RAIL OF THE RAILROAD TRACKS, 87.0 FEET EAST-NORTHEAST OF A GAS PIPELINE LOOP, 33.0 FEET SOUTH OF THE CENTER OF 16TH STREET SOUTHEAST, 4.7 FEET WEST-NORTHWEST OF A POWER LINE POLE, 1.8 FEET SOUTH OF A CURB.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1021.150	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1021.150	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719	
1021.146	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON	

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.432 03 = -98.251

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_5-CI7060-3S-07APR2010.jpg	S	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_5-CI7060-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_5-CI7060-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER 2 RM 6

NGS Name: ROCHESTER 2 RM 6

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CI7061](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	12	106 N	14 W	435959.07	922724.32	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEP	REFERENCE MARK DISK	NGS

Description: (2010)

Stamping: ROCHESTER 2 NO 6 1977

IN ROCHESTER, 580.0 FEET EAST OF THE JUNCTION OF COUNTY ROAD 146 AND 16TH STREET SOUTHEAST, 75.0 FEET SOUTH OF THE CENTER OF 16TH STREET SOUTHEAST, 66.0 FEET SOUTHWEST OF A SOUTH RAILROAD SIGNAL, 8.5 FEET WEST OF THE NORTHEAST CORNER OF A BUILDING, 0.7 FOOT NORTH OF THE EDGE OF A BUILDING.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1026.451	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1026.451	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
1026.448	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Geoid Separations(ft): GEOID18 = -98.507 12B = -98.517 09 = -98.432 03 = -98.254

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_6-CI7061-3S-07APR2010.jpg	S	Apr 7, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_6-CI7061-2-07APR2010.jpg		Apr 7, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_2_RM_6-CI7061-1-07APR2010.jpg		Apr 7, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER 32

NGS Name: ROCHESTER 32

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2860](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	32	106 N	14 W	435606.82	923207.15		C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (<10 FT) (DEPTH 8 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: ROCHESTER 32 2010

5.0 MILES NORTHWEST OF STEWARTVILLE, 3.0 MILES NORTH ALONG COUNTY ROAD 8 FROM THE JUNCTION OF COUNTY ROAD 8 AND TRUNK HIGHWAY 30 (THE JUNCTION IS NORTHWEST OF STEWARTVILLE), THEN 0.35 MILE WEST ALONG 60TH STREET SOUTHWEST, 34.0 FEET NORTH OF 60TH STREET SOUTHWEST, 73.0 FEET NORTH-NORTHWEST OF A POWER POLE NUMBER 24930, 2.0 FEET SOUTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1254.135				1155.582	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1254.131	.131			1155.838	.066	1996	GPS - STATIC	2014	HOLMS
1254.135				1155.582	.019	2011	GPS - STATIC	2014	HOLMS
1254.046	.262			1155.546	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.576 09 = -98.500 03 = -98.277

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 56 06.81939	92 32 07.14697	600463.148	137175.622	.026		ADJUSTMENT	2014	GPS3018
43 56 06.81939	92 32 07.14697	600463.148	137175.622	.026	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 56 06.81836	92 32 07.14774	600463.092	137175.518	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 56 06.81902	92 32 07.14715	600463.135	137175.585	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3010474.593	672468.725	1762778.430	15960544.497	.026		ADJUSTMENT	2014	GPS3018
3010474.593	672468.725	1762778.430	15960544.497	.026	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3010474.538	672468.620	1762778.375	15960544.393	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3010474.580	672468.688	1762778.418	15960544.460	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_32-DP2860-3W-10NOV2010.jpg	W	Nov 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_32-DP2860-2-10NOV2010.jpg		Nov 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_32-DP2860-1-10NOV2010.jpg		Nov 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER ASSISSY HTS CONVENT

NGS Name: ROCHESTER ASSISSY HTS CONVENT

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	107 N	14 W	440218.83	922945.48		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SURVEY DISK	MNDT

Description: (1978)

Stamping:

IN NORTHWEST ROCHESTER, NEAR THE JUNCTION OF COUNTY ROAD 4 AND 21ST AVENUE NORTHWEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.592 12B = -98.596 09 = -98.510 03 = -98.343



Mn/DOT Name: ROCHESTER ASSY HEIGHTS SPIRE

NGS Name: ROCHESTER ASSISSY HTS SPIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2275](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	107 N	14 W	440226.20	922850.81		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	SPIRE	MNDT

Description: (2010)

Stamping:

IN ROCHESTER, NORTH OF THE JUNCTION OF 14TH STREET AND 10TH AVENUE NORTHWEST, NEAR THE END OF ASSISSI HEIGHTS DRIVE, STATION ROCHESTER ASSY HEIGHTS SPIRE IS THE CENTER OF THE CROSS ON TOP OF THE BELL TOWER ON THE TALLEST PART OF THE CONVENT.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.560 12B = -98.560 09 = -98.477 03 = -98.317

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 26.20060	92 28 50.80855	614627.687	175664.827	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 26.19075	92 28 50.80885	614627.670	175663.829	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 26.32244	92 28 50.16704			.100	4	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3024124.882	711139.396	1776898.036	15999031.308	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3024124.879	711138.399	1776898.020	15999030.311	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2399516.377	383065.225			.100	4	CLASSICAL SURVEY	1977	16059

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_ASSISSY HTS_SPIRE-PP2275-3NW-01JUL2010.jpg	NW	Jul 1, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER AZ MK

NGS Name: ROCHESTER AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4621](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1009
USGS Quad: SIMPSON

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>				
NW 12 106 N 14 W	435959.00	922645.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	NGS

Description: (1935) Stamping: ROCHESTER 1935

IN ROCHESTER, 250.0 FEET SOUTH OF THE JUNCTION OF COUNTY ROAD 1 AND 16TH STREET SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.474 12B = -98.487 09 = -98.395 03 = -98.225



Mn/DOT Name: ROCHESTER BM

NGS Name: ROCHESTER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0135](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

		<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>
NE	2	106 N	14 W	440114.52	922751.60
				<u>Order</u>	<u>Order</u>
				2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
WALL - LIGHT RETAINING	BENCH MARK DISK	NGS

Description: (1970)

Stamping: ROCHESTER 1933 1006.209

IN ROCHESTER, ON TOP OF THE SOUTH COLUMN AT THE MAIN ENTRANCE OF THE OLD CITY HALL BUILDING, IN THE NORTHEAST QUADRANT OF THE JUNCTION OF 1ST AVENUE SOUTHWEST AND 3RD STREET SOUTHWEST, 16.0 FEET SOUTH OF THE MAIN ENTRANCE, 8.4 FEET WEST OF THE WEST FACE OF THE BUILDING, 4.0 FEET ABOVE THE SIDEWALK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.294	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1006.294	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1006.294	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON
1006.294	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1006.294	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK
1006.294	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.209	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1006.209	.007	1				VERTICAL CONTROL SURVEY	1972	L106 MINN
1006.209	.007	1				VERTICAL CONTROL SURVEY	1971	L22214
1006.209	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1006.209	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.533 12B = -98.540 09 = -98.455 03 = -98.287

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER-PP0135-3NE-30OCT2008.jpg	NE	Oct 30, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER-PP0135-2-30OCT2008.jpg		Oct 30, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER-PP0135-1-30OCT2008.jpg		Oct 30, 2008

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CANNING CO TANK LT

NGS Name: ROCHESTER CANNING CO TANK LT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2260](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1021
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>				
NE	11	106 N	14 W	440019.51	922736.58		3				
<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>				
1935	1957	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION				
<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>									
SEE DESCRIPTIVE TEXT	TANK	NGS									

Description: (1935)

Stamping:

IN ROCHESTER, AT THE LIBBY FOOD PLANT ALONG THE WEST SIDE OF 3RD AVENUE SOUTHEAST, BETWEEN 12TH STREET SOUTHEAST AND 13TH STREET SOUTHEAST. THE STATION IS A CORN COB SHAPE STRUCTURE WITH A REVOLVING LIGHT AT THE TOP.

Station Notes

POINT OBSERVED UPON WAS A REVOLVING LIGHT ON THE TOP OF CORN (1935) THE REVOLVING LIGHT WAS REMOVED (SEE 1949 THE NATIONAL GEODETIC SURVEY (NGS) RECOVERY NOTE)

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.530 09 = -98.445 03 = -98.268

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>				<u>Olmsted County</u>				<u>Project Info</u>			
<u>Geodetic Position</u>	<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	44 00 19.51125	92 27 36.57791		620121.116	162864.916	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>				<u>Olmsted County</u>				<u>Project Info</u>			
<u>Geodetic Position</u>	<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	44 00 19.50058	92 27 36.57874		620121.061	162863.836	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>			
<u>Geodetic Position</u>	<u>Latitude</u>	<u>Longitude</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	44 00 19.63500	92 27 35.93900				.100	4	CLASSICAL SURVEY	1937	03491	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>	<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	3029787.533	698414.892		1782402.054	15986242.461	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>			
<u>MN State Plane - South Zone</u>	<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	3029787.493	698413.811		1782402.000	15986241.380	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>			
<u>MN State Plane - South Zone</u>	<u>X</u>	<u>Y</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
	2405179.013	370341.053				.100	4	CLASSICAL SURVEY	1937	03491	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CANNING_CO_TANK_LT-PP2260-3W-01JUL2010.jpg	W	Jul 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CANNING_CO_TANK_LT-PP2260-2-01JUL2010.jpg		Jul 1, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CANNING CO WATER TK

NGS Name: ROCHESTER CANNING CO WATER TK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2262](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440019.51	922736.59		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

TANK

Mon. Agency

NGS

Description: (2012)

Stamping:

IN ROCHESTER, AT THE LIBBY PLANT ALONG THE WEST SIDE OF 3RD AVENUE SOUTHEAST, BETWEEN 12TH STREET SOUTHEAST AND 13TH STREET SOUTHEAST. A CORN COB SHAPED TANK SUPPORTED BY FOUR METAL LEGS.

Station Notes

POINT OBSERVED WAS THE CENTER OF THE WATER TANK AT THE LIBBY CORN PLANT. (FORMERLY MONARCH CANNING CO.)

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.530 09 = -98.445 03 = -98.268

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 19.51066	92 27 36.58568	620120.548	162864.853	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 19.49979	92 27 36.58640	620120.502	162863.752	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 00 19.63400	92 27 35.94600			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029786.967	698414.822	1782401.487	15986242.397	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3029786.935	698413.720	1782401.441	15986241.296	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2405178.504	370340.942			.100	4	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: ROCHESTER CBL 0

NGS Name: ROCHESTER CBL 0

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1607](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	11	105 N	14 W	435500.69	922838.20	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	CALIBRATION BASE LINE DISK	NGS

Description: (2016) **Stamping:** 0 1978

IN ROCHESTER, 2.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 33.1, 0.75 MILE NORTHEAST OF THE ROCHESTER MUNICIPAL AIRPORT IN THE GRASS MEDIAN OF THE TRUNK HIGHWAY 63, JUST SOUTH OF THE AIRPORT ROAD OVERPASS AT BRIDGE NUMBER 9407, 51.1 FEET SOUTHWEST OF THE SOUTHWEST CENTER PILLAR, 38.3 FEET SOUTHEAST OF THE CONCRETE EDGE OF THE SOUTHBOUND LANE OF TRUNK HIGHWAY 63, 38.1 FEET NORTHWEST OF THE CONCRETE EDGE OF THE NORTHBOUND LANE OF TRUNK HIGHWAY 63, 25.92 FEET NORTHWEST OF ROCHESTER CBL 0 RM 2, 24.93 FEET SOUTHWEST OF ROCHESTER CBL 0 RM 1.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE. THE BRIDGE HAS BEEN REPLACED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1274.079	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1274.079	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1274.010	.262		1175.683	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.330 09 = -98.268 03 = -98.064

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 00.69465	92 28 38.19660	615789.337	130555.661	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3025886.210	666053.654	1778104.599	15953942.752	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0-OO1607-3N-02APR2013.jpg	N	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0-OO1607-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0-OO1607-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 0 AUXILIARY

NGS Name: ROCHESTER CBL 0 AUXILIARY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1611](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435459.69	922835.79	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 8 IN.	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (1978) **Stamping:** 0 FT

IN ROCHESTER, 2.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 33.1, 34.1 FEET WEST OF THE CENTERLINE OF THE NORTHBOUND EXIT RAMP, 100.0 FEET SOUTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 100.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1284.459	.016	2/1						VERTICAL ADJUSTMENT	2017	00000900		
1284.459	.016	2/1						VERTICAL CONTROL SURVEY	2014	VSTCH		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj				Year	Reference		
1284.397	.262		1186.070	.197	2011			GPS - RTRN	2013	RTRN2013		

Geoid Separations(ft): GEOID18 = -98.304 12B = -98.327 09 = -98.264 03 = -98.061

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		Acc		Order		Determination Method		Project Info	
		Latitude	Longitude	X	Y							Year	Reference
43	54	59.69074	92 28 35.78985	615966.054	130454.941	.131	3	GPS - RTRN				2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Acc		Order		Determination Method		Project Info	
		X	Y	X	Y							Year	Reference
		3026064.237	665955.301	1778281.341	15953842.252	.131	3	GPS - RTRN				2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_AUXILIARY-OO1611-3N-20JUL2010.jpg	N	Jul 20, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_AUXILIARY-OO1611-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_AUXILIARY-OO1611-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 0 RM 1

NGS Name: ROCHESTER CBL 0 RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1613](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	11	105 N	14 W	435500.81	922837.89	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978) Stamping: 0 RM 1 1978

IN ROCHESTER, 2.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 33.1, 68.90 FEET EAST OF THE CENTERLINE OF HIGHWAY 63 SOUTHBOUND LANES, 38.39 FEET SOUTHEAST OF THE CENTER OVERPASS PIER, 32.81 FEET NORTH OF STATION ROCHESTER CBL 0 RM 2, 30.84 FEET WEST OF THE CENTERLINE OF TRUNK HIGHWAY 63 NORTHBOUND LANES, 25.92 FEET NORTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 0.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1274.161	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1274.161	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1274.059	.262			1175.729	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.330 09 = -98.268 03 = -98.064

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
43 55 00.80863	92 28 37.88776			615811.883	130567.324	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3025908.596	666065.614			1778127.124	15953954.433	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_1-OO1613-3N-02APR2013.jpg	N	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_1-OO1613-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_1-OO1613-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 0 RM 2

NGS Name: ROCHESTER CBL 0 RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001614](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	11	105 N	14 W	435500.50	922838.00	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978) Stamping: 0 RM 2 1978

IN ROCHESTER, 2.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 33.1, 30.84 FEET WEST OF THE CENTERLINE OF HIGHWAY 63 NORTHBOUND LANES, 32.81 FEET SOUTH OF STATION ROCHESTER CBL 0 RM, 24.93 FEET SOUTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 0.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1274.207	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1274.207	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1274.131	.262			1175.801	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.330 09 = -98.268 03 = -98.064

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
43 55 00.49582	92 28 38.00190			615803.697	130535.603	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3025900.834	666033.790			1778118.973	15953922.717	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_2-001614-3N-02APR2013.jpg	N	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_2-001614-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_0_RM_2-001614-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 100

NGS Name: ROCHESTER CBL 100

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1612](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	11	105 N	14 W	435500.56	922836.43	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2023	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 15 IN.	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	CALIBRATION BASE LINE DISK	NGS

Description: (1978) Stamping: 100 FT

IN ROCHESTER, 2.3 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 33.1, 79.72 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63 NORTHBOUND LANES, 100.00 FEET NORTHWEST OF STATION ROCHESTER CBL 0 AUXILIARY, 55.45 FEET SOUTH OF A CONCRETE BRIDGE ABUTMENT, 2.95 FEET WEST OF A METAL WITNESS POST.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1284.787	.016	2/1				2017	00000900					
1284.787	.016	2/1				2014	VSTCH					

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Year</u>	<u>Reference</u>					
1284.751	.262		1186.422	.197	2011	2013	RTRN2013					

Geoid Separations(ft): GEOID18 = -98.307 12B = -98.327 09 = -98.268 03 = -98.061

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
43 55 00.56429	92 28 36.42587	615919.025	130543.151	.131	3	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
3026016.042	666042.871	1778234.244	15953930.378	.131	3	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_100-OO1612-3E-02APR2013.jpg	E	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_100-OO1612-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_100-OO1612-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 1400

NGS Name: ROCHESTER CBL 1400

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1610](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435416.92	922854.61	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	CALIBRATION BASE LINE DISK	NGS

Description: (2012) **Stamping:** 1400 1978

IN ROCHESTER, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 32.1, 0.75 MILE NORTHEAST OF THE ROCHESTER MUNICIPAL AIRPORT IN THE GRASS MEDIAN OF TRUNK HIGHWAY 63 JUST SOUTH OF THE AIRPORT ROAD OVERPASS AT BRIDGE NUMBER 9407, 38.4 FEET NORTHWEST OF THE CONCRETE EDGE OF THE NORTHBOUND LANE OF TRUNK HIGHWAY 63, 38.2 FEET SOUTHEAST OF THE CONCRETE EDGE OF THE SOUTHBOUND LANE AT TRUNK HIGHWAY 63, 25.26 FEET SOUTHWEST OF ROCHESTER CBL 1400 RM 1, 25.59 NORTH-NORTHWEST OF ROCHESTER CBL 1400 RM 2, 2.0 FEET NORTH OF A WITNESS POST.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.186	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1277.186	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.127	.262		1178.840	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.284 09 = -98.228 03 = -98.028

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 16.91636	92 28 54.60560	614611.571	126116.143	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024767.679	661599.213	1776931.777	15949503.976	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400-OO1610-3W-02APR2013.jpg	W	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400-OO1610-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400-OO1610-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 1400 RM 1

NGS Name: ROCHESTER CBL 1400 RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1619](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	11	105 N	14 W	435417.05	922854.32	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978) **Stamping:** 1400 RM 1 1978

IN ROCHESTER, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 32.1, 66.93 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63 SOUTHBOUND LANES, 36.75 FEET NORTH OF STATION ROCHESTER CBL 1400 RM 2, 33.79 FEET WEST OF THE CENTERLINE OF TRUNK HIGHWAY 63 NORTHBOUND LANES, 25.59 FEET NORTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 1400.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.491	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1277.491	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.419	.262		1179.131	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.284 09 = -98.228 03 = -98.025

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 17.04939	92 28 54.31801	614632.556	126129.725	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024788.480	661613.072	1776952.739	15949517.573	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_1-OO1619-3W-02APR2013.jpg	W	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_1-OO1619-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_1-OO1619-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 1400 RM 2

NGS Name: ROCHESTER CBL 1400 RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1620](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435416.70	922854.45	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978)

Stamping: 1400 RM 2 1978

IN ROCHESTER, 1.5 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, AT TRUNK HIGHWAY 63 MILEPOINT 32.1, 67.59 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63 SOUTHBOUND LANES, 36.75 FEET SOUTH OF STATION ROCHESTER CBL 1400 RM 1, 33.79 FEET WEST OF THE CENTERLINE OF TRUNK HIGHWAY 63 NORTHBOUND LANES, 25.26 FEET SOUTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 1400.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.619	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1277.619	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1277.573	.262		1179.289	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.284 09 = -98.225 03 = -98.025

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 16.70013	92 28 54.44778	614623.241	126094.308	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024779.638	661577.537	1776943.464	15949482.162	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_2-OO1620-3W-02APR2013.jpg	W	Apr 2, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_2-OO1620-2-02APR2013.jpg		Apr 2, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_1400_RM_2-OO1620-1-02APR2013.jpg		Apr 2, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 150

NGS Name: ROCHESTER CBL 150

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO1608 Get Map
NW	11	105 N	14 W	435456.00	922839.96	2	3	NGS Quad / Sta Num : 43092144/ USGS Quad: SIMPSON

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	CALIBRATION BASE LINE DISK	NGS

Description: (1978)

Stamping: 150 1978

IN ROCHESTER, 2.14 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.9, 0.75 MILE NORTHEAST OF THE ROCHESTER MUNICIPAL AIRPORT IN THE GRASS MEDIAN OF TRUNK HIGHWAY 63, 38.3 FEET SOUTHEAST OF THE CONCRETE EDGE OF THE SOUTHBOUND LANE OF TRUNK HIGHWAY 63, 38.2 FEET NORTHWEST OF THE CONCRETE EDGE OF THE NORTHBOUND LANE OF TRUNK HIGHWAY 63, 24.28 FEET SOUTHWEST OF ROCHESTER CBL 150 RM 1, 24.28 FEET NORTH-NORTHWEST OF ROCHESTER CBL 150 RM 2.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>			<u>Year</u>	<u>Reference</u>
1272.452	.016	2/1				VERTICAL CONTROL SURVEY			2024	VHAVA
1272.514	.016	2/1				VERTICAL ADJUSTMENT			2017	00000900
1272.514	.016	2/1				VERTICAL CONTROL SURVEY			2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>			<u>Year</u>	<u>Reference</u>
1272.478	.262					GPS - RTRN			2023	RTRN2023
1272.429	.262					GPS - RTRN			2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.304 12B = -98.323 09 = -98.264 03 = -98.061

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>
43 54 56.00430	92 28 39.95644	615663.044	130080.012	.131	3	GPS - RTRN	2023
43 54 56.00418	92 28 39.95715	615662.992	130080.000	.131	3	GPS - RTRN	2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>
3025766.264	665576.406	1777978.836	15953467.183	.131	3	GPS - RTRN	2023
3025766.212	665576.393	1777978.785	15953467.171	.131	3	GPS - RTRN	2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150-OO1608-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150-OO1608-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150-OO1608-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 150 RM 1

NGS Name: ROCHESTER CBL 150 RM 1

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO1615 Get Map
NW	11	105 N	14 W	435456.13	922839.67	2	3	NGS Quad / Sta Num : 43092144/ USGS Quad: SIMPSON

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978)

Stamping: 150 RM 1 1978

IN ROCHESTER, 2.14 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.9, 0.5 MILE EAST OF THE ROCHESTER MUNICIPAL AIRPORT IN THE MEDIUM STRIP OF TRUNK HIGHWAY 63, 66.93 FEET EAST OF THE CENTERLINE OF HIGHWAY 63 SOUTHBOUND LANES, 35.10 FEET NORTH OF STATION ROCHESTER CBL 150 RM 2, 33.14 FEET WEST OF THE CENTERLINE OF HIGHWAY 63 NORTHBOUND LANES, 24.28 FEET NORTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 150.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1272.855	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1272.878	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1272.878	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order / (Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1272.885	.262		1174.578	.197	2011	GPS - RTRN	2023	RTRN2023
1272.806	.262		1174.479	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.304 12B = -98.323 09 = -98.264 03 = -98.061

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 54 56.13188	92 28 39.67001	615683.943	130093.043	.131	3	GPS - RTRN	2023	RTRN2023
43 54 56.13026	92 28 39.66978	615683.961	130092.880	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025786.985	665589.712	1777999.713	15953480.229	.131	3	GPS - RTRN	2023	RTRN2023
3025787.005	665589.548	1777999.731	15953480.065	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_1-OO1615-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_1-OO1615-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_1-OO1615-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 150 RM 2

NGS Name: ROCHESTER CBL 150 RM 2

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO1616 Get Map
NW	11	105 N	14 W	435455.80	922839.79	2	3	NGS Quad / Sta Num : 43092144/ USGS Quad: SIMPSON

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978) **Stamping:** 150 RM 2 1978

IN ROCHESTER, 2.14 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.9, 0.5 MILE EAST OF THE ROCHESTER MUNICIPAL AIRPORT, 66.93 FEET EAST OF THE CENTERLINE OF HIGHWAY 63 SOUTHBOUND LANES, 35.10 FEET SOUTH OF STATION ROCHESTER CBL 150 RM 1, 33.14 FEET WEST OF THE CENTERLINE OF HIGHWAY 63 NORTHBOUND LANES, 24.28 FEET SOUTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 150.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1272.999	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1273.022	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1273.022	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1273.026	.262		1174.722	.197	2011	GPS - RTRN	2023	RTRN2023
1272.950	.262		1174.627	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.304 12B = -98.323 09 = -98.264 03 = -98.058

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 54 55.79548	92 28 39.79397	615675.050	130058.930	.131	3	GPS - RTRN	2023	RTRN2023
43 54 55.79486	92 28 39.79319	615675.108	130058.868	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
3025778.548	665555.486	1777990.858	15953446.122	.131	3	GPS - RTRN	2023	RTRN2023
3025778.606	665555.424	1777990.915	15953446.060	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_2-OO1616-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_2-OO1616-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_150_RM_2-OO1616-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 400

NGS Name: ROCHESTER CBL 400

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1609](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435448.19	922842.89	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	CALIBRATION BASE LINE DISK	NGS

Description: (1978) **Stamping:** 400 1978

IN ROCHESTER, 2.14 MILES NORTHEAST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.65, 0.75 MILE NORTHEAST OF THE ROCHESTER MUNICIPAL AIRPORT IN THE GRASS MEDIAN OF TRUNK HIGHWAY 63, 38.3 FEET SOUTHEAST OF THE CONCRETE EDGE OF THE SOUTHBOUND LANE OF TRUNK HIGHWAY 63, 38.2 FEET NORTHWEST OF THE CONCRETE EDGE OF THE NORTHBOUND LANE OF TRUNK HIGHWAY 63, 25.26 FEET SOUTHWEST OF ROCHESTER CBL 400 RM 1, 25.26 FEET NORTH-NORTHWEST OF ROCHESTER CBL 400 RM 2, 22.75 FEET SOUTH-SOUTHWEST OF E1/4 SECTION 10-105-14, 2.5 FEET EAST OF A WITNESS POST.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.133	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1271.156	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1271.152	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.133	.262		1172.836	.197	2011	GPS - RTRN	2023	RTRN2023
1271.074	.262		1172.757	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.297 12B = -98.317 09 = -98.258 03 = -98.054

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 48.18759	92 28 42.88736	615452.701	129287.322	.131	3	GPS - RTRN	2023	RTRN2023
43 54 48.18670	92 28 42.88729	615452.706	129287.233	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3025566.497	664781.051	1777769.376	15952674.625	.131	3	GPS - RTRN	2023	RTRN2023
3025566.504	664780.961	1777769.382	15952674.535	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400-OO1609-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400-OO1609-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400-OO1609-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 400 RM 1

NGS Name: ROCHESTER CBL 400 RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1617](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435448.32	922842.60	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1978) **Stamping:** 400 RM 1 1978

IN ROCHESTER, 2.0 MILES NORTHEAST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.65, 67.59 FEET EAST OF THE CENTERLINE OF TRUNK HIGHWAY 63 SOUTHBOUND LANES, 37.40 FEET NORTH OF STATION ROCHESTER CBL 400 RM 2, 32.81 FEET WEST OF THE CENTERLINE OF HIGHWAY 63 NORTHBOUND LANES, 25.26 FEET NORTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 400, 12.14 FEET EAST OF A QUARTER CORNER MARKER.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj				Year	Reference		
1271.402	.016	2/1				VERTICAL CONTROL SURVEY			2024	VHAVA		
1271.425	.016	2/1				VERTICAL ADJUSTMENT			2017	00000900		
1271.425	.016	2/1				VERTICAL CONTROL SURVEY			2014	VSTCH		

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Orthometric Height			Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order / (Class)	Height	Acc	Adj				Year	Reference		
1271.379	.262		1173.082	.197	2011	GPS - RTRN			2023	RTRN2023		
1271.362	.262		1173.046	.197	2011	GPS - RTRN			2013	RTRN2013		

Geoid Separations(ft): GEOID18 = -98.297 12B = -98.317 09 = -98.258 03 = -98.054

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Geodetic Position		Olmsted County		X		Y		Acc	Order	Determination Method	Project Info	
		Latitude	Longitude										Year	Reference
43 54	48.31966	92 28 42.59567	615473.983	129300.810	.131	3	GPS - RTRN			2023	RTRN2023			
43 54	48.31899	92 28 42.59555	615473.992	129300.742	.131	3	GPS - RTRN			2013	RTRN2013			

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
		X	Y	X	Y				Year	Reference
3025587.596	664794.819	1777790.635	15952688.128	.131	3	GPS - RTRN			2023	RTRN2023
3025587.606	664794.751	1777790.645	15952688.060	.131	3	GPS - RTRN			2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_1-OO1617-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_1-OO1617-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_1-OO1617-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER CBL 400 RM 2

NGS Name: ROCHESTER CBL 400 RM 2

County: OLMSTED, MN (Sheet 1)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	11	105 N	14 W	435447.97	922842.73	2	3

NGS ACRN: [OO1618](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2007)

Stamping: 400 RM 2 1978

IN ROCHESTER, 2.0 MILES NORTHEAST ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.65, 66.93 FEET EAST OF THE CENTERLINE OF HIGHWAY 63 SOUTHBOUND LANES, 41.99 FEET SOUTHEAST OF A QUARTER CORNER MARKER, 33.79 FEET WEST OF THE CENTERLINE OF HIGHWAY 63 NORTHBOUND LANES, 37.40 FEET SOUTH OF STATION ROCHESTER CBL 400 RM 1, 25.26 FEET SOUTHEAST OF NATIONAL GEODETIC SURVEY (NGS) STATION ROCHESTER CBL 400.

Station Notes

THE MARK IS A COMPONENT OF THE ROCHESTER CALIBRATION BASE LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.238	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1271.261	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1271.261	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1271.211	.262		1172.918	.197	2011	GPS - RTRN	2023	RTRN2023
1271.188	.262		1172.872	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.317 09 = -98.254 03 = -98.051

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 54 47.96529	92 28 42.73401	615464.046	129264.871	.131	3	GPS - RTRN	2023	RTRN2023
43 54 47.96408	92 28 42.73417	615464.035	129264.749	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3025578.139	664758.754	1777780.739	15952652.195	.131	3	GPS - RTRN	2023	RTRN2023
3025578.130	664758.631	1777780.728	15952652.073	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_2-OO1618-3N-18APR2023.jpg	N	Apr 18, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_2-OO1618-2-18APR2023.jpg		Apr 18, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_CBL_400_RM_2-OO1618-1-18APR2023.jpg		Apr 18, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER DR PLUMBERS HSE TWR

NGS Name: ROCHESTER DR PLUMBERS HSE TWR

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2258](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/1022

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	2	106 N	14 W	440037.59	922841.02		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	TOWER	MNDNR

Description: (2012)

Stamping:

IN ROCHESTER, 418.0 FEET NORTHWEST OF THE JUNCTION OF 11TH STREET SOUTHWEST AND 9TH AVENUE SOUTHWEST, 685.0 FEET EAST OF THE SOUTH END OF PLUMBER LANE SOUTHWEST, IN THE SOUTHWEST PART OF ROCHESTER, ON A HILL, POINT OBSERVED IS THE TOP OF A TOWER.

Station Notes

THE STATION IS THE TIP OF THE TOWER ON THE PLUMBER HOUSE OF THE ARTS PARK.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.576 09 = -98.497 03 = -98.310

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 37.59167	92 28 41.02343	615400.967	164670.271	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 00 37.58118	92 28 41.02391	615400.938	164669.208	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 00 37.71700	92 28 40.38400			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025044.229	700157.144	1777682.111	15988042.271	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3025044.214	700156.082	1777682.082	15988041.209	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2400435.608	372083.435			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_DR_PLUMBERS_HSE_TWR-PP2258-3S-01JUL2010.jpg	S	Jul 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_DR_PLUMBERS_HSE_TWR-PP2258-2-01JUL2010.jpg		Jul 1, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER EASTWOOD TANK

NGS Name: ROCHESTER EASTWOOD TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2269](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1033
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	106 N	13 W	440014.15	922453.61		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	MNDT

Description: (1973)

Stamping:

3.0 MILES SOUTHEAST OF ROCHESTER. 0.1 MILE SOUTH ALONG COUNTY ROAD 36 FROM THE JUNCTION OF COUNTY ROAD 36 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 1.3 MILES EAST ON COUNTY ROAD 144, THEN 0.1 MILE SOUTH ON HARBOR DRIVE SOUTHEAST, 263.0 FEET SOUTH OF HARBOR DRIVE SOUTHEAST.

Station Notes

NEW TOWER, 200.0 FEET NORTH AND 300.0 FEET EAST, BUILT IN 2001.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.369 12B = -98.376 09 = -98.284 03 = -98.133

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 00 14.14956	92 24 53.61345	632035.688	162391.172	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 00 14.13857	92 24 53.61473	632035.601	162390.058	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>							
44 00 14.27314	92 24 52.98440			.100	4	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
3041706.255	698099.731	1794312.016	15985780.948	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
3041706.183	698098.617	1794311.930	15985779.835	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>							<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
<u>X</u>	<u>Y</u>							
2417097.352	370025.899			.100	4	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: ROCHESTER IBM WATER TANK

NGS Name: ROCHESTER IBM WATER TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2346](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/1045
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	21	107 N	14 W	440330.25	923042.06		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	TANK	NGS

Description: (1974)

Stamping:

IN THE NORTHWEST PART OF ROCHESTER, 0.6 MILE WEST ALONG COUNTY ROAD 22 (INTERNATIONAL BUSINESS MACHINE) FROM THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.1 MILE SOUTH ON INTERNATIONAL BUSINESS MACHINE.

Station Notes

7-01-2010 THE TANK IS GONE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.589 12B = -98.592 09 = -98.504 03 = -98.346

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 30.25286	92 30 42.06386	606468.825	182109.725	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 30.24335	92 30 42.06368	606468.843	182108.762	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 03 30.37678	92 30 41.41819			.100	4	CLASSICAL SURVEY	1977	16059

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015881.854	717474.603	1768736.162	16005465.142	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3015881.885	717473.640	1768736.181	16005464.179	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2391273.406	389400.562			.100	4	CLASSICAL SURVEY	1977	16059



Mn/DOT Name: ROCHESTER INST HILL FARM TANK

NGS Name: ROCHESTER INST HILL FARM TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	15	106 N	14 W	435856.26	922936.46		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1978)

Stamping:

IN SOUTHWEST ROCHESTER, 0.6 MILE WEST ALONG COUNTY ROAD 125 FROM THE JUNCTION OF COUNTY ROAD 125 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.3 MILE SOUTH-SOUTHWEST ON COUNTY ROAD 8 SOUTHWEST, THEN 0.6 MILE SOUTHEAST ON THE INSTITUTE ROAD SOUTHWEST, 620.0 FEET EAST OF INSTITUTE OF EXPERIMENTAL MEDICINE.

Station Notes

7-15-2010 FOUND NO TANK AT THIS LOCATION.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.582 09 = -98.517 03 = -98.307



Mn/DOT Name: ROCHESTER KNXR RADIO MAST

NGS Name: ROCHESTER KNXR RADIO MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	26	107 N	13 W	440250.22	922033.42		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

SURVEY DISK

Mon. Agency

MNDT

Description: (1978)

Stamping:

7.0 MILES EAST-NORTHEAST OF ROCHESTER, 2.0 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, THEN 2.0 MILES NORTH-NORTHEAST ON COUNTY ROAD 11, THEN 1.47 MILES EAST ON SILVER CREEK ROAD NORTHEAST, THEN 0.8 MILE NORTH ON COUNTY ROAD 119, 400.0 FEET WEST OF COUNTY ROAD 119.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.143 12B = -98.153 09 = -98.012 03 = -97.923

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_KNXR_RADIO_MAST-3N-17JUN2010.jpg	N	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_KNXR_RADIO_MAST-2-17JUN2010.jpg		Jun 17, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER KROC TV MAST

NGS Name: ROCHESTER KROC TV MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	31	107 N	14 W	440128.00	923242.80		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1981	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

TOWER

Mon. Agency

MNDT

Description: (2010)

Stamping:

2.0 MILES WEST OF ROCHESTER, 1.5 MILES WEST ALONG COUNTY ROAD 34(COUNTRY CLUB ROAD SOUTHWEST) FROM THE JUNCTION OF COUNTRY CLUB ROAD SOUTHWEST AND COUNTY ROAD 22 NEAR THE WEST PART OF ROCHESTER, 150.0 FEET NORTH OF COUNTRY CLUB ROAD AND BEHIND A BUILDING FOR BROGAN HEATING AND AIR CONDITIONING .

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.651 12B = -98.655 09 = -98.589 03 = -98.399

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_KROC_TV_MAST-3N-14JUL2010.jpg	N	Jul 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_KROC_TV_MAST-2-14JUL2010.jpg		Jul 14, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER MAYO CLINIC BLDG LT

NGS Name: ROCHESTER MAYO CLINIC BLDG LT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2261](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1023
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	35	107 N	14 W	440118.80	922756.25		4	1935	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION
						<u>Disk Type</u>		<u>Mon. Agency</u>							
BLANK						NAVIGATION LIGHT		NGS							

Description: (2010)

Stamping:

IN ROCHESTER, AT THE JUNCTION OF 1ST STREET SOUTHWEST AND 2ND AVENUE SOUTHWEST, THE POINT OBSERVED WAS THE LIGHT ATOP THE MAYO CLINIC BUILDING ABOUT 300.0 FEET HIGH.

Station Notes

ROCHESTER MAYO CLINIC SPIRE, THE NATIONAL GEODETIC SURVEY (NGS) NOTES OF 1973 STATES THE LIGHT ON TOP HAS BEEN REMOVED.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.543 09 = -98.458 03 = -98.287

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>								<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>							
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 01 18.80252	92 27 56.24791	618650.571	168861.152	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>								<u>Project Info</u>	
<u>Geodetic Position</u>		<u>Olmsted County</u>							
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 01 18.79173	92 27 56.24839	618650.542	168860.059	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>	
<u>Geodetic Position</u>									
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
44 01 18.92400	92 27 55.61300			.100	4	CLASSICAL SURVEY	1937	03491	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>							
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
3028237.505	704390.478	1780926.079	15992234.636	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>							
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
3028237.490	704389.385	1780926.051	15992233.543	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>									
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2403628.645	376316.340			.100	4	CLASSICAL SURVEY	1937	03491	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MAYO_CLINIC_BLDG_LT-PP2261-3N-01JUL2010.jpg	N	Jul 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MAYO_CLINIC_BLDG_LT-PP2261-2-01JUL2010.jpg		Jul 1, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER MAYO CLINIC BLDG STK

NGS Name: ROCHESTER MAYO CLINIC BLDG STK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2253](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1024
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	2	106 N	14 W	440115.26	922755.74		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=NO	YES			NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	STACK	NGS

Description: (1935)

Stamping:

IN ROCHESTER, AT THE JUNCTION OF 2ND STREET SOUTHWEST AND 2ND AVENUE SOUTHWEST, STATION ROCHESTER MAYO CLINIC BLDG STK IS THE CENTER OF A BRICK STACK ON THE MAYO CLINIC BUILDING.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.543 09 = -98.458 03 = -98.287

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 15.25954	92 27 55.74116	618689.562	168502.573	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 15.24891	92 27 55.74171	618689.528	168501.497	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 15.38100	92 27 55.11000			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028281.259	704032.484	1780965.417	15991876.250	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3028281.239	704031.407	1780965.384	15991875.174	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2403672.126	375958.342			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MAYO_CLINIC_BLDG_STK-PP2253-3S-01JUL2010.jpg	S	Jul 1, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER MAYO CLINIC SPIRE

NGS Name: ROCHESTER MAYO CLINIC SPIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2263](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1030
USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	10	107 N	14 W	440118.80	922756.25		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1962	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	SPIRE	NGS

Description: (2010)

Stamping:

IN ROCHESTER, AT THE CORNER OF 2ND STREET SOUTHWEST AND 2ND AVENUE SOUTHWEST, THE POINT OBSERVED IS THE SPIRE AT THE TOP OF THE DOME ON THE MAYO CLINIC PLUMBER BUILDING, APPROXIMATELY 300.0 FEET HIGH.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.537 12B = -98.543 09 = -98.458 03 = -98.287

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 18.80317	92 27 56.25094	618650.349	168861.217	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 18.79270	92 27 56.25178	618650.293	168860.156	.328	4	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 18.91143	92 27 55.61737			.100	4	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3028237.282	704390.540	1780925.857	15992234.700	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3028237.241	704389.479	1780925.803	15992233.640	.328	4	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2403628.349	376315.061			.100	4	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MAYO_CLINIC_SPIRE-PP2263-3N-01JUL2010.jpg	N	Jul 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MAYO_CLINIC_SPIRE-PP2263-2-01JUL2010.jpg		Jul 1, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER MEDICINE INST TANK

NGS Name: ROCHESTER MEDICINE INST TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0887](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1040
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	15	106 N	14 W	435857.99	922945.93		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (1935)

Stamping:

IN ROCHESTER, 0.7 MILE WEST ALONG COUNTY ROAD 125 FROM THE JUNCTION OF COUNTY ROAD 125 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.6 MILE SOUTH-SOUTHWEST ON COUNTY ROAD 8 SOUTHWEST, THEN 0.6 MILE SOUTHEAST ON THE INSTITUTE ROAD SOUTHWEST, 100.0 FEET NORTHWEST OF INSTITUTE OF EXPERIMENTAL MEDICINE BUILDING.

Station Notes

7-15-2010 FOUND NO TANK AT THIS LOCATION.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.589 09 = -98.523 03 = -98.313

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 58 57.99450	92 29 45.92915	610708.751	154559.836	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 58 57.98364	92 29 45.93013	610708.685	154558.736	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
43 58 58.12200	92 29 45.28600			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020487.299	689986.128	1773002.118	15977931.463	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3020487.248	689985.028	1773002.053	15977930.364	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2395878.832	361912.732			.100	4	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: ROCHESTER MIDWEST RELAY MAST

NGS Name: ROCHESTER MIDWEST RELAY MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2278](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	28	107 N	13 W	440243.89	922355.40		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

RADIO/TV TOWER

Mon. Agency

MNDT

Description: (2010)

Stamping:

4.0 MILES NORTHEAST OF ROCHESTER, 1.5 MILES NORTHEAST ALONG COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND COUNTY ROAD 22 NEAR THE EAST PART OF ROCHESTER, THEN 0.4 MILE SOUTH ON 40TH AVENUE NORTHEAST, STATION ROCHESTER MIDWEST RELAY MAST IS A STEEL RELAY MAST ABOUT 250.0 FEET HIGH, PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.294 12B = -98.307 09 = -98.185 03 = -98.077

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 43.88582	92 23 55.39565	636195.761	177580.522	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 43.87587	92 23 55.39689	636195.676	177579.514	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 43.99366	92 23 54.75306			.100	4	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3045663.451	713341.645	1798454.946	16000968.064	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3045663.380	713340.636	1798454.863	16000967.056	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2421055.656	385266.103			.100	4	CLASSICAL SURVEY	1980	16253

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MIDWEST_RELAY_MAST-PP2278-3W-17JUN2010.jpg	W	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER MUNICIPAL TANK LIGHT

NGS Name: ROCHESTER MUNICIPAL TANK LIGHT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2254](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1025
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	106 N	14 W	440110.91	922839.40		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (2010)

Stamping:

IN SOUTHWEST ROCHESTER, IN THE NORTHWEST QUADRANT OF 4TH STREET SOUTHWEST AND 9TH AVENUE SOUTHWEST, THE POINT OBSERVED WAS A LIGHT CENTERED ON TOP OF A 150.0 FOOT HIGH CONCRETE WATER TOWER IN ST. MARYS PARK.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.573 09 = -98.491 03 = -98.313

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 10.91159	92 28 39.39929	615501.704	168045.057	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 10.90124	92 28 39.39979	615501.673	168044.009	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 01 11.03000	92 28 38.76500			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025100.068	703532.655	1777779.392	15991415.706	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3025100.051	703531.606	1777779.362	15991414.658	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2400491.081	375458.205			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_MUNICIPAL_TANK_LIGHT-PP2254-3SE-01JUL2010.jpg	SE	Jul 1, 2010

Monument:

Disk:

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER NW BELL RELAY MAST

NGS Name: ROCHESTER NW BELL RELAY MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2288](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	10	107 N	14 W	440534.25	922904.86		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

MICROWAVE MAST

Mon. Agency

MNDT

Description: (2010)

Stamping:

4.5 MILES NORTH OF ROCHESTER, 1.0 MILE NORTH ALONG COUNTY ROAD 112 FROM THE JUNCTION OF COUNTY ROAD 112 AND COUNTY ROAD 22 IN ROCHESTER, 0.1 MILE EAST OF COUNTY ROAD 112, STATION ROCHESTER NW BELL RELAY MAST IS A STEEL MAST ABOUT 150.0 FEET HIGH, PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.517 09 = -98.422 03 = -98.290

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 34.24696	92 29 04.86160	613501.386	194702.203	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 34.23651	92 29 04.86059	613501.465	194701.145	.328	4	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 05 34.38132	92 29 04.23274			.100	4	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3022745.638	730158.180	1775752.865	16018059.324	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3022745.731	730157.123	1775752.945	16018058.266	.328	4	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2398136.122	402085.066			.100	4	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_NW_BELL_RELAY_MAST-PP2288-3NE-17JUN2010.jpg	NE	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER REA MAST

NGS Name: ROCHESTER REA MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2279](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	8	107 N	13 W	440512.16	922421.72		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	MICROWAVE MAST	MNDT

Description: (2010)

Stamping:

6.0 MILES NORTHEAST OF ROCHESTER, 1.8 MILES NORTH-NORTHEAST ALONG COUNTY ROAD 124 FROM THE JUNCTION OF COUNTY ROAD 124 AND COUNTY ROAD 22, 200.0 FEET NORTH OF COUNTY ROAD 124, STATION ROCHESTER REA MAST IS A STEEL MAST ABOUT 270.0 FEET HIGH, PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.330 12B = -98.330 09 = -98.222 03 = -98.110

Lat/Lon and County Coordinates (Feet)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 12.15727	92 24 21.71904	634180.082	192583.364	.328	4	ADJUSTMENT	1999	17648

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 05 12.14723	92 24 21.71929	634180.070	192582.347	.328	4	ADJUSTMENT	1986	17289

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 05 12.26236	92 24 21.07713			.100	4	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3043448.519	728314.815	1796424.854	16015962.486	.328	4	ADJUSTMENT	1999	17648

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3043448.521	728313.799	1796424.843	16015961.470	.328	4	ADJUSTMENT	1986	17289

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2418840.601	400238.841			.100	4	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_REA_MAST-PP2279-3NE-17JUN2010.jpg	NE	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER RM 1

NGS Name: ROCHESTER RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4622](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440002.00	922720.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1935)

Stamping:

IN THE SOUTHEAST PART OF ROCHESTER, AT THE JUNCTION OF 16TH STREET SOUTHEAST AND 6TH AVENUE SOUTHEAST, 213.0 FEET WEST OF 6TH AVENUE SOUTHEAST, 245.0 FEET NORTH OF 16TH STREET SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.428 03 = -98.251



Mn/DOT Name: ROCHESTER RM 2

NGS Name: ROCHESTER RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4623](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440002.00	922720.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1935)

Stamping:

IN THE SOUTHEAST PART OF ROCHESTER, AT THE JUNCTION OF 16TH STREET SOUTHEAST AND 6TH AVENUE SOUTHEAST, 245.0 FEET NORTH OF 16TH STREET SOUTHEAST, 213.0 FEET WEST OF 6TH AVENUE SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.428 03 = -98.251



Mn/DOT Name: ROCHESTER RM 3

NGS Name: ROCHESTER RM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4624](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440002.00	922720.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1973)

Stamping:

IN THE SOUTHEAST PART OF ROCHESTER, AT THE JUNCTION OF 16TH STREET SOUTHEAST AND 6TH AVENUE SOUTHEAST, 245.0 FEET NORTH OF 16TH STREET SOUTHEAST, 213.0 FEET WEST OF 6TH AVENUE SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.428 03 = -98.251



Mn/DOT Name: ROCHESTER RM 4

NGS Name: ROCHESTER RM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4625](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	12	106 N	14 W	440002.00	922720.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1973	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	NGS

Description: (1973)

Stamping:

IN THE SOUTHEAST PART OF ROCHESTER, AT THE JUNCTION OF 16TH STREET SOUTHEAST AND 6TH AVENUE SOUTHEAST, 245.0 FEET NORTH OF 16TH STREET SOUTHEAST, 213.0 FEET WEST OF 6TH AVENUE SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.514 09 = -98.428 03 = -98.251



Mn/DOT Name: ROCHESTER ST MARYS HOSP STACK

NGS Name: ROCHESTER ST MARYS HOSP STACK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2256](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1026
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	3	106 N	14 W	440111.38	922845.27		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Mon. Agency</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION	NGS

Monument Type
SEE DESCRIPTIVE TEXT

Disk Type
FINIAL

Description: (2010)

Stamping:

IN THE WEST PART OF ROCHESTER, AT THE JUNCTION OF 2ND STREET SOUTHWEST AND 11TH AVENUE SOUTHWEST, THE POINT OBSERVED IS A FINIAL ON A 100.0 FOOT HIGH WATER SUPPLY TANK FOR ST. MARYS HOSPITAL.

Station Notes

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.576 09 = -98.497 03 = -98.317

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44	01	11.38469	92 28 45.26967	615072.479	168090.686	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44	01	11.37373	92 28 45.26845	615072.573	168089.577	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>		<u>Geodetic Position</u>							<u>Project Info</u>	
		<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44	01	11.50000	92 28 44.62000			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		3024670.314	703572.568	1777350.306	15991460.881	.328	4	ADJUSTMENT	1999	17648
<u>NAD83(1986)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		3024670.424	703571.460	1777350.402	15991459.773	.328	4	ADJUSTMENT	1986	17289
<u>NAD27</u>		<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
		<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
		2400062.444	375497.823			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_ST_MARYS_HOSP_STACK-PP2256-3W-01JUL2010.jpg	W	Jul 1, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_ST_MARYS_HOSP_STACK-PP2256-2-01JUL2010.jpg		Jul 1, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER STANDPIPE

NGS Name: ROCHESTER STANDPIPE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2259](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1031
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SE	25	107 N	14 W	440236.04	922638.40		4	1962	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	STANDPIPE TANK	MNDT

Description: (2010)

Stamping:

IN THE NORTHEAST PART OF ROCHESTER, SOUTH OF NORTHERN HEIGHTS DRIVE NORTHEAST AND 250.0 FEET WEST OF 13TH AVENUE NORTHEAST. STATION ROCHESTER STANDPIPE IS THE LIGHT ATOP A 150.0 FOOT HIGH CYLINDRICAL STEEL TANK, 50.0 FEET IN DIAMETER AND PAINTED BLUE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.448 12B = -98.451 09 = -98.359 03 = -98.222

Lat/Lon and County Coordinates (Feet)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 36.03897	92 26 38.39816	624294.306	176714.397	.328	4	ADJUSTMENT	1999	17648

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 36.02868	92 26 38.39857	624294.282	176713.354	.328	4	ADJUSTMENT	1986	17289

<u>Geodetic Position</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 02 36.20491	92 26 37.79101			.100	4	CLASSICAL SURVEY	1976	15739
44 02 36.16047	92 26 37.76213			.100	4	CLASSICAL SURVEY	1950	UNK

State Plane and UTM Coordinates (Feet)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3033775.741	712317.338	1786559.439	16000090.230	.328	4	ADJUSTMENT	1999	17648

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3033775.731	712316.296	1786559.416	16000089.189	.328	4	ADJUSTMENT	1986	17289

<u>MN State Plane - South Zone</u>							<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2409164.913	384247.600			.100	4	CLASSICAL SURVEY	1976	15739
2409167.110	384243.140			.100	4	CLASSICAL SURVEY	1950	UNK

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_STANDPIPE-PP2259-3SW-21JUN2010.jpg	SW	Jun 21, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER STATE HOSPITAL DOME

NGS Name: ROCHESTER STATE HOSPITAL DOME

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2255](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/1027
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	31	107 N	13 W	440125.95	922602.15		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>	<u>Mon. Agency</u>
1935	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION	NGS

Monument Type
SEE DESCRIPTIVE TEXT

Disk Type
FLAGPOLE

Description: (1935)

Stamping:

IN EAST ROCHESTER, 0.3 MILE WEST-NORTHWEST ALONG FEDERAL MEDICAL CENTER FROM THE JUNCTION OF FEDERAL MEDICAL CENTER AND SILVER CREEK ROAD NORTHEAST IN ROCHESTER. THE STATION IS THE TIP OF A FLAGPOLE ON A DOME.

Station Notes

6-21-2010 THE AREA IS NOW A FEDERAL PRISON.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.438 12B = -98.445 09 = -98.350 03 = -98.199

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 25.94787	92 26 02.14913	626983.652	169631.929	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 01 25.93686	92 26 02.14974	626983.614	169630.814	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 01 26.06900	92 26 01.51600			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3036558.805	705271.957	1789254.812	15993013.515	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3036558.782	705270.841	1789254.775	15993012.400	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2411950.050	377197.796			.100	4	CLASSICAL SURVEY	1937	03491



Mn/DOT Name: ROCHESTER TELEPROMPTER TV MAST

NGS Name: ROCHESTER TELEPROMPTER TV MAST

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2280](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	20	107 N	13 W	440321.06	922443.90		4

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

RADIO/TV MAST

Mon. Agency

MNDT

Description: (2010)

Stamping:

3.0 MILES NORTHEAST OF ROCHESTER, 1.0 MILE EAST ALONG COUNTY ROAD 2 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 2 NORTHEAST AND COUNTY ROAD 22 IN ROCHESTER, THEN 0.5 MILE NORTH ALONG 36TH AVENUE NORTHEAST, THEN 0.2 MILE WEST ON A ROAD TO THE CHARTER COMMUNICATIONS ANTENNA FARM, 815.0 FEET WEST OF 36TH STREET NORTHEAST, STATION ROCHESTER TELEPROMPTER TV MAST IS A STEEL TV MAST, ABOUT 270.0 FEET HIGH, PAINTED RED AND WHITE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.340 12B = -98.346 09 = -98.235 03 = -98.117

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 21.05839	92 24 43.90034	632629.864	181322.862	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 03 21.04796	92 24 43.90052	632629.857	181321.806	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>Geodetic Position</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>						<u>Year</u>	<u>Reference</u>
44 03 21.17366	92 24 43.26566			.100	4	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3042048.427	717035.834	1794886.762	16004705.194	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3042048.434	717034.778	1794886.757	16004704.138	.328	4	ADJUSTMENT	1986	17289

NAD27

<u>MN State Plane - South Zone</u>		<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2417439.932	388960.986			.100	4	CLASSICAL SURVEY	1980	16253

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCHESTER_TELEPROMPTER_TV_MAST-PP2280-3SW-17JUN2010.jp	SW	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCHESTER WOODGATE WATER TANK

NGS Name: ROCHESTER WOODGATE WATER TANK

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	26	107 N	14 W	440250.22	922821.06		

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1978	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
SEE DESCRIPTIVE TEXT

Disk Type
SURVEY DISK

Mon. Agency
MN DT

Description: (1978)

Stamping:

IN NORTH ROCHESTER, AT THE JUNCTION OF VALKYRIE DRIVE NORTHWEST AND VANIR COURT NORTHWEST.

Station Notes

7-01-2010 FOUND NO TANK AT THIS LOCATION.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.533 12B = -98.533 09 = -98.445 03 = -98.297



Mn/DOT Name: ROCK DELL 32

NGS Name: ROCK DELL 32

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2861](#)
NGS Quad / Sta Num : 43092413/
USGS Quad: HIGH FOREST SW

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NW	5	105 N	15 W	435119.72	923857.70		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 23 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: ROCK DELL 32 2010

8.0 MILES WEST OF STEWARTVILLE, 2.5 MILES SOUTH ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND TRUNK HIGHWAY 30 NORTHWEST OF STEWARTVILLE, THEN 0.5 MILE WEST ALONG COUNTY ROAD 108, 32.0 FEET SOUTH OF COUNTY ROAD 108, 79.0 FEET SOUTHWEST OF A POWER POLE NUMBER 43486, 2.0 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1312.970			1214.692	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1312.930	.131		1214.889	.066	1996	GPS - STATIC	2014	HOLMS
1312.970			1214.692	.016	2011	GPS - STATIC	2014	HOLMS
1312.865	.262		1214.643	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.261 12B = -98.274 09 = -98.222 03 = -97.962

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 19.72134	92 38 57.70326	570513.669	107984.668	.020		ADJUSTMENT	2014	GPS3018
43 51 19.72134	92 38 57.70326	570513.669	107984.668	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 19.72151	92 38 57.70335	570513.663	107984.685	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 19.72101	92 38 57.70363	570513.642	107984.634	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2980917.877	642884.643	1732871.351	15931336.458	.020		ADJUSTMENT	2014	GPS3018
2980917.877	642884.643	1732871.351	15931336.458	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2980917.870	642884.660	1732871.345	15931336.475	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2980917.850	642884.609	1732871.324	15931336.424	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_32-DP2861-3W-01NOV2010.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_32-DP2861-2-01NOV2010.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_32-DP2861-1-01NOV2010.jpg

<u>Dir</u>	<u>Date</u>
W	Nov 1, 2010
	Nov 1, 2010
	Nov 1, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROCK DELL 5

NGS Name: ROCK DELL 5

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2862](#)

[Get Map](#)

NGS Quad / Sta Num : 43092414/

USGS Quad: ROCK DELL

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	5	105 N	15 W	435606.54	923904.36		C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 24 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: ROCK DELL 5 2010

7.0 MILES SOUTH OF BYRON, 8.0 MILES SOUTH AND WEST ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND TRUNK HIGHWAY 14 EAST OF BYRON, THEN 0.65 MILE WEST ALONG 60TH STREET SOUTHWEST, 30.0 FEET SOUTH OF 60TH STREET SOUTHWEST, 64.0 FEET SOUTH OF A POWER POLE, 2.0 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1170.063			1071.609	.014	2011	HORIZONTAL ADJUSTMENT			2014	GPS3018
1170.004	.131		1071.868	.066	1996	GPS - STATIC			2014	HOLMS
1170.063			1071.609	.014	2011	GPS - STATIC			2014	HOLMS
1170.001	.262		1071.605	.197	2007	GPS - RTRN			2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.468 09 = -98.395 03 = -98.156

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 56 06.54329	92 39 04.36212	569932.241	137027.934	.020		ADJUSTMENT	2014	GPS3018	
43 56 06.54329	92 39 04.36212	569932.241	137027.934	.020	C	GPS - STATIC	2014	HOLMS	

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 56 06.54328	92 39 04.36251	569932.213	137027.933	.131	3	GPS - RTRN	2012	RTRN2012	

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
43 56 06.54304	92 39 04.36254	569932.211	137027.908	.033	C	GPS - STATIC	2014	HOLMS	

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2979950.844	671915.420	1732261.097	15960366.234	.020		ADJUSTMENT	2014	GPS3018	
2979950.844	671915.420	1732261.097	15960366.234	.020	C	GPS - STATIC	2014	HOLMS	

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2979950.815	671915.419	1732261.069	15960366.233	.131	3	GPS - RTRN	2012	RTRN2012	

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>		
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2979950.813	671915.394	1732261.067	15960366.209	.033	C	GPS - STATIC	2014	HOLMS	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_5-DP2862-3W-10NOV2010.jpg	W	Nov 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_5-DP2862-2-10NOV2010.jpg		Nov 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROCK_DELL_5-DP2862-1-10NOV2010.jpg		Nov 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROELL MNDT

NGS Name: ROELL

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2344](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	29	108 N	14 W	440802.55	923126.75	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2014	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2012) **Stamping:** ROELL 1977

2.26 MILES SOUTH-SOUTHEAST OF ORONOCO, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST), AT TRUNK HIGHWAY 52 MILEPOINT 63.5, 70.5 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52 ALONG THE RIGHT-OF-WAY, 69.7 FEET SOUTH OF A POWER POLE, 51.0 FEET SOUTH OF AN ENTRANCE, 65.81 FEET SOUTH-SOUTHEAST OF ROELL MNDT 1, 27.33 FEET NORTH-NORTHWEST OF ROELL MNDT RM 2, 4.4 FEET WEST OF A WITNESS POST (EAST OF A FENCE), 3.3 FEET WEST OF A FENCE WITH A WITNESS SIGN.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1083.610	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1083.610	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825
1083.610	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1083.610				985.156	.012	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1083.610	.131			985.382	.066	1996	GPS - STATIC	2014	HOLMS
1083.610				985.129	.012	2011	GPS - STATIC	2014	HOLMS
1083.554	.262			985.116	.197	2007	GPS - RTRN	2012	RTRN2012
				985.156	.014	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1083.659	.131			985.257	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1083.659	.131			985.257	.066	2007	GPS - STATIC	2011	HFRON
1083.692	.131			985.382	.066	1996	GPS - STATIC	2010	HFRON
1084.315	.197			986.136	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)			Project Info		
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1085.004							RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.435 03 = -98.300

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 02.55004	92 31 26.75398	603073.997	209668.727	.013		ADJUSTMENT	2014	GPS3018
44 08 02.55005	92 31 26.75385	603074.007	209668.728	.013	C	GPS - STATIC	2014	HOLMS
44 08 02.55004	92 31 26.75398	603073.997	209668.727	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 02.55005	92 31 26.75418	603073.982	209668.728	.131	3	GPS - RTRN	2012	RTRN2012
44 08 02.55000	92 31 26.75499	603073.923	209668.723	.033	C	ADJUSTMENT	2011	GPS2814
44 08 02.55000	92 31 26.75499	603073.923	209668.723	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 02.54977	92 31 26.75421	603073.981	209668.700	.033	C	GPS - STATIC	2014	HOLMS
44 08 02.54977	92 31 26.75421	603073.981	209668.700	.033	C	GPS - STATIC	2010	HFRON
44 08 02.55119	92 31 26.75131	603074.191	209668.844	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 08 02.54156	92 31 26.75014	603074.281	209667.870	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 08 02.67262	92 31 26.09631			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012121.315	744983.120	1765314.718	16033008.693	.013		ADJUSTMENT	2014	GPS3018
3012121.324	744983.121	1765314.728	16033008.694	.013	C	GPS - STATIC	2014	HOLMS
3012121.315	744983.120	1765314.718	16033008.693	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012121.300	744983.121	1765314.704	16033008.694	.131	3	GPS - RTRN	2012	RTRN2012
3012121.241	744983.115	1765314.645	16033008.689	.033	C	ADJUSTMENT	2011	GPS2814
3012121.241	744983.115	1765314.645	16033008.689	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012121.298	744983.092	1765314.701	16033008.666	.033	C	GPS - STATIC	2014	HOLMS
3012121.298	744983.092	1765314.701	16033008.666	.033	C	GPS - STATIC	2010	HFRON
3012121.507	744983.240	1765314.912	16033008.811	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3012121.610	744982.267	1765315.003	16033007.836	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2387513.597	416908.678			.100	2	CLASSICAL SURVEY	1980	16253

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL-PP2344-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL-PP2344-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL-PP2344-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROELL MNMT RM 1

NGS Name: ROELL RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4636](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NE	29	108 N	14 W	440803.18	923126.97	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNMT

Description: (2012)

Stamping: ROELL NO 1 1977

2.26 MILES SOUTH-SOUTHEAST OF ORONOCO, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST), AT TRUNK HIGHWAY 52 MILEPOINT 63.5, 69.0 FEET EAST OF THE CENTERLINE OF NORTHBOUND TRUNK HIGHWAY 52, 35.0 FEET SOUTH OF THE EXTENDED CENTER OF AN EMERGENCY CROSSOVER, 4.0 FEET SOUTH OF A POWER POLE, 4.0 FEET WEST OF A WITNESS POST, 65.81 FEET NORTH-NORTHWEST OF STATION ROELL MNMT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1083.187	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900	
1083.187	.016	2/1					VERTICAL ADJUSTMENT	2014	00000825	
1083.187	.016	2/1					VERTICAL CONTROL SURVEY	2013	VCHES	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1083.161	.262			984.722	.197	2007	GPS - RTRN	2012	RTRN2012	

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.435 03 = -98.300

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Determination Method			Project Info	
Latitude	Longitude	X	Y	Acc	Order		Year	Reference
44 08 03.18164	92 31 26.96758	603058.114	209732.614	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Determination Method			Project Info	
X	Y	X	Y	Acc	Order		Year	Reference
3012104.585	745046.783	1765298.776	16033072.536	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_1-CJ4636-3E-11OCT2012.jpg	E	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_1-CJ4636-2-29JUN2010.jpg		Jun 29, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_1-CJ4636-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ROELL MNDT RM 2

NGS Name: ROELL RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4637](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	29	108 N	14 W	440802.29	923126.65	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2024	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2012)

Stamping: ROELL NO 2 1977

2.26 MILES SOUTH-SOUTHEAST OF ORONOCO, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 112 (100TH STREET NORTHWEST), AT TRUNK HIGHWAY 52 MILEPOINT 63.5, 97.0 FEET SOUTH OF A POWER POLE, 72.0 FEET EAST OF THE CENTERLINE OF NORTHBOUND TRUNK HIGHWAY 52, 1.8 FEET WEST OF A RIGHT-OF-WAY FENCE AND A WITNESS POST, 27.33 FEET SOUTH-SOUTHEAST OF STATION ROELL MNDT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1083.794	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1083.794	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1083.794	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1083.794			985.244	.023	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1083.794	.131		985.438	.066	1996	GPS - STATIC	2024	HTH63
1083.794			985.244	.023	2011	GPS - STATIC	2024	HTH63
1083.708	.262		985.274	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.435 03 = -98.300

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 08 02.29043	92 31 26.65333	603081.463	209642.472	.010		ADJUSTMENT	2024	GPS3721
44 08 02.29043	92 31 26.65333	603081.463	209642.472	.010	C	GPS - STATIC	2024	HTH63

NAD83(2007)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 08 02.28987	92 31 26.65455	603081.374	209642.415	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

Geodetic Position		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
44 08 02.29025	92 31 26.65355	603081.447	209642.453	.033	C	GPS - STATIC	2024	HTH63

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3012129.128	744956.969	1765322.208	16032982.457	.010		ADJUSTMENT	2024	GPS3721
3012129.128	744956.969	1765322.208	16032982.457	.010	C	GPS - STATIC	2024	HTH63

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3012129.040	744956.911	1765322.119	16032982.400	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3012129.112	744956.951	1765322.192	16032982.439	.033	C	GPS - STATIC	2024	HTH63



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_2-CJ4637-3E-11OCT2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_2-CJ4637-2-11OCT2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ROELL_RM_2-CJ4637-1-11OCT2012.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Oct 11, 2012
	Oct 11, 2012
	Oct 11, 2012



Mn/DOT Name: RST A

NGS Name: RST A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AC4938](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	105 N	14 W	435406.44	922900.75	2	B

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1995	2009	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STEEL ROD (NO SLEEVE) (DEPTH 32 FT)	METAL ROD	MNDT

Description: (2010)

Stamping: RST A 1995

2.0 MILES NORTH OF STEWARTVILLE, AT THE ROCHESTER AIRPORT, NEAR THE EAST END OF A RUNWAY, 1.15 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90, 108.0 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 63, AT TRUNK HIGHWAY 63 MILEPOINT 31.95, 3.3 FEET EAST OF A WITNESS POST. CONTACT THE AIRPORT MANAGER BEFORE USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1298.928	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1298.928	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB
1298.928	.016	2/1				VERTICAL ADJUSTMENT	2008	00000533
1298.928	.016	2/1				VERTICAL CONTROL SURVEY	2005	VSTEW

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
			1200.634	.006	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1200.719	.008	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1298.948	.098		1200.880	.049	1996	GPS - STATIC	2005	GPS2036
1298.915	.098		1200.880	.049	1996	GPS - STATIC	2004	GPS1994
1299.013	.131		1200.880	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1745
1298.948	.131		1200.880	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1298.882	.131		1200.880	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779
1298.948	.131		1200.880	.066	1996	GPS - STATIC	2002	HI90
1298.941	.098		1200.880	.049	1996	HORIZONTAL ADJUSTMENT	2002	GPS1526-13
1299.013	.131		1200.880	.066	1996	GPS - STATIC	2001	HDODG
1298.882	.131		1200.880	.066	1996	GPS - STATIC	2001	HKASS
1298.882	.098		1200.880	.049	1996	GPS - STATIC	1997	GPS805-B
1298.882	.131		1200.880	.066	1996	GPS - STATIC	1997	GPS805-C

Geoid Separations(ft): GEOID18 = -98.261 12B = -98.277 09 = -98.218 03 = -98.018

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 06.43970	92 29 00.75391	614166.993	125052.870	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 06.43987	92 29 00.75469	614166.936	125052.887	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.016	B	GPS - STATIC	2005	GPS2036
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.016	B	GPS - STATIC	2004	GPS1994
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	ADJUSTMENT	2003	GPS1745
43 54 06.43939	92 29 00.75410	614166.980	125052.838	.033	C	ADJUSTMENT	2003	GPS1770
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	ADJUSTMENT	2002	GPS1779
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	GPS - STATIC	2002	HI90
43 54 06.43943	92 29 00.75416	614166.975	125052.842	.016	B	ADJUSTMENT	2002	GPS1526-13
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	GPS - STATIC	2001	HDODG
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	GPS - STATIC	2001	HKASS
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.016	B	GPS - STATIC	1997	GPS805-B
43 54 06.43939	92 29 00.75411	614166.979	125052.838	.033	C	GPS - STATIC	1997	GPS805-C

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024337.315	660530.204	1776488.454	15948440.719	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024337.257	660530.220	1776488.396	15948440.736	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024337.301	660530.172	1776488.439	15948440.688	.016	B	GPS - STATIC	2005	GPS2036
3024337.301	660530.172	1776488.439	15948440.688	.016	B	GPS - STATIC	2004	GPS1994
3024337.301	660530.172	1776488.439	15948440.688	.033	C	ADJUSTMENT	2003	GPS1745
3024337.302	660530.172	1776488.440	15948440.688	.033	C	ADJUSTMENT	2003	GPS1770
3024337.301	660530.172	1776488.439	15948440.688	.033	C	ADJUSTMENT	2002	GPS1779
3024337.301	660530.172	1776488.439	15948440.688	.033	C	GPS - STATIC	2002	HI90
3024337.297	660530.176	1776488.435	15948440.692	.016	B	ADJUSTMENT	2002	GPS1526-13
3024337.301	660530.172	1776488.439	15948440.688	.033	C	GPS - STATIC	2001	HDODG
3024337.301	660530.172	1776488.439	15948440.688	.033	C	GPS - STATIC	2001	HKASS
3024337.301	660530.172	1776488.439	15948440.688	.016	B	GPS - STATIC	1997	GPS805-B
3024337.301	660530.172	1776488.439	15948440.688	.033	C	GPS - STATIC	1997	GPS805-C

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_A-AC4938-3N-03NOV2008.jpg	N	Nov 3, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_A-AC4938-2-03NOV2008.jpg		Nov 3, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_A-AC4938-1-03NOV2008.jpg		Nov 3, 2008

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RST AP STA B

NGS Name: RST AP STA B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AA9049](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	9	105 N	14 W	435454.29	923018.61		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1963	2009	GOOD	Horz=YES Vert=YES	NO		FLUSH	SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	NGS

Description: (2012)

Stamping: AP 1963 STA B

IN THE NORTHWEST CORNER OF THE ROCHESTER AIRPORT, 1.0 MILE WEST ALONG COUNTY ROAD 16 FROM THE JUNCTION OF COUNTY ROAD 16 AND HIGHWAY 63 TO AN ENTRANCE ROAD ON THE LEFT, THEN 0.4 MILE ALONG THE ENTRANCE ROAD TO A GATE ON THE RIGHT, FOLLOW THE SERVICE ROAD THROUGH A GATE SOUTHWEST THEN NORTHWEST TO TAXI J, THEN SOUTHWEST ALONG TAXI J 0.1 MILE TO TAXI A, NORTHWEST ALONG TAXI A 0.2 MILE TO CONNECTOR TAXI A8 ON THE LEFT LEADING TO INSTRUMENT LANDING SYSTEM, THEN FOLLOW TAXI A8 0.15 MILE TO INSTRUMENT LANDING SYSTEM ROAD AND STATION RST AP STA B, 141.0 FEET SOUTHWEST OF THE RUNWAY CENTER, 58.5 FEET SOUTHEAST OF THE INSTRUMENT LANDING SYSTEM ACCESS ROAD. CONTACT THE AIRPORT MANAGER BEFORE USE.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
			1177.681	.011	2011	HORIZONTAL ADJUSTMENT	2012 GPS2800
			1177.763	.012	2007	HORIZONTAL ADJUSTMENT	2007 GPS2300
1276.106	.131		1177.921	.066	1996	HORIZONTAL ADJUSTMENT	2002 GPS1526-14

Geoid Separations(ft): GEOID18 = -98.392 12B = -98.415 09 = -98.356 03 = -98.136

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 54 54.29358	92 30 18.61223	608442.126	129869.543	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 54 54.29373	92 30 18.61299	608442.071	129869.558	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 54 54.29334	92 30 18.61252	608442.105	129869.519	.033	C	ADJUSTMENT	2002	GPS1526-14

State Plane and UTM Coordinates (Feet)

NAD83(2011)		MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3018549.353	665269.953	1770761.255	15953249.586	.007		ADJUSTMENT			2012	GPS2800

NAD83(2007)		MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3018549.297	665269.967	1770761.199	15953249.601	.007		ADJUSTMENT			2007	GPS2300

NAD83(1996)		MN State Plane - South Zone		UTM - Zone 15					Project Info	
X	Y	X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3018549.332	665269.928	1770761.234	15953249.561	.033	C	ADJUSTMENT			2002	GPS1526-14



Mn/DOT Name: RST B

NGS Name: RST B

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	105 N	14 W	435430.94	922920.85	2	B

NGS ACRN: [CN9146](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2001	2010	GOOD	Horz=YES Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type

CONCRETE/BITUMINOUS SLAB

Disk Type

HORIZONTAL CONTROL DISK

Mon. Agency

NGS

Description: (2016)

Stamping: RST B 2001

AT THE ROCHESTER AIRPORT, 0.6 MILE WEST ON COUNTY ROAD 16 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 16 IN ROCHESTER, THEN 0.34 MILE SOUTH ON HELGERSON DRIVE TO A LOCKED GATE ON THE RIGHT, GO THROUGH A GATE AND AROUND A MAINTENANCE SHOP, TURN LEFT, GO SOUTHEAST ON A RAMP TO THE TERMINAL APRON, CONTINUE SOUTHEAST ALONG THE TERMINAL APRON 0.2 MILE TO STATION RST B ON THE LEFT (AFTER PASSING TAXIWAY C), 157.0 FEET SOUTHWEST OF A LIGHT POLE, 157.2 FEET SOUTHWEST OF A CHAIN LINK FENCE, 138.5 FEET SOUTHWEST OF THE OF NORTHEAST EDGE OF AN APRON, 111.3 FEET SOUTHEAST OF THE EXTENDED CENTER OF TAXIWAY C, 2.8 FEET SOUTHEAST OF A DRAIN. CONTACT THE AIRPORT MANAGER BEFORE USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1287.435	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1287.435	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
			1189.115	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1189.200	.011	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1287.468	.098		1189.358	.049	1996	HORIZONTAL ADJUSTMENT	2002	GPS1526-14
1287.468	.098		1189.358	.049	1996	HORIZONTAL ADJUSTMENT	2002	GPS1526-13

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.330 09 = -98.271 03 = -98.064

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 54 30.93547	92 29 20.84883	612682.810	127525.723	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 54 30.93562	92 29 20.84960	612682.753	127525.738	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 54 30.93524	92 29 20.84912	612682.789	127525.700	.016	B	ADJUSTMENT	2002	GPS1526-13
43 54 30.93524	92 29 20.84912	612682.789	127525.700	.016	B	ADJUSTMENT	2002	GPS1526-14



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022820.494	662982.911	1775002.443	15950911.021	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022820.437	662982.925	1775002.386	15950911.035	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3022820.473	662982.888	1775002.422	15950910.997	.016	B	ADJUSTMENT	2002	GPS1526-13
3022820.473	662982.888	1775002.422	15950910.997	.016	B	ADJUSTMENT	2002	GPS1526-14

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_B-CN9146-3NE-03NOV2008.jpg	NE	Nov 3, 2008
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_B-CN9146-2-03NOV2008.jpg		Nov 3, 2008
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RST_B-CN9146-1-03NOV2008.jpg		Nov 3, 2008

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RUBIN

NGS Name: RUBIN

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8159](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	26	106 N	12 W	435717.99	921327.58	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2016	2021	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 15 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) **Stamping:** RUBIN 2016

2.0 MILES SOUTH OF EYOTA, 0.75 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 224.8, 73.2 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 27.3 FEET NORTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: BOOBOO - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1316.270	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1316.228	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1316.116	.262		1218.075	.197	2011	GPS - OPUS	2021	GPSBM
1316.280	.262		1218.239	.197	2011	GPS - OPUS	2021	GPSBM
1316.277	.262		1218.232	.197	2011	GPS - RTRN	2021	RTRN2021
1316.188	.262		1218.154	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.035 09 = -97.923 03 = -97.821

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 57 17.99302	92 13 27.58393	682328.947	144916.135	.131	3	GPS - OPUS	2021	GPSBM
43 57 17.99302	92 13 27.58375	682328.960	144916.135	.131	3	GPS - OPUS	2021	GPSBM
43 57 17.99297	92 13 27.58391	682328.948	144916.130	.131	3	GPS - RTRN	2021	RTRN2021
43 57 17.99297	92 13 27.58416	682328.930	144916.130	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference
3092223.295	681297.476	1844601.959	15968363.756	.131	3	GPS - OPUS	2021	GPSBM
3092223.308	681297.476	1844601.972	15968363.756	.131	3	GPS - OPUS	2021	GPSBM
3092223.297	681297.471	1844601.961	15968363.751	.131	3	GPS - RTRN	2021	RTRN2021
3092223.278	681297.471	1844601.942	15968363.751	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RUBIN-DQ8159-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RUBIN-DQ8159-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RUBIN-DQ8159-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 1

NGS Name: RV 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0120](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	35	107 N	14 W	440134.00	922734.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2005	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - LARGE	RIVET	NGS

Description: (2016)

Stamping:

IN ROCHESTER, AT RAILROAD MILEPOST 49, SOUTHEAST OF CIVIC CENTER DRIVE NORTHEAST AND THE RAILROAD, IN THE SOUTH END OF THE WEST STONE ABUTMENT OF THE RAILROAD BRIDGE, 18.0 FEET SOUTH OF THE RAILROAD. THE STATION IS A RIVET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
989.434	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
989.348	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.520 09 = -98.435 03 = -98.274

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 10

NGS Name: RV 10

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0037](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	9	106 N	12 W	435939.10	921543.10	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2012	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE HEADWALL	RIVET	NGS

Description: (2010)

Stamping:

1.6 MILES WEST OF EYOTA, 0.45 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA TO TRUNK HIGHWAY 14 MILEPOINT 224.10, THEN 0.30 MILE SOUTH ALONG 110TH AVENUE SOUTHEAST, THEN WALK 0.15 MILE WEST ALONG THE RAILROAD TRACKS TO THE MARK, 25.0 FEET SOUTH OF THE RAILROAD TRACKS, 1.4 FEET NORTHWEST OF THE SOUTHEAST CORNER OF THE STONE HEADWALL OF THE RAILROAD BRIDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1257.786	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1257.717	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1257.717	.007	1				VERTICAL CONTROL SURVEY	1934 L81 MINN

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.021 09 = -97.897 03 = -97.805

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_10-OO0037-3SE-22JUN2010.jpg	SE	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_10-OO0037-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_10-OO0037-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 11

NGS Name: RV 11

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0038](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	10	106 N	12 W	435934.00	921503.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES	RR	RECESSED 4 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (1934)

Stamping:

1.1 MILES WEST OF THE EYOTA WATER TANK, 33.0 FEET WEST OF RAILROAD MILEPOST 38, IN THE EAST END OF THE SOUTH HEADWALL OF A RAILROAD BRIDGE, 25.0 FEET SOUTH OF THE RAILROAD.

Station Notes

3-31-2010 FOUND A 3/8 INCH DRILL HOLE, THE RIVET IS GONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1273.396	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1273.328	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.897 03 = -97.805

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_11-OO0038-3NE-31MAR2010.jpg	NE	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_11-OO0038-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_11-OO0038-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 12

NGS Name: RV 12

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	106 N	12 W	435924.00	921402.00	2	

NGS ACRN: OO0040	Get Map
NGS Quad / Sta Num : 43092114/	
USGS Quad: EYOTA	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES	RR	RECESSED 4 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (2010)

Stamping:

IN EYOTA, 165.0 FEET WEST OF A RAILROAD STATION, IN THE EAST END OF THE SOUTH HEADWALL OF A RAILROAD BRIDGE, 27.0 FEET SOUTH OF THE RAILROAD.

Station Notes

3-31-2010 FOUND A 3/8 INCH DRILL HOLE, THE RIVET IS GONE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1246.031	.016	2/0						VERTICAL ADJUSTMENT		1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1245.969	.007	1						VERTICAL CONTROL SURVEY		1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.025 09 = -97.907 03 = -97.815

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_12-OO0040-3N-31MAR2010.jpg	N	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_12-OO0040-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_12-OO0040-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 13

NGS Name: RV 13

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0042](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	14	106 N	12 W	435918.00	921335.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES	RR	FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

0.2 MILE EAST OF THE EYOTA WATER TANK, 165.0 FEET EAST OF A RAILROAD STATION, IN THE SOUTH END OF THE EAST ABUTMENT OF A STONE RAILROAD BRIDGE, 12.0 FEET SOUTH OF THE RAILROAD.

Station Notes

3-31-2010 THE ABUTMENT WAS RECONSTRUCTED WITH CONCRETE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.529	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1230.470	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.031 09 = -97.913 03 = -97.821

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_13-OO0042-3NE-31MAR2010.jpg	NE	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_13-OO0042-2-31MAR2010.jpg		Mar 31, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 14

NGS Name: RV 14

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000044](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SE	18	106 N	11 W	
	435842.00	921048.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

2.2 MILES WEST OF DOVER, 214.5 FEET WEST OF RAILROAD MILEPOST 34, IN THE NORTH END OF THE WEST ABUTMENT OF A RAILROAD BRIDGE, 10.0 FEET NORTH OF THE RAILROAD.

Station Notes

THE BRIDGE ABUTMENT WAS REDONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1180.778	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1180.736	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.084 09 = -97.976 03 = -97.874

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 15

NGS Name: RV 15

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000046](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	17	106 N	11 W	435848.00	920947.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

1.3 MILES WEST OF DOVER, 264.0 FEET EAST OF RAILROAD MILEPOST 34, IN THE SOUTHEAST CORNER OF THE SOUTHEAST STONE ABUTMENT OF A RAILROAD BRIDGE, 12.0 FEET SOUTHEAST OF THE RAILROAD.

Station Notes

THE BRIDGE WAS REBUILT, NEW ABUTMENTS AND WINGWALLS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1173.935	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1173.899	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.130 12B = -98.110 09 = -98.008 03 = -97.900

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 16

NGS Name: RV 16

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0047](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	16	106 N	11 W	435844.00	920918.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=NO	YES	RR	PROJECTS 0 IN.	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE HEADWALL	RIVET	NGS

Description: (2010)

Stamping:

0.9 MILE WEST OF DOVER, IN THE SOUTHWEST CORNER OF THE EAST STONE ABUTMENT OF A RAILROAD BRIDGE, 444.0 FEET SOUTH OF TRUNK HIGHWAY 14, 12.0 FEET SOUTHWEST OF THE RAILROAD, 1.4 FEET EAST AND 1.1 FEET NORTH OF THE EDGES OF THE HEADWALL.

Station Notes

THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1162.386	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1162.353	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1162.353	.007	1					VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.126 09 = -98.025 03 = -97.913

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_16-OO0047-3W-23JUN2010.jpg	W	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_16-OO0047-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_16-OO0047-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 17

NGS Name: RV 17

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	106 N	11 W	435827.00	920754.00	2	

NGS ACRN: [OO0049](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=NO	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	RIVET	NGS

Description: (2010)

Stamping:

0.4 MILE EAST OF DOVER, IN THE SOUTHWEST CORNER OF THE EAST STONE ABUTMENT OF A RAILROAD BRIDGE, 600.0 FEET SOUTH OF TRUNK HIGHWAY 14, 406.0 FEET NORTH OF COUNTY ROAD 142, 12.0 FEET SOUTH OF THE RAILROAD, 0.6 FOOT NORTH AND 1.0 FOOT EAST OF THE EDGES OF THE STONE ABUTMENT.

Station Notes

THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1138.689	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1138.659	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1138.659	.007	1					VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.189 12B = -98.172 09 = -98.071 03 = -97.953

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_17-OO0049-3W-23JUN2010.jpg	W	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_17-OO0049-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_17-OO0049-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 18

NGS Name: RV 18

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000050](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	23	106 N	11 W	435814.00	920701.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

1.2 MILES EAST OF DOVER, 1 POLE EAST OF RAILROAD MILEPOST 31, IN THE SOUTH END OF THE EAST STONE ABUTMENT OF A RAILROAD BRIDGE, 160.0 FEET SOUTH OF TRUNK HIGHWAY 14, 75.0 FEET NORTH OF COUNTY ROAD 142, 10.0 FEET SOUTH OF THE RAILROAD.

Station Notes

THE STONE BRIDGE HAS BEEN REPLACED BY A CONCRETE BRIDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1134.417	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1134.391	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.202 09 = -98.103 03 = -97.979

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 19

NGS Name: RV 19

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000051](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	23	106 N	11 W	435813.00	920626.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

1.7 MILES EAST OF DOVER, 280.5 FEET WEST OF RAILROAD MILEPOST 30, IN THE EAST END OF THE SOUTH STONE HEADWALL OF A RAILROAD BRIDGE, 160.0 FEET NORTH OF COUNTY ROAD 142, 140.0 FEET SOUTH OF TRUNK HIGHWAY 14, 10.0 FEET SOUTH OF THE RAILROAD.

Station Notes

NO BRIDGE IN THIS VICINITY.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1128.603	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1128.580	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.238 12B = -98.228 09 = -98.130 03 = -97.998

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 2

NGS Name: RV 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0121](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	31	107 N	13 W	440134.50	922616.90	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	RIVET	NGS

Description: (2010)

Stamping:

IN THE SOUTHEAST CORNER OF THE EAST STONE ABUTMENT OF A RAILROAD BRIDGE OVER A PAVED TRAIL NORTH OF THE FEDERAL PRISON, 1.3 MILES EAST ON THE RAILROAD FROM THE ROCHESTER RAILROAD EXPRESS STATION, 1.0 MILE EAST ON CENTER STREET FROM THE JUNCTION OF CENTER STREET AND TRUNK HIGHWAY 63 (BROADWAY AVENUE) IN ROCHESTER, THEN 0.15 MILE NORTH TO 15TH AVENUE NORTHEAST, THEN 0.30 MILE NORTHEAST ALONG THE RAILROAD TRACKS, 12.0 FEET SOUTH OF THE RAILROAD, 1.0 FOOT EAST AND 1.0 FOOT NORTHWEST OF THE EDGE OF THE STONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.743	.016	2/1				VERTICAL ADJUSTMENT	2008	00000425-32
1006.743	.016	2/1				VERTICAL CONTROL SURVEY	2007	VYANK
1006.763	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.678	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1006.678	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.455 09 = -98.363 03 = -98.212

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_2-PP0121-3E-15JUL2010.jpg	E	Jul 15, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_2-PP0121-2-15JUL2010.jpg		Jul 15, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_2-PP0121-1-15JUL2010.jpg		Jul 15, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 20

NGS Name: RV 20

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000053](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	24	106 N	11 W	435813.00	920538.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1934)

Stamping:

2.5 MILES EAST OF DOVER, 148.5 FEET EAST OF RAILROAD MILEPOST 30, IN THE EAST END OF THE SOUTH STONE HEADWALL OF A RAILROAD BRIDGE, 210.0 FEET SOUTH OF TRUNK HIGHWAY 14, 135.0 FEET NORTH OF COUNTY ROAD 142, 12.0 FEET SOUTH OF THE RAILROAD.

Station Notes

THE STONE BRIDGE WAS REPLACED WITH A TIMBER ONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1120.601	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1120.578	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.261 09 = -98.163 03 = -98.028

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 3

NGS Name: RV 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0124](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	4	107 N	13 W	440110.00	922321.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - LARGE	RIVET	NGS

Description: (1934)

Stamping:

4.0 MILES EAST OF ROCHESTER, IN THE SOUTHEAST END OF THE SOUTHWEST HEADWALL OF A RAILROAD BRIDGE, 4.4 MILES EAST ALONG THE RAILROAD FROM THE ROCHESTER RAILROAD EXPRESS STATION, 115.5 FEET NORTHWEST OF RAILROAD MILEPOST 45, 12.0 FEET SOUTHWEST OF THE RAILROAD.

Station Notes

6-17-2010 FOUND NO DRAINAGE STRUCTURES AT THIS LOCATION.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1059.689	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1059.604	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.290 12B = -98.300 09 = -98.179 03 = -98.058

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 4

NGS Name: RV 4

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	11	106 N	13 W	440024.30	922134.00	2	

NGS ACRN: PP0126	Get Map
NGS Quad / Sta Num : 44092232/	
USGS Quad: CHESTER	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2013	GOOD	Horz=NO Vert=YES	YES	RR	PROJECTS 1 IN.	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2010)

Stamping:

5.6 MILES SOUTHEAST OF ROCHESTER, 0.7 MILE WEST OF CHESTER, IN THE NORTHWEST QUADRANT OF TRUNK HIGHWAY 14 AND 60TH AVENUE SOUTHEAST, 26.0 FEET SOUTH OF A RAILROAD, IN THE SOUTHEAST CORNER OF THE SOUTH HEADWALL OF A RAILROAD BOX CULVERT, 0.9 FOOT NORTH AND 1.3 FEET WEST OF THE EDGES OF A HEADWALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1103.357	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1103.357	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1103.361	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES
1103.285	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1103.200	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1103.200	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.205 09 = -98.077 03 = -97.966

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_4-PP0126-3N-17JUN2010.jpg	N	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_4-PP0126-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_4-PP0126-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 5

NGS Name: RV 5

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0128](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NE	7	106 N	12 W	440002.00	921830.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	RIVET	NGS

Description: (2010)

Stamping:

4.0 MILES NORTHWEST OF EYOTA, 1.8 MILES EAST OF CHESTER, 0.1 MILE WEST OF RAILROAD MILEPOST 41, 155.0 FEET NORTH OF TRUNK HIGHWAY 14, 12.0 FEET SOUTH OF A RAILROAD, IN THE SOUTHEAST CORNER OF THE EAST ABUTMENT OF A RAILROAD BRIDGE, 1.0 FOOT WEST AND 1.7 FEET NORTH OF THE EDGES.

Station Notes

THE STATION IS A RIVET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1198.597	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1198.518	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1198.518	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.074 12B = -98.081 09 = -97.946 03 = -97.851

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_5-PP0128-3SW-17JUN2010.jpg	SW	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_5-PP0128-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_5-PP0128-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 6

NGS Name: RV 6

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0032](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	106 N	12 W	435958.00	921754.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	CNWRR

Description: (1934)

Stamping:

3.5 MILES NORTHWEST OF EYOTA, 2.3 MILES EAST FROM HAVERHILL, 2.3 MILES EAST OF THE DEPOT AT HAVERHILL,
ALONG THE CHICAGO AND NORTHWESTERN RAILROAD, IN THE SOUTHEAST CORNER OF THE HEADWALL OF A 2.0 FEET
BY 4.0 FEET STONE CULVERT NUMBER M-103, 9.0 FEET SOUTH OF THE TRACK.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1221.225	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.058 12B = -98.061 09 = -97.930 03 = -97.834

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 7

NGS Name: RV 7

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	NGS ACRN: OO0033 Get Map
SW	8	106 N	12 W	435954.00	921726.00	2		NGS Quad / Sta Num : 43092141/ USGS Quad: MARION

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE HEADWALL	RIVET	NGS

Description: (2010)

Stamping:

3.1 MILES NORTHEAST OF EYOTA, 2.7 MILES EAST OF CHESTER, IN THE EAST END OF THE SOUTH HEADWALL OF A RAILROAD BRIDGE OVER A STREAM, 24.0 FEET SOUTH OF THE RAILROAD.

Station Notes

THE STATION IS A RIVET.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1219.643	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1219.571	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1219.571	.007	1				VERTICAL CONTROL SURVEY	1934 L81 MINN

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.051 09 = -97.920 03 = -97.828

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_7-OO0033-3SW-22JUN2010.jpg	SW	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_7-OO0033-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_7-OO0033-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 78

NGS Name: RV 78

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	31	107 N	15 W	440155.00	924016.00	2	

NGS ACRN: PP0208	Get Map
NGS Quad / Sta Num : 44092323/	
USGS Quad: BYRON	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2010)

Stamping:

1.2 MILES WEST OF BYRON, AT RAILROAD MILEPOST 60, IN THE SOUTHEAST CORNER OF THE SOUTH HEADWALL OF A RAILROAD CULVERT, 11.0 FEET SOUTH OF THE SOUTH RAIL.

Station Notes

THE STATION IS A STANDARD MONEL-METAL RIVET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1235.680	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1235.673	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1235.673	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1235.673	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.317 12B = -98.320 09 = -98.238 03 = -98.041

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_78-PP0208-3S-10MAY2010.jpg	S	May 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_78-PP0208-2-10MAY2010.jpg		May 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_78-PP0208-1-10MAY2010.jpg		May 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 79

NGS Name: RV 79

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0209](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	32	107 N	15 W	440154.00	923927.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1974	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	CNWRR

Description: (1933)

Stamping:

0.6 MILE WEST FROM BYRON, 0.6 MILE WEST ALONG THE CHICAGO AND NORTHWESTERN RAILWAY FROM THE STATION AT BYRON, 0.3 MILE WEST OF MILEPOST 59, AT A CULVERT NUMBER M 150, IN THE TOP OF THE SOUTH HEADWALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1239.286	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1239.282	.016	2				VERTICAL CONTROL SURVEY		1935	CUTLER-VERT

Geoid Separations(ft): GEOID18 = -98.389 12B = -98.392 09 = -98.310 03 = -98.120

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 8

NGS Name: RV 8

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0035](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	8	106 N	12 W	435951.00	921702.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2012)

Stamping:

2.7 MILES WEST OF EYOTA, 1.7 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, TO TRUNK HIGHWAY 14 MILEPOINT 223.10, 0.20 MILE SOUTH ALONG COUNTY ROAD 102, 0.20 MILE WEST ALONG RAILROAD TRACKS, 15.0 FEET SOUTH OF THE RAILROAD TRACKS, IN THE SOUTHEAST CORNER OF A RAILROAD CULVERT HEADWALL.

Station Notes

THE STATION IS A RIVET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1232.517	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1232.445	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1232.445	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.041 09 = -97.910 03 = -97.815

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_8-OO0035-3SE-22JUN2010.jpg	SE	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_8-OO0035-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_8-OO0035-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 80

NGS Name: RV 80

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0211](#) [Get Map](#)
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	107 N	15 W	440150.00	923750.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (1934)

Stamping:

IN NORTHEAST BYRON, 0.8 MILE EAST OF THE BYRON RAILROAD STATION ALONG THE RAILROAD, 200.0 FEET EAST OF RAILROAD MILEPOST 58, IN THE NORTH HEADWALL (THE NATIONAL GEODETIC SURVEY (NGS) SAYS SOUTH HEAD WALL) OF A RAILROAD CULVERT.

Station Notes

5-10-2010 CHECKED BOTH HEADWALLS, FOUND NOTHING.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1248.298	.016	2/0				VERTICAL ADJUSTMENT		1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1248.301	.016	2				VERTICAL CONTROL SURVEY		1935	CUTLER-VERT
1248.301	.007	1				VERTICAL CONTROL SURVEY		1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.500 12B = -98.500 09 = -98.428 03 = -98.238

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 81

NGS Name: RV 81

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0213](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	15 W	440150.00	923612.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2001	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (1945)

Stamping:

2.1 MILES EAST OF BYRON, 2.3 MILES EAST OF THE BYRON RAILROAD STATION ALONG THE RAILROAD, IN THE HEADWALL OF A RAILROAD CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1185.785	.007	1/1				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1185.785	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1185.785	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.582 12B = -98.582 09 = -98.510 03 = -98.323

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 82

NGS Name: RV 82

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0214](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	35	107 N	15 W	440146.00	923535.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (1945)

Stamping:

2.6 MILES EAST OF BYRON, 2.8 MILES EAST OF THE BYRON RAILROAD STATION ALONG THE RAILROAD, IN THE SOUTH HEADWALL OF A RAILROAD CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1158.557	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1158.574	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1158.574	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.609 12B = -98.605 09 = -98.537 03 = -98.350

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_82-PP0214-1-27MAY2010.jpg		May 27, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 83

NGS Name: RV 83

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0215](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	36	107 N	15 W	440147.00	923349.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	RIVET	NGS

Description: (1945)

Stamping:

4.6 MILES WEST OF ROCHESTER, 2.5 MILES NORTHWEST THEN SOUTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 5.4 MILES WEST OF THE ROCHESTER RAILROAD STATION ALONG THE RAILROAD, IN THE SOUTH HEADWALL OF A RAILROAD CULVERT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1087.819	.007	1/1				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1087.819	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1087.819	.007	1				VERTICAL CONTROL SURVEY	1933 L100 MINN

Geoid Separations(ft): GEOID18 = -98.648 12B = -98.645 09 = -98.579 03 = -98.389

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 84

NGS Name: RV 84

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0218](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	30	107 N	14 W	440221.00	923251.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2010)

Stamping:

4.0 MILES NORTHWEST OF ROCHESTER, 1.5 MILES NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER, 0.4 MILE EAST OF RAILROAD MILEPOST 54, IN THE SOUTHEAST CORNER OF THE SOUTH HEADWALL OF A RAILROAD CULVERT, 1.2 FEET NORTH AND 1.8 FEET WEST OF THE EDGES OF THE STONE HEADWALL.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1047.977	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1048.036	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1047.970	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1048.036	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.638 12B = -98.638 09 = -98.566 03 = -98.386

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_84-PP0218-3NE-14JUL2010.jpg	NE	Jul 14, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_84-PP0218-2-14JUL2010.jpg		Jul 14, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_84-PP0218-1-14JUL2010.jpg		Jul 14, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 85

NGS Name: RV 85

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0129](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	34	107 N	14 W	440200.00	922934.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	RIVET	NGS

Description: (1970)

Stamping:

IN ROCHESTER, 0.2 MILE NORTHWEST ALONG 7TH STREET NORTHWEST FROM THE JUNCTION OF 7TH STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, 1.5 MILES WEST OF THE ROCHESTER RAILROAD STATION, 1400.0 FEET WEST OF A BRIDGE, 45.0 FEET WEST OF THE WEST END OF A RAILROAD TRESTLE, 300.0 FEET SOUTH OF THE BRIESE STEEL COUNTY BUILDING, 150.0 FEET SOUTH OF 7TH STREET NORTHWEST (INDUSTRIAL PARK ROAD), 7.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD, AT THE NORTH-SOUTH CROSSING OF A SPUR LINE.

Station Notes

7-15-2010 THE TOWER AND FOUNDATION ARE GONE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1007.055	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1006.989	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
1006.989	.016	2				VERTICAL CONTROL SURVEY	1971	L22214
1007.150	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1007.150	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.592 12B = -98.596 09 = -98.514 03 = -98.343

* No Horizontal Positions in the Database *



Mn/DOT Name: RV 86

NGS Name: RV 86

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0132](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	34	107 N	14 W	440154.85	922911.58	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	2012	GOOD	Horz=NO Vert=NO	YES	RR	FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2012)

Stamping:

IN ROCHESTER, 0.1 MILE SOUTHEAST OF THE TRUNK HIGHWAY 52 BRIDGE ALONG 7TH STREET NORTHWEST, 350.0 FEET EAST OF THE HIGHWAY BRIDGE OVERHEAD, 13.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS, IN THE EAST END OF THE SOUTH HEADWALL OF A RAILROAD CULVERT, 1.4 FEET WEST AND 1.3 FEET NORTH OF THE STONE HEADWALL EDGES.

Station Notes

THE SURVEY MARK IS ON RAILROAD PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1002.449	.016	2/1				VERTICAL ADJUSTMENT	2011	00000690
1002.449	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
1002.449	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1002.449	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS
1002.449	.016	2/1				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1002.383	.016	2/1				VERTICAL CONTROL SURVEY	2002	VROC4
1002.383	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1002.383	.007	1				VERTICAL CONTROL SURVEY	1972	L106 MINN
1002.383	.007	1				VERTICAL CONTROL SURVEY	1971	L22214
1002.383	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1002.383	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1002.311	.262		903.807	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.586 09 = -98.504 03 = -98.330

Lat/Lon and County Coordinates (Feet)

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 54.84989	92 29 11.57644	613127.188	172482.106	.131	3	GPS - RTRN	2012	RTRN2012

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3022666.985	707937.312	1775401.409	15995848.439	.131	3	GPS - RTRN	2012	RTRN2012

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_86-PP0132-3S-11OCT2012.jpg	S	Oct 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_86-PP0132-2-11OCT2012.jpg		Oct 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_86-PP0132-1-11OCT2012.jpg		Oct 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 87

NGS Name: RV 87

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0133](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	107 N	14 W	440143.00	922820.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	SEE DESCRIPTION	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE HEADWALL	RIVET	NGS

Description: (2010)

Stamping:

IN ROCHESTER, 0.4 MILE WEST ALONG CIVIC CENTER DRIVE FROM THE JUNCTION OF CIVIC CENTER DRIVE AND TRUNK HIGHWAY 63 IN ROCHESTER, 0.4 MILE WEST OF THE ROCHESTER RAILROAD STATION, IN THE TOP OF THE EAST ABUTMENT OF A RAILROAD BRIDGE, 300.0 FEET WEST OF 6TH AVENUE NORTHWEST, 250.0 FEET NORTH OF OLD TRUNK HIGHWAY 14, 100.0 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF THE JOHN R COOK CITY PARK, 4.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD (STATION RV 87 IS A RIVET AND MAY BE UNDER A WOODEN TIMBER FOR A NEWER WALKWAY).

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
990.333	.016	2/1				VERTICAL ADJUSTMENT	2006	00000497
990.336	.016	2/1				VERTICAL CONTROL SURVEY	2001	VKASS
990.316	.016	2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
990.238	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
990.238	.016	2				VERTICAL CONTROL SURVEY	1972	L106 MINN
990.238	.016	2				VERTICAL CONTROL SURVEY	1971	L22214
990.313	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
990.313	.007	1				VERTICAL CONTROL SURVEY	1933	L100 MINN

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.553 09 = -98.471 03 = -98.304

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_87-PP0133-2-08APR2010.jpg		Apr 8, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: RV 9

NGS Name: RV 9

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0036](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	9	106 N	12 W	435943.20	921613.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2012	NOT FOUND	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	RIVET	NGS

Description: (2012)

Stamping:

2.15 MILES NORTHWEST OF EYOTA, 0.45 MILE WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, THEN 0.30 MILE SOUTH ALONG 110TH AVENUE SOUTHEAST, THEN WALK 0.55 MILE WEST ALONG THE RAILROAD TRACKS, IN THE SOUTHEAST CORNER OF A RAILROAD CATTLE UNDERPASS, 1.3 FEET WEST AND 1.8 FEET NORTH OF THE EDGES OF A HEADWALL.

Station Notes

THE STATION IS A RIVET.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1256.740	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1256.671	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1256.671	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.031 12B = -98.025 09 = -97.900 03 = -97.808

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_9-OO0036-3W-22JUN2010.jpg	W	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_9-OO0036-2-22JUN2010.jpg		Jun 22, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/RV_9-OO0036-1-22JUN2010.jpg		Jun 22, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: S 132

NGS Name: S 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0127](#) [Get Map](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	11	106 N	13 W	440018.00	922041.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2001	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1994)

Stamping: S 132 1934

6.3 MILES EAST OF ROCHESTER, 400.0 FEET NORTH ALONG COUNTY ROAD 119 FROM THE JUNCTION OF COUNTY ROAD 119 AND TRUNK HIGHWAY 14 IN ROCHESTER, AT HAVERHILL, 60.0 FEET EAST OF A RAILROAD STATION, 42.0 FEET EAST OF A ROAD, 21.0 FEET SOUTH OF THE RAILROAD.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1124.889	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1124.804	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT
1124.804	.007	1				VERTICAL CONTROL SURVEY	1934 L81 MINN

Geoid Separations(ft): GEOID18 = -98.149 12B = -98.159 09 = -98.035 03 = -97.926

* No Horizontal Positions in the Database *



Mn/DOT Name: SALEM 13

NGS Name: SALEM 13

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2863](#)
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	13	106 N	15 W	435933.92	923441.12		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2011)

Stamping: SALEM 13 2010

3.0 MILES SOUTHEAST OF BYRON, 0.75 MILE SOUTH ALONG COUNTY ROAD 104 FROM THE JUNCTION OF COUNTY ROAD 104 AND TRUNK HIGHWAY 14 EAST OF BYRON, THEN 1.0 MILE WEST ALONG COUNTY ROAD 34, THEN 2.0 MILES SOUTH ALONG 70TH AVENUE SOUTHWEST, 37.0 FEET EAST OF 70TH AVENUE SOUTHWEST, 70.0 FEET SOUTH OF 20TH STREET SOUTHWEST, 41.0 FEET SOUTH OF A POWER POLE NUMBER 8078, 2.0 FEET WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1156.097				1057.442	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1156.080	.131			1057.701	.066	1996	GPS - STATIC	2014	HOLMS
1156.097				1057.442	.017	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.661 12B = -98.668 09 = -98.599 03 = -98.392

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 33.92288	92 34 41.12298	589109.398	158098.793	.020		ADJUSTMENT	2014	GPS3018
43 59 33.92288	92 34 41.12298	589109.398	158098.793	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)		Olmsted County					Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference
43 59 33.92266	92 34 41.12324	589109.379	158098.771	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
2998844.752	693237.352	1751408.598	15981447.108	.020		ADJUSTMENT	2014	GPS3018
2998844.752	693237.352	1751408.598	15981447.108	.020	C	GPS - STATIC	2014	HOLMS

NAD83(1996)		UTM - Zone 15					Project Info	
MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Year	Reference
2998844.733	693237.330	1751408.579	15981447.086	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_13-DP2863-3W-02NOV2010.jpg	W	Nov 2, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_13-DP2863-2-02NOV2010.jpg		Nov 2, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_13-DP2863-1-02NOV2010.jpg		Nov 2, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SALEM 28

NGS Name: SALEM 28

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2864](#)
NGS Quad / Sta Num : 43092414/
USGS Quad: ROCK DELL

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	28	106 N	15 W	435724.24	923731.68		C	2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 18 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2012)

Stamping: SALEM 28 2010

5.5 MILES SOUTH OF BYRON, 5.9 MILES SOUTH AND WEST ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND TRUNK HIGHWAY 14 EAST OF BYRON, 47.0 FEET SOUTH OF COUNTY ROAD 3, 2.0 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1154.447			1055.897	.015	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1154.414	.131		1056.156	.066	1996	GPS - STATIC	2014	HOLMS
1154.447			1055.897	.015	2011	GPS - STATIC	2014	HOLMS
1154.420	.262		1055.923	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.550 12B = -98.566 09 = -98.494 03 = -98.274

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.24220	92 37 31.68493	576686.418	144919.004	.020		ADJUSTMENT	2014	GPS3018
43 57 24.24220	92 37 31.68493	576686.418	144919.004	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.24262	92 37 31.68456	576686.445	144919.047	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 57 24.24184	92 37 31.68516	576686.402	144918.967	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2986599.056	679894.841	1739004.355	15968260.603	.020		ADJUSTMENT	2014	GPS3018
2986599.056	679894.841	1739004.355	15968260.603	.020	C	GPS - STATIC	2014	HOLMS

<u>NAD83(2007)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2986599.083	679894.884	1739004.382	15968260.645	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
2986599.040	679894.804	1739004.339	15968260.566	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_28-DP2864-3S-11SEP2012.jpg	S	Sep 11, 2012
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_28-DP2864-2-11SEP2012.jpg		Sep 11, 2012
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_28-DP2864-1-11SEP2012.jpg		Sep 11, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SALEM 9

NGS Name: SALEM 9

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP2865](#)
NGS Quad / Sta Num : 43092414/
USGS Quad: ROCK DELL

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	9	106 N	15 W	435947.24	923748.62		C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2010	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 16 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MN-109

Description: (2011)

Stamping: SALEM 9 2010

2.0 MILES SOUTH OF BYRON, 2.8 MILES SOUTH ALONG COUNTY ROAD 5 FROM THE JUNCTION OF COUNTY ROAD 5 AND TRUNK HIGHWAY 14 IN BYRON, 46.0 FEET SOUTH OF COUNTY ROAD 5, 71.0 FEET WEST OF A FIELD ENTRANCE SOUTH, 2.0 FEET NORTH OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1159.909			1061.369	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1159.896	.131		1061.632	.066	1996	GPS - STATIC	2014	HOLMS
1159.909			1061.369	.018	2011	GPS - STATIC	2014	HOLMS

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.550 09 = -98.474 03 = -98.271

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 47.24215	92 37 48.62363	575397.016	159395.631	.023		ADJUSTMENT	2014	GPS3018
43 59 47.24215	92 37 48.62363	575397.016	159395.631	.023	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 59 47.24184	92 37 48.62392	575396.994	159395.599	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2985117.595	694351.789	1737700.936	15982729.541	.023		ADJUSTMENT	2014	GPS3018
2985117.595	694351.789	1737700.936	15982729.541	.023	C	GPS - STATIC	2014	HOLMS

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
2985117.575	694351.757	1737700.915	15982729.510	.033	C	GPS - STATIC	2014	HOLMS

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_9-DP2865-3W-02NOV2010.jpg	W	Nov 2, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_9-DP2865-2-02NOV2010.jpg		Nov 2, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SALEM_9-DP2865-1-02NOV2010.jpg		Nov 2, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SENJEM

NGS Name: SENJEM

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	2	108 N	15 W	441123.57	923521.74	2	C

NGS ACRN: [DO9064](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2014	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2014) Stamping: SENJEM 2012

IN PINE ISLAND, 0.8 MILE NORTHWEST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 EAST/COUNTY ROAD 31 IN PINE ISLAND, AT TRUNK HIGHWAY 52 MILEPOINT 68.75, 85.5 FEET NORTHEAST OF NORTHBOUND 52, 1.5 FEET SOUTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1032.147	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1032.147	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1032.150	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1032.150			933.686	.018	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1032.150	.131		933.870	.066	1996	GPS - STATIC	2014	HOLMS
1032.150			933.686	.018	2011	GPS - STATIC	2014	HOLMS
1031.989	.262		933.623	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.471 12B = -98.458 09 = -98.366 03 = -98.208

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 11 23.57005	92 35 21.73603	585855.071	229951.022	.020		ADJUSTMENT	2014	GPS3018
44 11 23.57005	92 35 21.73603	585855.071	229951.022	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 11 23.56928	92 35 21.73598	585855.075	229950.944	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 11 23.56988	92 35 21.73640	585855.044	229951.005	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994636.355	765032.442	1748082.585	16053264.410	.020		ADJUSTMENT	2014	GPS3018
2994636.355	765032.442	1748082.585	16053264.410	.020	C	GPS - STATIC	2014	HOLMS

NAD83(2007)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994636.359	765032.364	1748082.589	16053264.333	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
2994636.328	765032.424	1748082.558	16053264.393	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SENJEM-DO9064-3NE-10NOV2012.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SENJEM-DO9064-2-10NOV2012.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SENJEM-DO9064-1-31AUG2022.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
NE	Nov 10, 2012
	Nov 10, 2012
	Aug 31, 2022



Mn/DOT Name: SHADY

NGS Name: SHADY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DJ2666](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	6	108 N	14 W	441129.89	923235.82		C	2007	2021	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL SPIKE IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MN-157

Description: (2007)

Stamping: SHADY

1.8 MILES NORTH OF ORONOCO, 1.1 MILES SOUTH AND EAST ON COUNTY ROAD 12 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 IN ORONOCO, THEN 1.6 MILES NORTH ON COUNTY ROAD 18, 0.25 MILE SOUTH OF 135TH STREET, 54.4 FEET EAST OF COUNTY ROAD 18, 13.8 FEET SOUTH OF A GRASS APPROACH, 115.5 FEET SOUTHEAST OF A UTILITY POLE, 0.6 FOOT WEST OF A WITNESS POST.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1142.714	.262		1044.220	.197	2011	GPS - OPUS	2021	GPSBM
1142.721	.262		1044.227	.197	2011	GPS - RTRN	2021	RTRN2021
			1044.197	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1142.714	.131		1044.276	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1142.714	.131		1044.276	.066	2007	GPS - STATIC	2011	HFRON
			1044.276	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2364-B
1142.681	.131		1044.378	.066	1996	GPS - STATIC	2010	HFRON
1142.714	.131		1044.378	.066	1996	HORIZONTAL ADJUSTMENT	2007	GPS2364
1142.714	.131		1044.378	.066	1996	GPS - STATIC	2007	HWABA

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.491 09 = -98.389 03 = -98.245

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 11 29.89295	92 32 35.82074	597941.634	230642.697	.131	3	GPS - OPUS	2021	GPSBM
44 11 29.89270	92 32 35.82025	597941.669	230642.672	.131	3	GPS - RTRN	2021	RTRN2021
44 11 29.89303	92 32 35.82066	597941.639	230642.705	.007		ADJUSTMENT	2012	GPS2800

<u>NAD83(2007)</u>		<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 11 29.89337	92 32 35.82171	597941.563	230642.740	.033	C	ADJUSTMENT	2011	GPS2814
44 11 29.89337	92 32 35.82171	597941.563	230642.740	.033	C	GPS - STATIC	2011	HFRON
44 11 29.89337	92 32 35.82171	597941.563	230642.740	.033	C	ADJUSTMENT	2010	GPS2364-B

<u>NAD83(1996)</u>		<u>Olmsted County</u>				<u>Project Info</u>		
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 11 29.89293	92 32 35.82116	597941.603	230642.695	.033	C	GPS - STATIC	2010	HFRON
44 11 29.89293	92 32 35.82116	597941.603	230642.695	.033	C	ADJUSTMENT	2007	GPS2364
44 11 29.89293	92 32 35.82116	597941.603	230642.695	.033	C	GPS - STATIC	2007	HWABA

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3006711.208	765884.587	1760163.090	16053968.197	.131	3	GPS - OPUS	2021	GPSBM
3006711.244	765884.562	1760163.126	16053968.172	.131	3	GPS - RTRN	2021	RTRN2021
3006711.214	765884.595	1760163.096	16053968.205	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3006711.137	765884.628	1760163.019	16053968.239	.033	C	ADJUSTMENT	2011	GPS2814
3006711.137	765884.628	1760163.019	16053968.239	.033	C	GPS - STATIC	2011	HFRON
3006711.137	765884.628	1760163.019	16053968.239	.033	C	ADJUSTMENT	2010	GPS2364-B

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3006711.178	765884.584	1760163.059	16053968.195	.033	C	GPS - STATIC	2010	HFRON
3006711.178	765884.584	1760163.059	16053968.195	.033	C	ADJUSTMENT	2007	GPS2364
3006711.178	765884.584	1760163.059	16053968.195	.033	C	GPS - STATIC	2007	HWABA

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SHADY-DJ2666-3E-08APR2010.jpg	E	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SHADY-DJ2666-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SHADY-DJ2666-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SIMPSON MNDT

NGS Name: SIMPSON

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0159](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/1009
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	5	105 N	13 W	435538.92	922425.67	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	TRAVERSE STATION DISK	MNDT

Description: (2016)

Stamping: SIMPSON 1961

0.3 MILE NORTHEAST OF SIMPSON, 0.25 MILE NORTH ALONG COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 AND COUNTY ROAD 16 IN SIMPSON, THEN 0.1 MILE EAST ON 65TH STREET SOUTHWEST, 87.7 FEET WEST OF SIMPSON RM 1, 29.0 FEET SOUTH OF 65TH STREET SOUTHEAST, 62.0 FEET EAST OF A POWER POLE, 4.0 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1282.051	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1282.038	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1282.205	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1282.140	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1282.140	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1282.140	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1282.081	.262		1183.935	.197	2011	GPS - RTRN	2016	RTRN2016
			1183.895	.011	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1183.997	.013	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1282.084	.131		1184.141	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1282.084	.131		1184.141	.066	1996	GPS - STATIC	2002	HI90
1282.215	.197		1184.417	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.143 12B = -98.146 09 = -98.077 03 = -97.916

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 38.92090	92 24 25.66776	634250.524	134532.930	.131	3	GPS - RTRN	2016	RTRN2016
43 55 38.92087	92 24 25.66727	634250.560	134532.927	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 38.92109	92 24 25.66822	634250.490	134532.949	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 38.92071	92 24 25.66745	634250.547	134532.911	.033	C	ADJUSTMENT	2003	GPS1770
43 55 38.92071	92 24 25.66745	634250.546	134532.910	.033	C	GPS - STATIC	2002	HI90
43 55 38.92127	92 24 25.66482	634250.739	134532.969	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 38.90936	92 24 25.66613	634250.650	134531.762	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 55 39.04039	92 24 25.03809			.100	2	CLASSICAL SURVEY	1976	15739

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044291.380	670275.834	1796553.899	15957936.772	.131	3	GPS - RTRN	2016	RTRN2016
3044291.415	670275.832	1796553.935	15957936.769	.013		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044291.345	670275.853	1796553.865	15957936.791	.016		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044291.403	670275.815	1796553.922	15957936.753	.033	C	ADJUSTMENT	2003	GPS1770
3044291.403	670275.815	1796553.922	15957936.753	.033	C	GPS - STATIC	2002	HI90
3044291.594	670275.876	1796554.114	15957936.811	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044291.522	670274.668	1796554.027	15957935.605	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2419682.642	342201.875			.100	2	CLASSICAL SURVEY	1976	15739

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON-000159-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON-000159-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON-000159-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SIMPSON RM 1

NGS Name: SIMPSON RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000160](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	5	105 N	13 W	435538.92	922424.47	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1961	2016	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2016)

Stamping: SIMPSON NO 1 1961

0.3 MILE NORTHEAST OF SIMPSON, 0.25 MILE NORTH ALONG COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 AND COUNTY ROAD 16 IN SIMPSON, THEN 0.1 MILE EAST ON 65TH STREET SOUTHWEST, 87.7 FEET EAST OF STATION SIMPSON MNDT, 64.5 FEET WEST OF A DRIVEWAY, 64.5 FEET SOUTH-SOUTHWEST OF A POWER POLE, 45.7 FEET WEST OF AN UNDERGROUND CABLE MARKER, 32.0 FEET SOUTH OF 65TH STREET SOUTHEAST, 1.5 FEET WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1281.500	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1281.490	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6
1281.569	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1281.503	.016	2/0				UNKNOWN/APPROXIMATE	1992	UNCHECKD
1281.503	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1281.503	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1281.444	.262		1183.298	.197	2011	GPS - RTRN	2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.143 12B = -98.143 09 = -98.077 03 = -97.916

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 55 38.91751	92 24 24.46878	634338.276	134533.130	.131	3	GPS - RTRN	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3044379.114	670277.201	1796641.613	15957937.059	.131	3	GPS - RTRN	2016	RTRN2016

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON_RM_1-000160-3S-08AUG2016.jpg	S	Aug 8, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON_RM_1-000160-2-08AUG2016.jpg		Aug 8, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON_RM_1-000160-1-08AUG2016.jpg		Aug 8, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SIMPSON RM 2

NGS Name: SIMPSON RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0161](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	5	105 N	13 W	435539.55	922425.53	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1961	2010	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 1 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (1961)

Stamping: SIMPSON RM 2 1961

0.3 MILE NORTHEAST OF SIMPSON, 0.25 MILE NORTH ON COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 AND COUNTY ROAD 16 IN SIMPSON, THEN 0.1 MILE EAST ON A GRAVEL ROAD, 64.5 FEET EAST OF STATION SIMPSON MNDT, 32.5 FEET NORTH OF A ROAD, 27.5 FEET EAST OF A POWER POLE, 13.0 FEET EAST OF AN 18.0 INCH DIAMETER PINE TREE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1280.595	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1280.532	.016	2				VERTICAL CONTROL SURVEY	1972	L105 MINN
1280.532	.016	2				VERTICAL CONTROL SURVEY	1971	L22211

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.146 09 = -98.077 03 = -97.920

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIMPSON_RM_2-OO0161-3N-17JUN2010.jpg	N	Jun 17, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SIZER MNDT

NGS Name: SIZER

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	29	106 N	12 W	435721.82	921756.13	2	C

NGS ACRN: [DF3978](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1996	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 10 FT)	SURVEY DISK	MNDT

Description: (2016) Stamping: SIZER 1996

2.5 MILES EAST-NORTHEAST OF MARION, 0.65 MILE SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 52 IN MARION TO TRUNK HIGHWAY 52 MILEPOINT 45.9, THEN 2.65 MILES EAST ON 54TH STREET SOUTHEAST, THEN 1.0 MILE NORTH ON COUNTY ROAD 19 (90TH AVENUE SOUTHEAST), 20.6 FEET EAST OF COUNTY ROAD 19, 56.8 FEET WEST-NORTHWEST OF A RIGHT-OF-WAY POST, 56.8 FEET WEST-NORTHWEST OF A POWER POLE, 38.4 FEET NORTH-NORTHEAST OF THE NORTHEAST CORNER OF COUNTY ROAD 19 BRIDGE NUMBER 55814 OVER INTERSTATE HIGHWAY 90, 3.0 FEET EAST OF A GUARD RAILING, 2.6 FEET SOUTH OF A WITNESS POST.

Station Pair: YOGI - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1251.123	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1251.080	.016	2/1				VERTICAL CONTROL SURVEY	2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1251.015	.262		1152.970	.197	2011	GPS - RTRN	2016	RTRN2016
			1153.055	.008	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
			1153.154	.010	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1251.080	.131		1153.301	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770
1251.080	.131		1153.301	.066	1996	GPS - STATIC	2002	HI90

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.041 09 = -97.933 03 = -97.825

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 21.82238	92 17 56.13090	662681.282	145147.867	.131	3	GPS - RTRN	2016	RTRN2016
43 57 21.82237	92 17 56.13259	662681.159	145147.865	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 21.82263	92 17 56.13356	662681.088	145147.890	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
43 57 21.82233	92 17 56.13273	662681.148	145147.860	.033	C	ADJUSTMENT	2003	GPS1770
43 57 21.82233	92 17 56.13273	662681.148	145147.859	.033	C	GPS - STATIC	2002	HI90



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072575.955	681267.423	1824962.105	15968575.710	.131	3	GPS - RTRN	2016	RTRN2016
3072575.832	681267.420	1824961.981	15968575.708	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072575.760	681267.445	1824961.910	15968575.734	.010		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3072575.822	681267.415	1824961.971	15968575.704	.033	C	ADJUSTMENT	2003	GPS1770
3072575.822	681267.415	1824961.971	15968575.704	.033	C	GPS - STATIC	2002	HI90

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIZER-DF3978-3W-09AUG2016.jpg	W	Aug 9, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIZER-DF3978-2-09AUG2016.jpg		Aug 9, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SIZER-DF3978-1-09AUG2016.jpg		Aug 9, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SLEEPER MNDT

NGS Name: SLEEPER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2283](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	31	108 N	14 W	440644.31	922542.00	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (2016)

Stamping: SLEEPER 1977

4.5 MILES NORTHEAST OF ROCHESTER, 3.85 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND 37TH STREET NORTHWEST (COUNTY ROAD 22) IN ROCHESTER, AT TRUNK HIGHWAY 63 MILEPOINT 47.3, 152.3 FEET EAST OF A POWER POLE, 64.0 FEET EAST OF TRUNK HIGHWAY 63, 41.04 FEET SOUTH-SOUTHWEST OF SLEEPER MNDT RM 1, 31.21 FEET EAST-NORTHEAST OF SLEEPER MNDT RM 2, 9.0 FEET SOUTH OF AN ENTRANCE, 31.1FEET EAST-NORTHEAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1057.294	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1057.281	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1057.281	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719
1057.249	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1057.281			958.873	.010	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1057.281	.131		959.089	.066	1996	GPS - STATIC	2024	HTH63
1057.281			958.873	.010	2011	GPS - STATIC	2024	HTH63
1057.298	.262		958.892	.197	2011	GPS - RTRN	2023	RTRN2023
1057.281			958.873	.010	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1057.249	.131		959.096	.066	1996	GPS - STATIC	2014	HOLMS
1057.281			958.876	.010	2011	GPS - STATIC	2014	HOLMS
			958.873	.010	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1057.249	.131		958.974	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814
1057.249	.131		958.974	.066	2007	GPS - STATIC	2011	HFRON
1057.249	.131		959.096	.066	1996	GPS - STATIC	2010	HFRON
1057.084	.197		959.020	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order /(Class)	Height	Acc	Adj		Year	Reference
1057.084						RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.402 09 = -98.297 03 = -98.182



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 44.31010	92 25 42.00262	628264.821	201879.881	.007		ADJUSTMENT	2024	GPS3721
44 06 44.31010	92 25 42.00262	628264.821	201879.881	.007	C	GPS - STATIC	2024	HTH63
44 06 44.31043	92 25 42.00325	628264.775	201879.914	.131	3	GPS - RTRN	2023	RTRN2023
44 06 44.31010	92 25 42.00262	628264.821	201879.881	.010		ADJUSTMENT	2014	GPS3018
44 06 44.31010	92 25 42.00261	628264.822	201879.881	.010	C	GPS - STATIC	2014	HOLMS
44 06 44.31010	92 25 42.00262	628264.821	201879.881	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 44.31019	92 25 42.00339	628264.765	201879.890	.033	C	ADJUSTMENT	2011	GPS2814
44 06 44.31019	92 25 42.00339	628264.765	201879.890	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 44.30988	92 25 42.00291	628264.800	201879.859	.033	C	GPS - STATIC	2024	HTH63
44 06 44.30986	92 25 42.00272	628264.814	201879.857	.033	C	GPS - STATIC	2014	HOLMS
44 06 44.30986	92 25 42.00272	628264.814	201879.857	.033	C	GPS - STATIC	2010	HFRON
44 06 44.31077	92 25 42.00041	628264.982	201879.950	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 06 44.30057	92 25 41.99996	628265.021	201878.917	.066	2	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 06 44.42555	92 25 41.35440			.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037410.722	737530.819	1790502.617	16025248.993	.007		ADJUSTMENT	2024	GPS3721
3037410.722	737530.819	1790502.617	16025248.993	.007	C	GPS - STATIC	2024	HTH63
3037410.675	737530.852	1790502.572	16025249.026	.131	3	GPS - RTRN	2023	RTRN2023
3037410.722	737530.819	1790502.617	16025248.993	.010		ADJUSTMENT	2014	GPS3018
3037410.722	737530.819	1790502.618	16025248.993	.010	C	GPS - STATIC	2014	HOLMS
3037410.722	737530.819	1790502.617	16025248.993	.007		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037410.665	737530.827	1790502.561	16025249.002	.033	C	ADJUSTMENT	2011	GPS2814
3037410.665	737530.827	1790502.561	16025249.002	.033	C	GPS - STATIC	2011	HFRON

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037410.701	737530.797	1790502.596	16025248.971	.033	C	GPS - STATIC	2024	HTH63
3037410.715	737530.795	1790502.611	16025248.969	.033	C	GPS - STATIC	2014	HOLMS
3037410.715	737530.795	1790502.611	16025248.969	.033	C	GPS - STATIC	2010	HFRON
3037410.882	737530.890	1790502.778	16025249.062	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3037410.934	737529.858	1790502.818	16025248.030	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2412803.056	409455.796			.100	2	CLASSICAL SURVEY	1980	16253



<u>Station Photos</u>		<u>Dir</u>	<u>Date</u>
<u>Type</u>	<u>File Name</u>	E	Apr 19, 2023
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER-PP2283-3E-19APR2023.jpg		Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER-PP2283-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER-PP2283-1-19APR2023.jpg		Apr 19, 2023
** All station images can be viewed at: ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos **			



Mn/DOT Name: SLEEPER MNDT RM 1

NGS Name: SLEEPER RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4701](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SW	31	108 N	14 W	440644.70	922541.83	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1977	2023	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: SLEEPER NO 1 1977

4.5 MILES NORTHEAST OF ROCHESTER, 3.85 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 (37TH STREET NORTHWEST) IN ROCHESTER, 64.5 FEET EAST OF TRUNK HIGHWAY 63, 175.7 FEET NORTHEAST OF A POWER POLE, 56.2 FEET NORTHWEST OF STATION SLEEPER RM 2, 41.04 FEET NORTH-NORTHWEST OF STATION SLEEPER MNDT, 32.0 FEET NORTH OF AN ENTRANCE, 1.5 FEET NORTHEAST OF A STEEL WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1057.504	.016	2/1					VERTICAL CONTROL SURVEY	2024	VHAVA
1057.504	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
1057.504	.016	2/1					VERTICAL ADJUSTMENT	2012	00000719
1057.472	.016	2/1					VERTICAL CONTROL SURVEY	2010	VFRON

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1057.616	.262			959.211	.197	2011	GPS - RTRN	2023	RTRN2023

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.402 09 = -98.297 03 = -98.182

Lat/Lon and County Coordinates (Feet)

NAD83(2011)		Olmsted County						Project Info	
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
44 06 44.69696	92 25 41.83433	628276.867	201919.130	.131	3	GPS - RTRN	2023	RTRN2023	

State Plane and UTM Coordinates (Feet)

NAD83(2011)		UTM - Zone 15						Project Info	
MN State Plane - South Zone X	Y	X	Y	Acc	Order	Determination Method	Year	Reference	
3037422.244	737570.221	1790514.619	16025288.238	.131	3	GPS - RTRN	2023	RTRN2023	

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_1-CJ4701-3E-19APR2023.jpg	E	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_1-CJ4701-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_1-CJ4701-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SLEEPER MNDT RM 2

NGS Name: SLEEPER RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [CJ4702](#)

[Get Map](#)

NGS Quad / Sta Num : 44092233/

USGS Quad: ROCHESTER

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	31	108 N	14 W	440644.34	922542.43	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1977	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 8 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2010)

Stamping: SLEEPER NO 2 1977

4.5 MILES NORTHEAST OF ROCHESTER, 3.85 MILES NORTH ON TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND COUNTY ROAD 22 (37TH STREET NORTHWEST) IN ROCHESTER, 123.0 FEET EAST-NORTHEAST OF A POLE, 33.5 FEET EAST OF THE TRUNK HIGHWAY 63, 56.2 FEET SOUTHWEST OF SLEEPER RM 1, 31.21 FEET WEST-SOUTHWEST OF STATION SLEEPER MNDT, 8.0 FEET SOUTH OF AN ENTRANCE, 8.8 FEET NORTH-NORTHWEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1055.654	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA	
1055.654	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900	
1055.654	.016	2/1				VERTICAL ADJUSTMENT	2012	00000719	
1055.621	.016	2/1				VERTICAL CONTROL SURVEY	2010	VFRON	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order/(Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>	
1055.730	.262		957.324	.197	2011	GPS - RTRN	2023	RTRN2023	

Geoid Separations(ft): GEOID18 = -98.405 12B = -98.402 09 = -98.297 03 = -98.182

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
44 06 44.34154	92 25 42.42786	628233.777	201882.882	.131	3	GPS - RTRN	2023	RTRN2023

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
3037379.644	737533.406	1790471.583	16025251.960	.131	3	GPS - RTRN	2023	RTRN2023

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_2-CJ4702-3E-19APR2023.jpg	E	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_2-CJ4702-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLEEPER_RM_2-CJ4702-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SLUMBER

NGS Name: SLUMBER

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DO9079](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	107 N	14 W	440429.26	923021.01	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2012	2024	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 12 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2012)

Stamping: SLUMBER 2012

IN ROCHESTER, 0.4 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 22 (55TH STREET NORTHWEST) IN ROCHESTER, AT TRUNK HIGHWAY 52 MILEPOINT 59.35, 48.2 FEET WEST OF SOUTHBOUND TRUNK HIGHWAY 52, 44.4 FEET EAST OF THE WEST FRONTAGE ROAD, 28.1 FEET EAST OF A GUARDRAIL, 1.5 FEET EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.800	.016	2/1				VERTICAL CONTROL SURVEY	2024	VHAVA
1022.800	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1022.800	.016	2/1				VERTICAL ADJUSTMENT	2014	00000825
1022.800	.016	2/1				VERTICAL CONTROL SURVEY	2013	VCHES

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1022.800			924.253	.019	2011	HORIZONTAL ADJUSTMENT	2024	GPS3721
1022.800	.131		924.467	.066	1996	GPS - STATIC	2024	HTH63
1022.800			924.253	.019	2011	GPS - STATIC	2024	HTH63
1022.806	.262		924.240	.197	2011	GPS - RTRN	2023	RTRN2023
1022.669	.262		924.194	.197	2007	GPS - RTRN	2012	RTRN2012

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.569 09 = -98.471 03 = -98.327

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 04 29.26324	92 30 21.01287	607976.335	188093.105	.010		ADJUSTMENT	2024	GPS3721
44 04 29.26324	92 30 21.01287	607976.335	188093.105	.010	C	GPS - STATIC	2024	HTH63
44 04 29.26266	92 30 21.01262	607976.354	188093.046	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 04 29.26396	92 30 21.01301	607976.325	188093.178	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Determination Method</u>			<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
44 04 29.26307	92 30 21.01310	607976.318	188093.088	.033	C	GPS - STATIC	2024	HTH63



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3017309.528	723476.889	1770236.937	16011447.459	.010		ADJUSTMENT	2024	GPS3721
3017309.528	723476.889	1770236.937	16011447.459	.010	C	GPS - STATIC	2024	HTH63
3017309.548	723476.831	1770236.956	16011447.401	.131	3	GPS - RTRN	2023	RTRN2023

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3017309.517	723476.962	1770236.926	16011447.532	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3017309.512	723476.872	1770236.920	16011447.442	.033	C	GPS - STATIC	2024	HTH63

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLUMBER-DO9079-3W-19APR2023.jpg	W	Apr 19, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLUMBER-DO9079-2-19APR2023.jpg		Apr 19, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SLUMBER-DO9079-1-19APR2023.jpg		Apr 19, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SOLT

NGS Name: SOLT

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8165](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	27	106 N	11 W	435716.84	920814.92	2	3	2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 28 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: SOLT 2016

1.0 MILE SOUTH OF DOVER, 0.1 MILE EAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND COUNTY ROAD 10 (THE JUNCTION IS 1.0 MILE SOUTH OF DOVER), AT INTERSTATE HIGHWAY 90 MILEPOINT 229.2, 39.1 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 64.8 FEET NORTH-NORTHWEST OF THE EASTBOUND INTERSTATE HIGHWAY 90 ENTRANCE RAMP, 181.2 FEET EAST-SOUTHEAST OF A GUARD RAIL, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: ELMIRA MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1214.246	.016	2/1							VERTICAL ADJUSTMENT		2019	00000938
1214.197	.016	2/1							VERTICAL CONTROL SURVEY		2017	VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1214.220	.262					1116.071	.197	2011	GPS - RTRN		2016	RTRN2016

Geoid Separations(ft): GEOID18 = -98.163 12B = -98.149 09 = -98.048 03 = -97.926

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Geodetic Position</u>		<u>Olmsted County</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
43 57 16.84340	92 08 14.91748	705202.048	145003.788	.131	3	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Year</u>	<u>Reference</u>
3115091.255	681690.026	1867465.837	15968474.266	.131	3	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SOLT-DQ8165-3S-31AUG2016.jpg	S	Aug 31, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SOLT-DQ8165-2-31AUG2016.jpg		Aug 31, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SOLT-DQ8165-1-31AUG2016.jpg		Aug 31, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: ST PAULUS DUETCHE EVAN LUTH CH

NGS Name: ST PAULUS DUETCHE EVAN LUTH CH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2246](#)

[Get Map](#)

NGS Quad / Sta Num : 44092223/1028

USGS Quad: PLAINVIEW SW

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	35	107 N	12 W	440115.89	921312.69		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1935	2010	GOOD	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type

SEE DESCRIPTIVE TEXT

Disk Type

CHURCH SPIRE

Mon. Agency

NGS

Description: (2010)

Stamping:

2.25 MILES NORTHWEST OF EYOTA, 2.0 MILES NORTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND TRUNK HIGHWAY 14 IN EYOTA, THEN 0.4 MILE EAST ON COUNTY ROAD 9, THE SPIRE IS ABOUT 40.0 FEET HIGH, THE POINT OBSERVED IS THE TIP OF THE SPIRE.

Station Notes

6-22-2010 THE PASTOR SAYS THIS IS THE ORIGINAL SHAPE THOUGH THE BELFRY IS NOW ENCLOSED BY VINYL SIDING.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.048 09 = -97.926 03 = -97.841

Lat/Lon and County Coordinates (Feet)

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 15.88542	92 13 12.69279	683214.809	169014.942	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 01 15.87383	92 13 12.69509	683214.651	169013.767	.328	4	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
44 01 16.00000	92 13 12.10000			.100	4	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3092787.856	705403.786	1845463.197	15992453.710	.328	4	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3092787.714	705402.609	1845463.040	15992452.535	.328	4	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2468177.759	377329.061			.100	4	CLASSICAL SURVEY	1937	03491

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ST_PAULUS_DUETCHE_EVAN_LUTH_CH-PP2246-3N-22JUN2010.jpg	N	Jun 22, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/ST_PAULUS_DUETCHE_EVAN_LUTH_CH-PP2246-2-22JUN2010.jpg		Jun 22, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STA 509

NGS Name: STA 509

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	9	108 N	13 W	440957.00	922244.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	2010	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MN-109

Description: (1972)

Stamping: STA 509+63.9 PI 82.95 FT

7.8 MILES EAST OF ORONOCO, 8.8 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, 2.0 MILES WEST OF POTSDAM, 69.0 FEET NORTH AND 44.0 FEET WEST OF THE JUNCTION OF TRUNK HIGHWAY 247 (COUNTY ROAD 128 NORTH) AND A TOWNSHIP ROAD SOUTH.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1076.517	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.373 12B = -98.366 09 = -98.238 03 = -98.140

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STA_509-3NW-13MAY2010.jpg	NW	May 13, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STA_509-2-13MAY2010.jpg		May 13, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STA_509-1-13MAY2010.jpg		May 13, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STEW

NGS Name: STEW

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DI5408](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	15	105 N	14 W	435409.04	922855.94	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2004	2016	GOOD	Horz=NO Vert=YES	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CONCRETE FOOTING - SMALL	SURVEY DISK	MNDT

Description: (2016)

Stamping: STEW 2004

3.2 MILES NORTH OF STEWARTVILLE, 1.25 MILES NORTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 (THE JUNCTION IS 2.0 MILES NORTH OF STEWARTVILLE), AT TRUNK HIGHWAY 63 MILEPOINT 32.0, 70.0 FEET NORTH-NORTHEAST OF A WEATHER STATION TOWER, 64.0 FEET EAST-SOUTHEAST OF NORTHBOUND TRUNK HIGHWAY 63, 56.4 FEET NORTHEAST OF TRUNK HIGHWAY 63 MILEPOST 32.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1281.379	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1281.379	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1281.379	.016	2/1				VERTICAL ADJUSTMENT	2011	00000677
1281.379	.016	2/1				VERTICAL CONTROL SURVEY	2009	VRSTB
1281.379	.016	2/1				VERTICAL ADJUSTMENT	2008	00000533
1281.379	.016	2/1				VERTICAL CONTROL SURVEY	2005	VSTEW

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1281.313	.262		1183.036	.197	2011	GPS - RTRN	2016	RTRN2016
1281.343	.262		1183.065	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.277 09 = -98.218 03 = -98.018

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 54 09.04477	92 28 55.94162	614517.953	125318.522	.131	3	GPS - RTRN	2016	RTRN2016
43 54 09.04448	92 28 55.94245	614517.893	125318.492	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024684.684	660800.479	1776838.996	15948706.606	.131	3	GPS - RTRN	2016	RTRN2016
3024684.624	660800.449	1776838.936	15948706.577	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEW-DI5408-3E-05JAN2017.jpg	E	Jan 5, 2017
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEW-DI5408-2-05JAN2017.jpg		Jan 5, 2017
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEW-DI5408-1-05JAN2017.jpg		Jan 5, 2017

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STEWARTVILLE CATH CH SPIRE

NGS Name: STEWARTVILLE CATH CH SPIRE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0886](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/1014
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>				
SE	34	105 N	14 W	435117.44	922855.90		4				
<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>				
1927	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION				
<u>Monument Type</u>						<u>Disk Type</u>	<u>Mon. Agency</u>				
SEE DESCRIPTIVE TEXT						CHURCH SPIRE	NGS				

Description: (2016)

Stamping:

IN THE EAST PART OF STEWARTVILLE, AT THE JUNCTION OF 1ST STREET EAST AND 4TH AVENUE SOUTHEAST, 210.0 FEET SOUTH OF 1ST STREET.

Station Notes

SAINT BERNARD'S PARISH CHURCH WAS REBUILT IN 2004.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.074 12B = -98.100 09 = -98.028 03 = -97.848

Lat/Lon and County Coordinates (Feet)

<u>NAD83(1996)</u>									
Geodetic Position		Olmsted County				Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 51 17.43947	92 28 55.89727	614612.752	107941.230	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>									
Geodetic Position		Olmsted County				Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 51 17.42373	92 28 55.89814	614612.696	107939.635	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>									
Geodetic Position						Project Info			
Latitude	Longitude	X	Y	Acc	Order	Determination Method	Year	Reference	
43 51 17.54528	92 28 55.25813			.100	4	CLASSICAL SURVEY	1976	15739	

State Plane and UTM Coordinates (Feet)

<u>NAD83(1996)</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>							
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
3025010.556	643427.261	1776951.051	15931336.940	.328	4	ADJUSTMENT	1999	17648	
<u>NAD83(1986)</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>							
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
3025010.522	643425.667	1776950.998	15931335.346	.328	4	ADJUSTMENT	1986	17289	
<u>NAD27</u>								<u>Project Info</u>	
<u>MN State Plane - South Zone</u>									
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
2400402.032	315352.147			.100	4	CLASSICAL SURVEY	1976	15739	

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_CATH_CH_SPIRE-OO0886-1-26MAY2010.jpg		May 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STEWARTVILLE MUNICIPAL TANK

NGS Name: STEWARTVILLE MUNICIPAL TANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0885](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/1013
USGS Quad: STEWARTVILLE

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
SE	34	105 N	14 W	435115.23	922909.14		4

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1927	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

Monument Type	Disk Type	Mon. Agency
SEE DESCRIPTIVE TEXT	ELEVATED TANK	NGS

Description: (1927)

Stamping:

IN STEWARTVILLE, AT THE JUNCTION OF 2ND STREET SOUTHEAST AND 2ND AVENUE SOUTHEAST, 860.0 FEET EAST OF TRUNK HIGHWAY 63, 430.0 FEET SOUTH OF 1ST STREET EAST, EAST OF THE RAILROAD TRACKS.

Station Notes

THE TANK IS GONE.

* No Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.087 12B = -98.110 09 = -98.041 03 = -97.854

Lat/Lon and County Coordinates (Feet)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 15.23299	92 29 09.13659	613643.790	107712.706	.328	4	ADJUSTMENT	1999	17648

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 15.21746	92 29 09.13838	613643.667	107711.132	.328	4	ADJUSTMENT	1986	17289

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 51 15.33987	92 29 08.49993			.100	4	CLASSICAL SURVEY	1976	15739
43 51 15.36000	92 29 08.52000			.100	3	CLASSICAL SURVEY	1964	USGS-HORZ

State Plane and UTM Coordinates (Feet)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024044.787	643185.888	1775982.738	15931107.553	.328	4	ADJUSTMENT	1999	17648

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3024044.685	643184.313	1775982.616	15931105.981	.328	4	ADJUSTMENT	1986	17289

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2399436.052	315110.878			.100	4	CLASSICAL SURVEY	1976	15739
2399434.544	315112.889			.100	3	CLASSICAL SURVEY	1964	USGS-HORZ

Station Photos

Type	File Name	Dir	Date
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STEWARTVILLE_MUNICIPAL_TANK-OO0885-1-26MAY2010.jpg		May 26, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: STONE

NGS Name: STONE

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7562](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

				Reference	Reference	Vert	Horz
1/4	Sec	Twp	Rng	Latitude	Longitude	Order	Order
SW	23	106 N	11 W	435814.36	920656.18	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
2013	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

Monument Type	Disk Type	Mon. Agency
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 27 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013) **Stamping:** STONE 2013

0.95 MILE EAST-SOUTHEAST OF DOVER, 1.3 MILES EAST-SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 IN DOVER, AT TRUNK HIGHWAY 14 MILEPOINT 231.7, 39.8 FEET SOUTH OF TRUNK HIGHWAY 14, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: LIME - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1132.363	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1132.367	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1132.294	.262		1034.089	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.218 12B = -98.205 09 = -98.107 03 = -97.982

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 58 14.36427	92 06 56.17643	710905.485	150883.605	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3120715.279	687644.878	1873161.148	15974357.492	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STONE-DP7562-3S-25APR2013.jpg	S	Apr 25, 2013
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STONE-DP7562-2-25APR2013.jpg		Apr 25, 2013
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/STONE-DP7562-1-25APR2013.jpg		Apr 25, 2013

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: SWENSON MNDT AZ MK

NGS Name: SWENSON AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0798](#)
NGS Quad / Sta Num : 43092112/
USGS Quad: PILOT MOUND

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SE	35	105 N	11 W	435105.39	920627.34	2	C

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1979	2016	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2016)

Stamping: SWENSON 1979

4.0 MILES EAST OF CHATFIELD, 0.25 MILE SOUTH ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 74 IN CHATFIELD, AT TRUNK HIGHWAY 30 MILEPOINT 244.7, ON THE EAST RIGHT-OF-WAY OF TRUNK HIGHWAY 30, 71.0 FEET EAST OF TRUNK HIGHWAY 30, 4.0 FEET WEST OF A RIGHT-OF-WAY POST AND A WITNESS POST.

Station Pair: 5511 A - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1109.935	.016	2/1				VERTICAL ADJUSTMENT	2019	00000938
1109.935	.016	2/1				VERTICAL CONTROL SURVEY	2017	VRFOR
1109.935	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1109.916	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1109.952	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1109.926	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Determination Method	Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj		Year	Reference
1109.857	.262		1011.428	.197	2011	GPS - RTRN	2016	RTRN2016
			1011.517	.013	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1109.952			1011.517	.013	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1109.939			1011.507	.013	2011	GPS - STATIC	2013	HPRED
1109.939	.131		1011.766	.066	1996	GPS - STATIC	2013	HPRED
			1011.517	.015	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800
1109.778	.262		1011.438	.197	2007	GPS - RTRN	2011	RTRN2011
			1011.602	.016	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300
1109.939	.131		1011.766	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1912
1109.939	.131		1011.766	.066	1996	GPS - STATIC	2003	HWINO
1109.939	.262		1011.829	.197	1996	HORIZONTAL ADJUSTMENT	1999	17648

Geoid Separations(ft): GEOID18 = -98.422 12B = -98.432 09 = -98.343 03 = -98.192



Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 05.38961	92 06 27.33841	713440.630	107466.111	.131	3	GPS - RTRN	2016	RTRN2016
43 51 05.38947	92 06 27.33752	713440.696	107466.097	.010		ADJUSTMENT	2014	GPS2902-B
43 51 05.38947	92 06 27.33752	713440.696	107466.097	.010		ADJUSTMENT	2013	GPS2902
43 51 05.38949	92 06 27.33768	713440.684	107466.099	.010	C	GPS - STATIC	2013	HPRED
43 51 05.38947	92 06 27.33752	713440.696	107466.097	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 05.38875	92 06 27.33724	713440.717	107466.024	.131	3	GPS - RTRN	2011	RTRN2011
43 51 05.38957	92 06 27.33849	713440.625	107466.106	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 05.38922	92 06 27.33781	713440.675	107466.071	.033	C	GPS - STATIC	2013	HPRED
43 51 05.38922	92 06 27.33781	713440.675	107466.071	.033	C	ADJUSTMENT	2003	GPS1912
43 51 05.38922	92 06 27.33781	713440.676	107466.071	.033	C	GPS - STATIC	2003	HWINO
43 51 05.39000	92 06 27.33577	713440.823	107466.152	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 51 05.37923	92 06 27.33696	713440.747	107465.060	.131	3	ADJUSTMENT	1986	17289

NAD27

Geodetic Position		X	Y	Acc	Order	Determination Method	Project Info	
Latitude	Longitude						Year	Reference
43 51 05.51126	92 06 26.76276			.100	3	CLASSICAL SURVEY	1981	16468

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3123829.109	644268.459	1875738.354	15930959.493	.131	3	GPS - RTRN	2016	RTRN2016
3123829.174	644268.447	1875738.419	15930959.480	.010		ADJUSTMENT	2014	GPS2902-B
3123829.174	644268.447	1875738.419	15930959.480	.010		ADJUSTMENT	2013	GPS2902
3123829.162	644268.448	1875738.408	15930959.482	.010	C	GPS - STATIC	2013	HPRED
3123829.174	644268.447	1875738.419	15930959.480	.010		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3123829.196	644268.374	1875738.441	15930959.407	.131	3	GPS - RTRN	2011	RTRN2011
3123829.103	644268.455	1875738.348	15930959.489	.013		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3123829.153	644268.421	1875738.398	15930959.454	.033	C	GPS - STATIC	2013	HPRED
3123829.153	644268.421	1875738.398	15930959.454	.033	C	ADJUSTMENT	2003	GPS1912
3123829.153	644268.421	1875738.398	15930959.454	.033	C	GPS - STATIC	2003	HWINO
3123829.301	644268.503	1875738.547	15930959.535	.131	3	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3123829.239	644267.411	1875738.472	15930958.443	.131	3	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		X	Y	Acc	Order	Determination Method	Project Info	
X	Y						Year	Reference
2499218.687	316195.126			.100	3	CLASSICAL SURVEY	1981	16468



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SWENSON_AZ_MK-OO0798-3E-27SEP2011.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SWENSON_AZ_MK-OO0798-2-27SEP2011.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/SWENSON_AZ_MK-OO0798-1-27SEP2011.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
E	Sep 27, 2011
	Sep 27, 2011
	Sep 27, 2011



Mn/DOT Name: T 132

NGS Name: T 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000034](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	8	106 N	12 W	435953.00	921729.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2012	DESTROYED	Horz=NO Vert=NO	NO	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	BENCH MARK DISK	NGS

Description: (1934)

Stamping: T-132 1934

3.0 MILES NORTHWEST OF EYOTA, 2.0 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 42 IN EYOTA, 2.7 MILES EAST OF THE HAVERHILL RAILROAD STATION, AT RAILROAD MILEPOST 40, IN THE WEST END OF THE SOUTH ABUTMENT OF A RAILROAD BRIDGE, 9.0 FEET SOUTH OF THE RAILROAD.

Station Notes

6-22-2010 FOUND OLD MILE MARKER 40 OPPOSITE THE SOUTH END OF THE EAST ABUTMENT. THE RAILROAD BRIDGE HAS A 1929 DATE. 9.0 FEET SOUTH OF THE CENTER OF THE TRACKS WOULD BE UNDER THE TIMBER WHICH EXTENDS TO 7.5 FEET FROM THE SOUTH RAIL. CONSIDERED THIS STATION BURIED.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1221.346	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1221.274	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.051 12B = -98.051 09 = -97.920 03 = -97.825

* No Horizontal Positions in the Database *



Mn/DOT Name: TARY MNDT

NGS Name: TARY

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2355](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	33	108 N	14 W	440639.88	923101.63		2

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1978	2005	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARK IS STEEL PIPE

Monument Type	Disk Type	Mon. Agency
PIPE (CAPPED) DRIVEN IN GROUND (<10 FT)	ALUMINUM MARKER (OTHER THAN A DISK)	MNDT

Description: (2016) **Stamping:** TARY 1978

6.6 MILES NORTH OF ROCHESTER, 5.5 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, ON THE WEST RIGHT-OF-WAY OF TRUNK HIGHWAY 52 AT TRUNK HIGHWAY 52 MILEPOINT 61.85, 0.2 MILE NORTH OF COUNTY ROAD 14, 89.3 FEET WEST OF TRUNK HIGHWAY 52, 89.3 FEET NORTH-NORTHWEST OF A DEER CROSSING SIGNPOST, 13.0 FEET WEST OF A FRONTAGE ROAD.

* No Leveling-Derived Orthometric Heights in the Database *

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1106.297	.197			1008.105	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1106.986							RECIPROCAL VERTICAL ANGLE	1978	HORZ

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.546 09 = -98.445 03 = -98.310

Lat/Lon and County Coordinates (Feet)

NAD83(1996)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 06 39.87725	92 31 01.62741			604947.132	201305.442	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				Olmsted County				Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 06 39.86764	92 31 01.62642			604947.209	201304.469	.066	2	ADJUSTMENT	1986	17289

NAD27								Project Info		
Geodetic Position				X	Y	Acc	Order	Determination Method	Year	Reference
Latitude	Longitude									
44 06 39.99978	92 31 00.97751					.100	2	CLASSICAL SURVEY	1980	16253

State Plane and UTM Coordinates (Feet)

NAD83(1996)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3014105.257	736646.393			1767195.584	16024650.969	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)				UTM - Zone 15				Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
3014105.347	736645.421			1767195.662	16024649.997	.066	2	ADJUSTMENT	1986	17289

NAD27								Project Info		
MN State Plane - South Zone				X	Y	Acc	Order	Determination Method	Year	Reference
X	Y									
2389497.042	408572.026					.100	2	CLASSICAL SURVEY	1980	16253



Mn/DOT Name: TBM 07 A L22786

NGS Name: TBM 07 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AM5779](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	19	106 N	13 W	435818.00	922539.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

4.0 MILES SOUTHEAST OF ROCHESTER, 0.6 MILE EAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 1 SOUTHEAST IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.366 12B = -98.379 09 = -98.294 03 = -98.120



Mn/DOT Name: TBM 08 A L22792

NGS Name: TBM 08 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AM5852](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	20	108 N	14 W	440849.00	923147.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description: (2009)

Stamping:

1.3 MILES SOUTHEAST OF ORONOCO, 1.8 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 12 IN ORONOCO.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.543 12B = -98.546 09 = -98.428 03 = -98.294



Mn/DOT Name: TBM 1 L19297

NGS Name: TBM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AQ4917](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	27	105 N	14 W	435155.00	922907.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1963	1963	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN STEWARTVILLE, AT THE JUNCTION OF 1ST AVENUE NORTHEAST AND CLUBHOUSE DRIVE, 480.0 FEET EAST OF 1ST AVENUE NORTHEAST, 250.0 FEET SOUTH OF CLUBHOUSE DRIVE.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.146 09 = -98.074 03 = -97.887



Mn/DOT Name: TBM 1 L3488

NGS Name: TBM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BJ8138](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	33	107 N	13 W	440119.00	922347.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1934	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

3.6 MILES EAST OF ROCHESTER, 0.7 MILE NORTH ALONG COUNTY ROAD 22 FROM THE JUNCTION OF COUNTY ROAD 22
AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 1.1 MILES EAST ON COLLEGE VIEW DRIVE EAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.320 09 = -98.205 03 = -98.077



Mn/DOT Name: TBM 1 L867

NGS Name: TBM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7308](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	28	107 N	14 W	440243.00	923014.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN ROCHESTER, 0.2 MILE NORTH ALONG 26TH AVENUE NORTHWEST FROM THE JUNCTION OF 26TH AVENUE NORTHWEST AND 19TH STREET NORTHWEST IN ROCHESTER, THEN 0.1 MILE WEST-NORTHWEST ON CHARLES COURT NORTHWEST.

*** No Horizontal or Vertical Positions in the Database ***

Geoid Separations(ft): GEOID18 = -98.596 12B = -98.599 09 = -98.514 03 = -98.350



Mn/DOT Name: TBM 112 A L22214

NGS Name: TBM 112 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2470](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	34	108 N	14 W	440630.00	922923.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
MN DT

Description:

Stamping:

6.0 MILES NORTH OF ROCHESTER, 1.34 MILES EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 IN ROCHESTER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.517 09 = -98.415 03 = -98.290



Mn/DOT Name: TBM 14 A L22214

NGS Name: TBM 14 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2469](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	34	108 N	14 W	440630.00	922934.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

6.0 MILES NORTH OF ROCHESTER, 1.0 MILE EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14
AND TRUNK HIGHWAY 52 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.523 12B = -98.520 09 = -98.418 03 = -98.294



Mn/DOT Name: TBM 14 B L22214

NGS Name: TBM 14 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2471](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	35	108 N	14 W	440631.00	922802.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

6.0 MILES NORTH OF ROCHESTER, 2.4 MILES EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14
AND TRUNK HIGHWAY 52 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.487 12B = -98.484 09 = -98.379 03 = -98.261



Mn/DOT Name: TBM 14 C L22214

NGS Name: TBM 14 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2472](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	36	108 N	14 W	440631.00	922648.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
MN DT

Description: (2009)

Stamping:

6.0 MILES NORTH OF ROCHESTER, 3.3 MILES EAST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14
AND TRUNK HIGHWAY 52 IN ROCHESTER, ON THE EAST SIDE OF THE ZUMBRO RIVER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.451 09 = -98.336 03 = -98.225



Mn/DOT Name: TBM 15 L867

NGS Name: TBM 15

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7313](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	108 N	15 W	440915.00	923552.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description: (2010)

Stamping:

3.2 MILES WEST OF ORONOCO, 1.3 MILES WEST ALONG 120TH STREET NORTHWEST FROM THE JUNCTION OF 120TH STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ORONOCO, THEN 1.3 MILES SOUTH ON COUNTY ROAD 31 NORTHWEST, 0.4 MILE WEST OF COUNTY ROAD 31 NORTHWEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.487 12B = -98.481 09 = -98.386 03 = -98.225



Mn/DOT Name: TBM 16 L867

NGS Name: TBM 16

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7314](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	108 N	15 W	441018.00	923623.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description: (2009)

Stamping:

3.5 MILES EAST OF ORONOCO, 1.3 MILES WEST ALONG 120TH STREET NORTHWEST FROM THE JUNCTION OF 120TH STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ORONOCO, THEN 0.3 MILE SOUTH ON COUNTY ROAD 31 NORTHWEST, THEN 0.8 MILE WEST ON 117TH STREET NORTHWEST, 858.0 FEET NORTH OF 117TH STREET NORTHWEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.451 12B = -98.441 09 = -98.353 03 = -98.189



Mn/DOT Name: TBM 17 L867

NGS Name: TBM 17

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7315](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	10	108 N	15 W	441049.00	923659.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description: (2010)

Stamping:

2.1 MILES SOUTHEAST OF PINE ISLAND, 1.0 MILE SOUTH ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND 8TH STREET SOUTHEAST IN PINE ISLAND, 1.6 MILES EAST ON 125TH STREET NORTHWEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.418 12B = -98.402 09 = -98.317 03 = -98.153



Mn/DOT Name: TBM 18 L867

NGS Name: TBM 18

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7316](#)
NGS Quad / Sta Num : 44092324/
USGS Quad: PINE ISLAND

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	4	108 N	15 W	441124.00	923738.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

IRON ROD

Disk Type

UNMONUMENTED

Mon. Agency

NGS

Description: (2010)

Stamping:

1.2 MILES SOUTHEAST OF PINE ISLAND, 1.0 MILE SOUTH ALONG COUNTY ROAD 3 FROM THE JUNCTION OF COUNTY ROAD 3 AND 8TH STREET SOUTHEAST IN PINE ISLAND, 1.45 MILES EAST ON 125TH STREET NORTHWEST, THEN 0.8 MILE NORTH AND WEST ON NEW HAVEN ROAD, 918.0 FEET NORTH OF NEW HAVEN ROAD, 500.0 FEET EAST OF DOUGLAS TRAIL.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.382 12B = -98.359 09 = -98.277 03 = -98.110



Mn/DOT Name: TBM 2 L19297

NGS Name: TBM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AQ4918](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	105 N	14 W	435219.00	922906.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1963	1963	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

1.15 MILES NORTH OF STEWARTVILLE, 0.1 MILE EAST ALONG 20TH STREET NORTHEAST FROM THE JUNCTION OF 20TH STREET NORTHEAST AND TRUNK HIGHWAY 63 IN STEWARTVILLE, 712.0 FEET NORTH OF 20TH STREET NORTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.169 09 = -98.097 03 = -97.907



Mn/DOT Name: TBM 2 L3488

NGS Name: TBM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BJ8139](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	3	106 N	13 W	440046.00	922233.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1934	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

4.7 MILES EAST OF ROCHESTER, 2.1 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 20 IN ROCHESTER, THEN 0.2 MILE NORTH ON 51ST AVENUE SOUTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.248 12B = -98.258 09 = -98.133 03 = -98.015



Mn/DOT Name: TBM 2 L867

NGS Name: TBM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7309](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	17	107 N	14 W	440404.00	923130.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

4.2 MILES NORTHEAST OF ROCHESTER, 0.6 MILE NORTH ALONG COUNTY ROAD 22 FROM THE JUNCTION OF COUNTY ROAD 22 AND VALLEY HIGH DRIVE NORTHWEST IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.589 12B = -98.592 09 = -98.500 03 = -98.346



Mn/DOT Name: TBM 2 VSTCH

NGS Name: TBM 2 VSTCH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7601](#) [Get Map](#)
NGS Quad / Sta Num : 43092142/
USGS Quad: WASHINGTON

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
NW	28	105 N	12 W	435115.30	921906.70	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2014	2014	GOOD	Horz=NO Vert=NO	YES		PROJECTS 2 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD (DEPTH 2 FT)	METAL ROD	MNDT

Description: (2016)

Stamping:

6.5 MILES WEST OF CHATFIELD, 7.1 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD TO TRUNK HIGHWAY 30 MILEPOINT 235.0, THEN 0.6 MILE SOUTH ON 80TH AVENUE SOUTHEAST, 15.2 FEET WEST OF 80TH AVENUE SOUTHEAST, 26.6 FEET WEST OF A SOUTHEAST YELLOW SIGN, 4.6 FEET SOUTH OF THE WEST END OF A CULVERT. THE TBM IS A 5/8 INCH DIAMETER BY 24.0 INCH LONG METAL REBAR PIN SET IN THE SHOULDER OF THE ROAD.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1281.320	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1281.323	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Geoid Separations(ft): GEOID18 = -97.857 12B = -97.880 09 = -97.802 03 = -97.647

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_2_VSTCH-DP7601-3S-25AUG2014.jpg	S	Aug 25, 2014
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_2_VSTCH-DP7601-2-25AUG2014.jpg		Aug 25, 2014
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_2_VSTCH-DP7601-1-25AUG2014.jpg		Aug 25, 2014

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TBM 26 L859

NGS Name: TBM 26

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7844](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	34	107 N	15 W	440147.00	923628.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

1.9 MILES EAST OF BYRON, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 3 EAST OF BYRON, 250.0 FEET NORTH OF THE JUNCTION NEAR A RAILROAD.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.573 09 = -98.504 03 = -98.313



Mn/DOT Name: TBM 27 L859

NGS Name: TBM 27

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7845](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	36	107 N	15 W	440153.00	923433.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

5.3 MILES WEST OF ROCHESTER, 3.2 MILES NORTHWEST THEN SOUTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN THE WEST PART OF ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.635 12B = -98.632 09 = -98.563 03 = -98.376



Mn/DOT Name: TBM 28 L859

NGS Name: TBM 28

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7846](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	36	107 N	15 W	440200.00	923340.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

4.6 MILES WEST OF ROCHESTER, 2.2 MILES NORTHWEST THEN SOUTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN THE WEST PART OF ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.645 12B = -98.645 09 = -98.573 03 = -98.389



Mn/DOT Name: TBM 3 A L22214

NGS Name: TBM 3 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3439](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	107 N	14 W	440142.00	922819.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF CIVIC CENTER DRIVE NORTHWEST AND 6TH AVENUE NORTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.553 09 = -98.471 03 = -98.304



Mn/DOT Name: TBM 3 L19297

NGS Name: TBM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AQ4919](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	22	105 N	14 W	435258.00	922905.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1963	1963	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

1.9 MILES NORTH OF STEWARTVILLE, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND INTERSTATE HIGHWAY 90 IN STEWARTVILLE, ALONG THE SOUTHEAST RAMP GOING ONTO INTERSTATE HIGHWAY 90.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.185 12B = -98.208 09 = -98.140 03 = -97.946



Mn/DOT Name: TBM 3 L867

NGS Name: TBM 3

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7310](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	7	107 N	14 W	440525.00	923254.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

6.1 MILES NORTHEAST OF ROCHESTER, 1.8 MILES WEST ALONG 65TH STREET NORTHWEST FROM THE JUNCTION OF 65TH STREET NORTHWEST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.2 MILE SOUTH ON 55TH AVENUE NORTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.573 12B = -98.576 09 = -98.474 03 = -98.327



Mn/DOT Name: TBM 3 VSTCH

NGS Name: TBM 3 VSTCH

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7602](#) [Get Map](#)
NGS Quad / Sta Num : 44091323/
USGS Quad: WINONA WEST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	36	107 N	8 W	435211.00	921633.10	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2014	2014	GOOD	Horz=NO Vert=NO	YES		PROJECTS 2 IN.	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD (DEPTH 2 FT)	METAL ROD	MNDT

Description: (2016)

Stamping:

4.5 MILES WEST OF CHATFIELD, 4.5 MILES WEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 37.3 FEET NORTHEAST OF THE SOUTH END OF A CULVERT, 31.2 FEET SOUTHEAST OF TRUNK HIGHWAY 30, 1.6 FEET SOUTHWEST OF TRUNK HIGHWAY 30 MILEPOST 235. THE TBM IS A 5/8 INCH DIAMETER BY 24.0 INCH DIAMETER LONG METAL REBAR PIN SET IN THE SHOULDER OF THE ROAD.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1146.556	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1146.559	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH

Geoid Separations(ft): GEOID18 = -98.002 12B = -98.002 09 = -97.907 03 = -97.795

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_3_VSTCH-DP7602-3NW-25AUG2014.jpg	NW	Aug 25, 2014
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_3_VSTCH-DP7602-2-25AUG2014.jpg		Aug 25, 2014
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TBM_3_VSTCH-DP7602-1-25AUG2014.jpg		Aug 25, 2014

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TBM 35 A L22211

NGS Name: TBM 35 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2483](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	105 N	14 W	435140.00	922952.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1969	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN STEWARTVILLE, 0.5 MILE WEST ALONG COUNTY ROAD 8 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 8 SOUTHWEST AND TRUNK HIGHWAY 63, 600.0 FEET SOUTH OF COUNTY ROAD 8 SOUTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.153 12B = -98.172 09 = -98.103 03 = -97.913



Mn/DOT Name: TBM 35 B L22211

NGS Name: TBM 35 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2484](#) [Get Map](#)
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	105 N	14 W	435143.00	923033.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1969	1969	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

1.1 MILES NORTHWEST OF STEWARTVILLE, 1.0 MILE WEST ALONG COUNTY ROAD 8 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 8 SOUTHWEST AND TRUNK HIGHWAY 63 IN STEWARTVILLE.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.212 09 = -98.149 03 = -97.949



Mn/DOT Name: TBM 4 L867

NGS Name: TBM 4

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7311](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	26	108 N	15 W	440734.00	923513.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

3.8 MILES SOUTHWEST OF ORONOCO, 4.6 MILES WEST AND SOUTHWEST ALONG COUNTY ROAD 12/COUNTY ROAD 3
FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 SOUTH OF ORONOCO.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.517 09 = -98.422 03 = -98.264



Mn/DOT Name: TBM 5 A L22214

NGS Name: TBM 5 A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2476](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	35	107 N	14 W	440208.00	922758.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF 14TH STREET NORTHWEST AND 2ND AVENUE NORTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.530 09 = -98.445 03 = -98.287



Mn/DOT Name: TBM 5 L867

NGS Name: TBM 5

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7312](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	26	108 N	15 W	440803.00	923538.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

3.6 MILES SOUTHWEST OF ORONOCO, 4.5 MILES WEST THEN SOUTHWEST ALONG COUNTY ROAD 12/COUNTY ROAD 3
FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 SOUTH OF ORONOCO.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.507 09 = -98.409 03 = -98.245



Mn/DOT Name: TBM 72 L859

NGS Name: TBM 72

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7847](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	30	107 N	14 W	440220.00	923241.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

3.9 MILES NORTHWESTERLY OF ROCHESTER, 1.35 MILES NORTHWEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.638 12B = -98.638 09 = -98.566 03 = -98.386



Mn/DOT Name: TBM 73 L859

NGS Name: TBM 73

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7848](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	29	107 N	14 W	440214.00	923149.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

3.1 MILES WEST OF ROCHESTER, AT THE JUNCTION OF VALLEY DRIVE NORTHWEST AND 10TH STREET NORTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.632 12B = -98.635 09 = -98.566 03 = -98.382



Mn/DOT Name: TBM 74 L859

NGS Name: TBM 74

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7849](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	33	107 N	14 W	440207.00	923042.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN ROCHESTER, 0.4 MILE SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 22 IN ROCHESTER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.622 12B = -98.625 09 = -98.546 03 = -98.369



Mn/DOT Name: TBM 75 L859

NGS Name: TBM 75

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7850](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	2	106 N	14 W	440044.00	922742.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF 9TH STREET SOUTHEAST AND 1ST AVENUE SOUTHEAST, 425.0 FEET EAST OF TRUNK HIGHWAY 63.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.448 03 = -98.277



Mn/DOT Name: TBM 76 L859

NGS Name: TBM 76

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7851](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	12	106 N	14 W	435947.00	922727.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN ROCHESTER, 0.2 MILE SOUTH ALONG COUNTY ROAD 146 FROM THE JUNCTION OF COUNTY ROAD 146 AND 16TH STREET SOUTHEAST, 310.0 FEET EAST OF COUNTY ROAD 146.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.504 12B = -98.517 09 = -98.432 03 = -98.251



Mn/DOT Name: TBM 77 L859

NGS Name: TBM 77

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7852](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>				
SW 13 106 N 14 W	435906.00	922711.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN ROCHESTER, 0.3 MILE WEST ALONG COUNTY ROAD 146 FROM THE JUNCTION OF COUNTY ROAD 146 AND COUNTY ROAD 1 SOUTHEAST IN ROCHESTER, THEN 0.3 MILE SOUTH ON 9TH AVENUE SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.494 09 = -98.409 03 = -98.222



Mn/DOT Name: TBM 78 L859

NGS Name: TBM 78

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7853](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	24	106 N	14 W	435804.00	922638.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description:

Stamping:

4.0 MILES SOUTHEAST OF ROCHESTER, 0.2 MILE SOUTH ALONG COUNTY ROAD 1 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.1 MILE WEST ON A ROAD WEST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.412 12B = -98.425 09 = -98.343 03 = -98.156



Mn/DOT Name: TBM 79 L859

NGS Name: TBM 79

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7854](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	30	106 N	13 W	435735.00	922618.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description:

Stamping:

4.6 MILES SOUTHEAST OF ROCHESTER, 1.3 MILES SOUTH ALONG COUNTY ROAD 1 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.6 MILE WEST ON COUNTY ROAD 101.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.373 12B = -98.386 09 = -98.304 03 = -98.117



Mn/DOT Name: TBM 80 L859

NGS Name: TBM 80

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7855](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	30	106 N	13 W	435704.00	922557.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description:

Stamping:

4.8 MILES SOUTHEAST OF ROCHESTER, 1.3 MILES SOUTH ALONG COUNTY ROAD 1 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.4 MILE WEST ON COUNTY ROAD 101, THEN 0.3 MILE SOUTH ON A ROAD SOUTH.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.327 12B = -98.336 09 = -98.258 03 = -98.074



Mn/DOT Name: TBM 81 L859

NGS Name: TBM 81

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7856](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	31	106 N	13 W	435632.00	922535.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

5.9 MILES SOUTHEAST OF ROCHESTER, 2.3 MILES SOUTH ALONG COUNTY ROAD 1 FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 0.3 MILE SOUTH ON 30TH AVENUE SOUTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.271 12B = -98.277 09 = -98.202 03 = -98.025



Mn/DOT Name: TBM 82 L859

NGS Name: TBM 82

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7857](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	6	105 N	13 W	435557.00	922511.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description:

Stamping:

6.6 MILES SOUTHEAST OF ROCHESTER, 2.1 MILES EAST-NORTHEAST ALONG COUNTY ROAD 16 SOUTH EAST FROM THE JUNCTION OF COUNTY ROAD 16 SOUTHEAST AND TRUNK HIGHWAY 63 IN THE SOUTHERN PART OF ROCHESTER, THEN 0.7 MILE NORTHEAST THEN NORTH ON 20TH AVENUE SOUTHEAST, THEN 0.9 MILE EAST ON 60TH STREET SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.205 12B = -98.208 09 = -98.143 03 = -97.969



Mn/DOT Name: TBM 83 L859

NGS Name: TBM 83

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7858](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	7	105 N	13 W	435505.00	922543.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

5.2 MILES NORTHEAST OF STEWARTVILLE, 3.7 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.163 09 = -98.097 03 = -97.930



Mn/DOT Name: TBM 84 L859

NGS Name: TBM 84

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7859](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	12	105 N	14 W	435446.00	922627.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

4.6 MILES NORTHEAST OF STEWARTVILLE, 3.0 MILES NORTHEAST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.1 MILE NORTH ON COUNTY ROAD 20.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.169 12B = -98.179 09 = -98.113 03 = -97.936



Mn/DOT Name: TBM 85 L859

NGS Name: TBM 85

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7860](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>				
SW 12 105 N 14 W	435427.00	922712.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

4.0 MILES NORTHEAST OF STEWARTVILLE, 1.35 MILES EAST ON 80TH STREET SOUTHEAST FROM THE JUNCTION OF 80TH STREET SOUTHEAST AND TRUNK HIGHWAY 63 SOUTH IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.182 12B = -98.202 09 = -98.133 03 = -97.949



Mn/DOT Name: TBM 86 L859

NGS Name: TBM 86

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7861](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	14	105 N	14 W	435407.00	922758.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
NGS

Description:

Stamping:

3.4 MILES NORTHEAST OF STEWARTVILLE, 0.6 MILE EAST ALONG 80TH STREET SOUTHEAST FROM THE JUNCTION OF 80TH STREET SOUTHEAST AND TRUNK HIGHWAY 63 SOUTH OF ROCHESTER, THEN 0.3 MILE SOUTH ON 2ND AVENUE SOUTHEAST, THEN 0.05 MILE ON A ROAD EAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.199 12B = -98.218 09 = -98.153 03 = -97.966



Mn/DOT Name: TBM 87 L859

NGS Name: TBM 87

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7862](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	22	105 N	14 W	435306.00	922904.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

2.0 MILES NORTH OF STEWARTVILLE, AT THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT THE NORTHEAST SIDE OF THE SOUTHEAST RAMP GOING ONTO INTERSTATE HIGHWAY 90.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.192 12B = -98.215 09 = -98.149 03 = -97.953



Mn/DOT Name: TBM 88 L859

NGS Name: TBM 88

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7863](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	105 N	14 W	435221.00	922906.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN STEWARTVILLE, 0.1 MILE EAST ALONG 20TH STREET NORTHEAST FROM THE JUNCTION OF 20TH STREET NORTHEAST AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.16 MILE NORTH ON 2ND AVENUE NORTHEAST, THEN 0.11 MILE EAST ON LUELLA PLACE NORTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.146 12B = -98.172 09 = -98.100 03 = -97.910



Mn/DOT Name: TBM 89 L859

NGS Name: TBM 89

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7864](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u> <u>Sec</u> <u>Twp</u> <u>Rng</u>				
NE 34 105 N 14 W	435136.00	922908.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description:

Stamping:

IN STEWARTVILLE, AT THE JUNCTION OF 2ND AVENUE NORTHEAST AND 6TH STREET NORTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.103 12B = -98.130 09 = -98.058 03 = -97.871



Mn/DOT Name: TBM 90 L859

NGS Name: TBM 90

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [BQ7865](#) [Get Map](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	2	104 N	14 W	435022.00	922913.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	1933	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	NGS

Description: (2016)

Stamping:

1.1 MILES SOUTH OF STEWARTVILLE, 0.15 MILE EAST ALONG 6TH STREET SOUTHEAST FROM THE JUNCTION OF 6TH STREET SOUTHEAST AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.35 MILE SOUTH ALONG BERG BOULEVARD, THEN 0.06 MILE SOUTHWEST ON 9TH STREET SOUTHEAST, THEN 0.1 MILE SOUTHEAST ON BUCKNELL BOULEVARD SOUTHEAST, THEN 0.15 MILE ON PRAIRIE STONE COURT SOUTHEAST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.071 09 = -98.005 03 = -97.821



Mn/DOT Name: TBM A 1 L22214

NGS Name: TBM A 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2475](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	26	107 N	14 W	440241.00	922732.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

IRON ROD

Disk Type

UNMONUMENTED

Mon. Agency

MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND 3RD AVENUE NORTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.497 12B = -98.500 09 = -98.412 03 = -98.264



Mn/DOT Name: TBM A L22214

NGS Name: TBM A

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3441](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	6	107 N	14 W	440541.00	923315.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

IRON ROD

Disk Type

UNMONUMENTED

Mon. Agency

MNDT

Description:

Stamping:

6.6 MILES NORTHWEST OF ROCHESTER, 5.0 MILES SOUTHWEST OF ORONOCO, 2.1 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 IN ORONOCO, THEN 1.0 MILE SOUTH ON 60TH AVENUE NORTHWEST, THEN 0.2 MILE EAST ON 65TH STREET NORTHWEST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.566 12B = -98.566 09 = -98.468 03 = -98.320



Mn/DOT Name: TBM A L22792

NGS Name: TBM A

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	107 N	14 W	440615.00	923050.00		

NGS ACRN: AM5851	Get Map
NGS Quad / Sta Num : 44092322/	
USGS Quad: DOUGLAS	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

6.2 MILES NORTH OF ROCHESTER, 0.3 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.546 09 = -98.448 03 = -98.310



Mn/DOT Name: TBM B L22214

NGS Name: TBM B

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3442](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	108 N	14 W	440630.00	923207.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
MN DT

Description:

Stamping:

6.8 MILES NORTHWEST OF ROCHESTER, 1.0 MILE WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 IN ROCHESTER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.553 12B = -98.553 09 = -98.455 03 = -98.313



Mn/DOT Name: TBM C 1 L22214

NGS Name: TBM C 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2474](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	24	107 N	14 W	440315.00	922718.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND ROCKY CREEK DRIVE NORTHEAST.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.481 09 = -98.386 03 = -98.248



Mn/DOT Name: TBM C 2 L22214

NGS Name: TBM C 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN2473](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	24	107 N	14 W	440318.00	922717.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 63 AND ROCKY CREEK DRIVE NORTHEAST, 230.0 FEET NORTH OF
ROCKY CREEK DRIVE NORTHEAST ALONG TRUNK HIGHWAY 63.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.477 12B = -98.477 09 = -98.386 03 = -98.248



Mn/DOT Name: TBM CHECKPOINT K 24 L22214

NGS Name: TBM CHECKPOINT K 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3440](#) [Get Map](#)
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	2	106 N	14 W	440026.00	922742.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

IN ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND 1ST AVENUE SOUTHEAST, 140.0 FEET NORTH OF TRUNK HIGHWAY 14.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.527 12B = -98.533 09 = -98.448 03 = -98.274



Mn/DOT Name: TBM R 1 L22214

NGS Name: TBM R 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3438](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	19	106 N	13 W	435820.00	922610.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

3.8 MILES SOUTHEAST OF ROCHESTER, 0.1 MILE SOUTH ALONG COUNTY ROAD 1 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.395 12B = -98.409 09 = -98.327 03 = -98.146



Mn/DOT Name: TBM R 1 L22786

NGS Name: TBM R 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AM5780](#) [Get Map](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	19	106 N	13 W	435820.00	922610.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1972	1972	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
IRON ROD	UNMONUMENTED	MNDT

Description:

Stamping:

3.8 MILES SOUTHEAST OF ROCHESTER, 0.1 MILE SOUTH ALONG COUNTY ROAD 1 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 1 SOUTHEAST AND TRUNK HIGHWAY 52 IN ROCHESTER.

** No Horizontal or Vertical Positions in the Database **

Geoid Separations(ft): GEOID18 = -98.395 12B = -98.409 09 = -98.327 03 = -98.146



Mn/DOT Name: TBM U 1 L22214

NGS Name: TBM U 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AN3437](#)
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	21	106 N	13 W	435807.00	922352.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	1970	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type
IRON ROD

Disk Type
UNMONUMENTED

Mon. Agency
MN DT

Description:

Stamping:

5.2 MILES SOUTHEAST OF ROCHESTER, 3.35 MILES SOUTHEAST ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 63 IN ROCHESTER.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.277 12B = -98.281 09 = -98.185 03 = -98.031



Mn/DOT Name: TOLIMAN

NGS Name: TOLIMAN

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	32	105 N	13 W	435120.23	922456.02	2	C

NGS ACRN: [DP2866](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
2013	2014	GOOD	Horz=YES Vert=YES	YES		FLUSH	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 33 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2013)

Stamping: TOLIMAN 2013

3.5 MILES EAST OF STEWARTVILLE, 3.7 MILES EAST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 63 IN STEWARTVILLE, AT TRUNK HIGHWAY 30 MILEPOINT 227.55, 69.6 FEET NORTH OF TRUNK HIGHWAY 30, 23.3 FEET WEST OF A FIELD ENTRANCE, 9.1 FEET WEST OF A POWER POLE WITH A GUY WIRE, 1.5 FEET EAST OF A WITNESS POST.

Station Pair: ATITLAN - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u> Orthometric Height			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1250.647	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1250.647	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u> Orthometric Height			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1250.657			1152.767	.016	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
1250.670	.131		1152.934	.066	1996	GPS - STATIC	2014	HOLMS
1250.657			1152.767	.016	2011	GPS - STATIC	2014	HOLMS
1250.631	.262		1152.737	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -97.874 12B = -97.894 09 = -97.825 03 = -97.670

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u> Geodetic Position		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 20.22957	92 24 56.02208	632188.167	108323.467	.016		ADJUSTMENT	2014	GPS3018
43 51 20.22957	92 24 56.02208	632188.167	108323.467	.016	C	GPS - STATIC	2014	HOLMS
43 51 20.22910	92 24 56.02220	632188.158	108323.419	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u> Geodetic Position		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 20.22939	92 24 56.02228	632188.152	108323.449	.033	C	GPS - STATIC	2014	HOLMS

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u> MN State Plane - South Zone		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3042578.101	644043.226	1794518.503	15931736.441	.016		ADJUSTMENT	2014	GPS3018
3042578.101	644043.226	1794518.503	15931736.441	.016	C	GPS - STATIC	2014	HOLMS
3042578.093	644043.178	1794518.495	15931736.394	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u> MN State Plane - South Zone		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3042578.087	644043.207	1794518.489	15931736.423	.033	C	GPS - STATIC	2014	HOLMS



Station Photos

<u>Type</u>	<u>File Name</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TOLIMAN-DP2866-3N-16APR2013.jpg
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TOLIMAN-DP2866-2-16APR2013.jpg
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TOLIMAN-DP2866-1-16APR2013.jpg

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **

<u>Dir</u>	<u>Date</u>
N	Apr 16, 2013
	Apr 16, 2013
	Apr 16, 2013



Mn/DOT Name: TT 1 C

NGS Name: TT 1 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092412/
USGS Quad: HIGH FOREST

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	5	104 N	14 W	435054.46	923149.74		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1935	2016	GOOD	Horz=NO Vert=YES	YES		PROJECTS 4 IN.	STEEL ROD IMBED IN MON

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

USGS

Description: (2010)

Stamping: TT 1 C 1936

2.2 MILES WEST OF STEWARTVILLE, 2.0 MILES WEST ALONG COUNTY ROAD 6 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 6 SOUTHWEST AND TRUNK HIGHWAY 63 IN STEWARTVILLE, THEN 0.1 MILE WEST AND NORTH ON 6TH STREET SOUTHWEST, 32.0 FEET NORTH OF 6TH STREET SOUTHWEST EXTENDED EAST, 24.5 FEET WEST-NORTHWEST OF A QWEST PEDESTAL, 1.0 FOOT WEST OF A WITNESS POST.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.205 12B = -98.228 09 = -98.163 03 = -97.953

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_1_C-3N-27APR2010.jpg	N	Apr 27, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_1_C-2-27APR2010.jpg		Apr 27, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_1_C-1-27APR2010.jpg		May 25, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 1 WM

NGS Name: TT 1 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	14	106 N	12 W	435901.00	921420.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974)

Stamping: TT 1 WM 1952

0.8 MILE SOUTHWEST OF EYOTA, 0.4 MILE NORTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND 30TH STREET SOUTHEAST IN EYOTA, THEN 0.3 MILE WEST OF THE EYOTA SCHOOL, 378.0 FEET SOUTH OF COUNTY ROAD 7 EAST, 34.0 FEET EAST OF TRUNK HIGHWAY 7, AT A CURVE IN THE HIGHWAY, 4.0 FEET NORTH AND 3.0 FEET EAST OF A POLE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1269.561	.033	3				VERTICAL CONTROL SURVEY	1978 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.035 12B = -98.021 09 = -97.907 03 = -97.811

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 19 W

NGS Name: TT 19 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	108 N	14 W	441140.00	923030.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1964)

Stamping: TT 19 W 1934 937

2.4 MILES NORTHEAST OF ORONOCO, 1.6 MILES EAST ALONG COUNTY ROAD 12 FROM THE JUNCTION OF COUNTY ROAD 12 AND TRUNK HIGHWAY 52 IN ORONOCO, THEN 1.7 MILES NORTH-NORTHEAST ON COUNTY ROAD 27, NEAR THE NORTH OLMSTED COUNTY LINE, 111.0 FEET SOUTH AND 58.0 FEET WEST OF THE JUNCTION OF ROAD FORKS, 5.0 FEET NORTH OF A FENCE CORNER.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
937.186	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.494 12B = -98.494 09 = -98.376 03 = -98.254

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 2 C

NGS Name: TT 2 C

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	34	105 N	14 W	435137.85	922918.44	2	

NGS ACRN: [OO0352](#)
NGS Quad / Sta Num : 43092143/
USGS Quad: STEWARTVILLE

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO	3026		NO MAG MATERIAL

Monument Type

STRUCTURE (MASSIVE)

Disk Type

SURVEY DISK

Mon. Agency

USGS

Description: (1970)

Stamping: TT2C

IN STEWARTVILLE, IN THE EAST WALKWAY, AT THE NORTH END ON TRUNK HIGHWAY 63 BRIDGE NUMBER 3026, OVER THE ROOT RIVER.

Station Notes

BRIDGE 3026 REPLACED BY BRIDGE 55029 IN 1980.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1196.143	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.117 12B = -98.140 09 = -98.067 03 = -97.880

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 2 WM

NGS Name: TT 2 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	105 N	12 W	435534.00	921420.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1974)

Stamping: TT 2 WM 1952

4.6 MILES NORTHWEST OF CHATFIELD, 2.0 MILES NORTH ALONG COUNTY ROAD 7 FROM THE JUNCTION OF COUNTY ROAD 7 AND TRUNK HIGHWAY 52 IN CHATFIELD, 0.2 MILE SOUTH OF A BRIDGE OVER A CREEK AND A RAILROAD, 317.0 FEET SOUTH AND 30.0 FEET WEST OF COUNTY ROAD 7 AT A TEE-ROAD WEST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1258.485	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.048 12B = -98.054 09 = -97.933 03 = -97.821

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 20 W

NGS Name: TT 20 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	16	108 N	14 W	440931.00	923029.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1964)

Stamping: TT 20 W 1934 1007

1.5 MILES EAST OF ORONOCO, 1.2 MILES EAST-SOUTHEAST ALONG 1ST STREET SOUTHEAST/110TH STREET NORTHWEST FROM THE JUNCTION OF 1ST STREET SOUTHEAST/110TH STREET NORTHWEST AND 2ND AVENUE SOUTHEAST IN ORONOCO, THEN CONTINUE 0.1 MILE NORTHEAST ON MIDDLE FORK DRIVE NORTHWEST, OPPOSITE AND IN LINE WITH A ROAD WEST, 50.0 FEET NORTH OF A TEE FENCE EAST, 3.0 FEET WEST OF A FENCE, IN LINE WITH THE FENCE SOUTH.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1006.563	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.523 09 = -98.405 03 = -98.277

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 21 W

NGS Name: TT 21 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NW	27	108 N	14 W	440747.00	922919.00			1934	2010	GOOD	Horz=NO Vert=YES	YES		PROJECTS 3 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2016) Stamping: TT 21 W 1934

2.25 MILES SOUTH AND 2.25 MILES EAST OF ORONOCO, 1.5 MILES NORTH ALONG COUNTY ROAD 112 FROM THE JUNCTION OF COUNTY ROAD 112 AND COUNTY ROAD 14 IN ORONOCO, 17.0 FEET NORTH AND 32.0 FEET WEST OF COUNTY ROAD 112 (18TH AVENUE NORTHWEST) AT A TEE-ROAD EAST (COUNTY ROAD 121 NORTHWEST-90TH STREET NORTHWEST), 5.0 FEET EAST OF A FENCE, 1.0 FOOT EAST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1086.048	.033	3					VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.514 09 = -98.402 03 = -98.284

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_21_W-3SW-08APR2010.jpg	SW	Apr 8, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_21_W-2-08APR2010.jpg		Apr 8, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_21_W-1-08APR2010.jpg		Apr 8, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 22 W

NGS Name: TT 22 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	25	108 N	14 W	440800.00	922655.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 6 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1934) Stamping: TT 22 W 1934 1039

2.0 MILES SOUTH AND 4.2 MILES EAST OF ORONOCO, 0.6 MILE NORTH ALONG 20TH AVENUE NORTHEAST FROM THE JUNCTION OF 20TH AVENUE NORTHEAST AND COUNTY ROAD 14 IN ORONOCO, THEN 0.45 MILE WEST ON 81ST STREET NORTHEAST, THEN 1.3 MILES NORTH ON 11TH AVENUE NORTHEAST, 33.0 FEET WEST OF A NORTH-SOUTH ROAD AT THE JUNCTION OF A TEE-ROAD EAST, 4.0 FEET SOUTH AND 4.0 FEET WEST OF A FENCE CORNER.

Station Notes

3-29-10 FOUND THE TOP BUSTED OFF, EXPOSING THE REBAR.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1039.316	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.455 12B = -98.451 09 = -98.340 03 = -98.228

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_22_W-2-29MAR2010.jpg		Mar 29, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 23 W

NGS Name: TT 23 W

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092234/
USGS Quad: ZUMBRO LAKE

[Get Map](#)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	22	108 N	13 W	440813.00	922244.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES		RECESSED 3 IN.	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1934) **Stamping:** TT 23 W 1934 1141

6.5 MILES WEST AND 0.5 MILE NORTH OF ELGIN, 2.0 MILES NORTH ALONG COUNTY ROAD 128 NORTHEAST FROM THE JUNCTION OF COUNTY ROAD 128 NORTHEAST AND COUNTY ROAD 14 IN ELGIN, 30.0 FEET NORTH AND 30.0 FEET EAST OF THE JUNCTION OF COUNTY ROAD 21 AND A NORTH-SOUTH TOWNSHIP ROAD.

Station Notes

3-29-2010 GRADED OUT BY RECONSTRUCTION.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1140.982	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.343 12B = -98.333 09 = -98.208 03 = -98.107

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_23_W-3W-29MAR2010.jpg	W	Mar 29, 2010
Monument:			
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 29 E

NGS Name: TT 29 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092222/
USGS Quad: ELBA

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	2	106 N	11 W	440022.00	920708.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	GOOD	Horz=YES Vert=YES	YES		PROJECTS 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010) **Stamping:** TT 29 E 1934 1098

2.25 MILES NORTHEAST OF DOVER, 1.0 MILE EAST ALONG COUNTY ROAD 132 FROM THE JUNCTION OF COUNTY ROAD 132 AND COUNTY ROAD 10 SOUTHEAST IN DOVER, 1250.0 FEET WEST OF A FARM ENTRANCE, 560.0 FEET EAST OF BRIDGE NUMBER 55540 OVER THE CROW SPRING BRANCH OF THE WHITEWATER RIVER, 33.0 FEET NORTH OF A ROAD, OPPOSITE AND IN LINE WITH A FENCE SOUTH, 5.5 FEET EAST OF A BURIED CABLE POST, 0.7 FOOT SOUTH OF A RIGHT-OF-WAY FENCE AND A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1098.085	.033	3				VERTICAL CONTROL SURVEY	1984	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.254 12B = -98.248 09 = -98.136 03 = -98.008

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_29_E-3N-12MAY2010.jpg	N	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_29_E-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_29_E-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 3 C

NGS Name: TT 3 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	11	105 N	14 W	435502.00	922837.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1936	2009	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974)

Stamping: TT 3 C 1936

4.3 MILES NORTH OF STEWARTVILLE, AT THE JUNCTION OF COUNTY ROAD 16 AND TRUNK HIGHWAY 63, 60.0 FEET EAST OF TRUNK HIGHWAY 63 (NOW THE SOUTHBOUND LANE), 25.0 FEET NORTH OF COUNTY ROAD 16.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1289.174	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.330 09 = -98.268 03 = -98.064

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 3 WM

NGS Name: TT 3 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO1549](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	105 N	12 W	435355.28	921417.78	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2005	DESTROYED	Horz=NO Vert=NO	YES			MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010) **Stamping:** TT 3 WM 1072 1952

4.5 MILES NORTHWEST OF CHATFIELD, 4.1 MILES NORTH ALONG TRUNK HIGHWAY 52 FROM THE NORTH JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 30 IN CHATFIELD, 140.0 FEET SOUTHEAST OF THE SOUTHWEST HEADWALL OF A BOX CULVERT, 96.2 FEET SOUTH OF TRUNK HIGHWAY 52 MILEPOST 39, 47.3 FEET SOUTHWEST OF TRUNK HIGHWAY 52, 31.8 FEET NORTHWEST OF A TELEPHONE BOX AD8A, 1.0 FOOT NORTHEAST OF A WITNESS POST.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1072.029	.016	2/1				VERTICAL ADJUSTMENT	2009	00000425-35
1072.029	.016	2/1				VERTICAL CONTROL SURVEY	2007	VOLMS
1072.029	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1071.993	.033	3				VERTICAL CONTROL SURVEY	1984	USGS-VERT
1071.993	.016	2				VERTICAL CONTROL SURVEY	1980	L24679
1071.766	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.077 12B = -98.087 09 = -97.976 03 = -97.857

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_3_WM-OO1549-3SW-30JUN2010.jpg	SW	Jun 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_3_WM-OO1549-2-30JUN2010.jpg		Jun 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_3_WM-OO1549-1-30JUN2010.jpg		Jun 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 30 E

NGS Name: TT 30 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	106 N	11 W	440023.00	921041.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1972)

Stamping: TT 30 E 1934 1206

2.8 MILES NORTHEAST OF EYOTA, 1.9 MILES NORTH ALONG COUNTY ROAD 132 FROM THE JUNCTION OF COUNTY ROAD 132 AND TRUNK HIGHWAY 14 IN EYOTA, 165.0 FEET EAST OF COUNTY ROAD 132 AT A TEE-ROAD EAST, AT THE SOUTHEAST CORNER OF A SCHOOLYARD, 20.0 FEET SOUTH AND 65.0 FEET EAST OF THE SOUTHEAST CORNER OF A SCHOOL, 20.0 FEET NORTH AND 2.0 FEET WEST OF A FENCE CORNER.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1206.241	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.123 12B = -98.110 09 = -97.992 03 = -97.890

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 31 E

NGS Name: TT 31 E

County: OLMSTED, MN (Sheet 1)

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>	NGS ACRN: PP2244		Get Map
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>	NGS Quad / Sta Num : 44092223/1008		
NW	10	106 N	12 W	440022.87	921457.88	2	2	USGS Quad: PLAINVIEW SW		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2012	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: TT 31 E 1934 1293 5506-B

1.5 MILES NORTHWEST OF EYOTA, 0.5 MILE NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 70.5 FEET WEST OF TRUNK HIGHWAY 42, 31.0 FEET SOUTH OF AN EAST-WEST SECTION ROAD (10TH STREET SOUTHEAST), 17.0 FEET NORTH OF STATION OLE, 7.0 FEET EAST OF A POWER POLE NUMBER 38147 WITH AN ANCHOR, 1.0 FOOT NORTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1292.635	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1292.635	.016	2/1				VERTICAL ADJUSTMENT	2012 00000719
1292.632	.016	2/1				VERTICAL CONTROL SURVEY	2010 VFRON

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1292.560	.033	3				VERTICAL CONTROL SURVEY	1984 USGS-VERT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1292.540	.262		1194.647	.197	2007	GPS - RTRN	2012 RTRN2012
1292.616	.197		1194.879	.131	1996	HORIZONTAL ADJUSTMENT	1999 17648

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.894 03 = -97.808

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2007)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 00 22.86976	92 14 57.88102	675572.068	163582.840	.131	3	GPS - RTRN	2012	RTRN2012

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 00 22.87316	92 14 57.87903	675572.211	163583.185	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 00 22.86105	92 14 57.87964	675572.176	163581.959	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
44 00 22.98900	92 14 57.28400			.100	2	CLASSICAL SURVEY	1937	03491

State Plane and UTM Coordinates (Feet)

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085218.891	699870.836	1837829.052	15987016.083	.131	3	GPS - RTRN	2012	RTRN2012

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085219.029	699871.184	1837829.194	15987016.429	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3085219.010	699869.957	1837829.161	15987015.202	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2460608.885	371796.624			.100	2	CLASSICAL SURVEY	1937	03491

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_31_E-PP2244-3SW-31MAR2010.jpg	SW	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_31_E-PP2244-2-31MAR2010.jpg		Mar 31, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_31_E-PP2244-1-31MAR2010.jpg		Mar 31, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 32 E

NGS Name: TT 32 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	27	107 N	12 W	440249.00	921457.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1968	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1968)

Stamping: TT 32 E 1934 1283

4.0 MILES NORTH AND 1.0 MILE WEST OF EYOTA, 3.35 MILES NORTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 200.0 FEET NORTH AND 45.0 FEET WEST OF A TEE-ROAD EAST (23RD STREET), IN THE NORTHEAST CORNER OF THE SCHOOLYARD OF THE SWAN SCHOOL, 36.0 FEET NORTH AND 7.0 FEET EAST OF THE NORTHEAST CORNER OF THE SCHOOL.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.061 12B = -98.058 09 = -97.926 03 = -97.841



Mn/DOT Name: TT 33 E

NGS Name: TT 33 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	10	107 N	12 W	440456.00	921440.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

Monument Type

CONCRETE MONUMENT (CAST-IN-PLACE)

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1968)

Stamping: TT 33 E 1934 1177

6.5 MILES NORTH AND 1.0 MILE WEST OF EYOTA, 5.8 MILES NORTH ALONG TRUNK HIGHWAY 42/TRUNK HIGHWAY 2 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND TRUNK HIGHWAY 14 IN EYOTA, 60.0 FEET SOUTH AND 62.0 FEET WEST OF A CROSSROADS (TRUNK HIGHWAY 42 AND COUNTY ROAD 2 EAST), 60.0 FEET SOUTH AND 60.0 FEET EAST OF THE SOUTHEAST CORNER OF A SHED.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1176.759	.033	3				VERTICAL CONTROL SURVEY	1984 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.133 12B = -98.130 09 = -97.995 03 = -97.900

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 34 E

NGS Name: TT 34 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092223/
USGS Quad: PLAINVIEW SW

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	3	107 N	12 W	440627.00	921451.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	NOT FOUND	Horz=? Vert=YES	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1968)

Stamping: TT 34 E 1934 1116

1.8 MILES SOUTH OF ELGIN, 1.6 MILES SOUTH ALONG TRUNK HIGHWAY 42 FROM THE JUNCTION OF TRUNK HIGHWAY 42 AND 1ST STREET SOUTHWEST IN ELGIN, THEN 0.1 MILE WEST ON 75TH STREET NORTHEAST, ON THE WABASHA-OLMSTED COUNTY LINE, 70.0 FEET SOUTH AND 30.0 FEET WEST OF TRUNK HIGHWAY 42 AT A TEE-ROAD EAST, 1.0 FOOT EAST OF A FENCE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1115.733	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.195 12B = -98.195 09 = -98.061 03 = -97.959

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 35 E

NGS Name: TT 35 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	8	106 N	12 W	440023.20	921755.30		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2014	DESTROYED	Horz=NO Vert=NO	YES		PROJECTS 20 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010) **Stamping:** TT 35 E 1934 1254

3.2 MILES EAST OF CHESTER, 0.6 MILE NORTH ALONG COUNTY ROAD 102 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 102 SOUTHEAST AND TRUNK HIGHWAY 14, 120.0 FEET EAST OF COUNTY ROAD 102, 36.0 FEET SOUTH OF 10TH STREET SOUTHEAST, 6.0 FEET WEST OF A POWER POLE.

Station Notes

THE DISK WAS TURNED IN TO THE OFFICE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1253.580	.033	3				VERTICAL CONTROL SURVEY	1972	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.054 12B = -98.061 09 = -97.926 03 = -97.834

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_35_E-3S-17JUN2010.jpg	S	Jun 17, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_35_E-2-17JUN2010.jpg		Jun 17, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_35_E-1-17JUN2010.jpg		Jun 17, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 36 E

NGS Name: TT 36 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	2	106 N	13 W	440025.00	922053.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1972)

Stamping: TT 36 E 1934 1120

6.1 MILES EAST OF ROCHESTER, 0.2 MILE NORTH ALONG COUNTY ROAD 119 FROM THE JUNCTION OF COUNTY ROAD 119 AND TRUNK HIGHWAY 14 IN ROCHESTER, THEN 0.1 MILE WEST ON 10TH STREET SOUTHEAST, AT THE SOUTHEAST CORNER OF A SCHOOLYARD, 33.0 FEET NORTH AND 180.0 FEET EAST OF A TEE-ROAD NORTH, 2.0 FEET NORTH AND 1.0 FOOT WEST OF A FENCE CORNER.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1119.657	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.159 12B = -98.169 09 = -98.041 03 = -97.933

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 37 E

NGS Name: TT 37 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	5	106 N	13 W	440044.00	922432.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1972)

Stamping: TT 37 E 1934 1063

1.7 MILES EAST OF THE EAST EDGE OF ROCHESTER, AT THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 109 IN ROCHESTER, 50.0 FEET NORTH AND 30.0 FEET WEST OF THE CROSSROADS (TRUNK HIGHWAY 14 AND COUNTY ROAD 109), 3.0 FEET WEST OF A TRUNK HIGHWAY 14 RIGHT-OF-WAY POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1062.813	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.353 12B = -98.363 09 = -98.258 03 = -98.120

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 38 E RESET

NGS Name: TT 38 E RESET

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0321](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	16	107 N	14 W	440445.00	923026.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1957	2005	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	MNDT

Description: (2018)

Stamping: TT 38E RESET 1957

4.0 MILES NORTH OF ROCHESTER, 3.8 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 14 WEST AND TRUNK HIGHWAY 52, 2.0 MILES SOUTH OF THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14, 115.0 FEET SOUTH OF A TOWNSHIP ROAD, 100.0 FEET EAST OF NORTHBOUND TRUNK HIGHWAY 52 AT STATION 2145+50, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1004.165	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1004.076	.016	2				VERTICAL CONTROL SURVEY	1972 L106 MINN
1004.076	.016	2				VERTICAL CONTROL SURVEY	1971 L22214
1004.119	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.563 12B = -98.566 09 = -98.468 03 = -98.323

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 39 E

NGS Name: TT 39 E

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	3	107 N	14 W	440605.00	922916.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	1964	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1964)

Stamping: TT 39 E 1934 1057

5.0 MILES SOUTHEAST OF ORONOCO, 0.5 MILE SOUTH ALONG COUNTY ROAD 112 FROM THE JUNCTION OF COUNTY ROAD 112 AND COUNTY ROAD 14 IN ORONOCO, 500.0 FEET NORTH OF AN ENTRANCE TO A FARMHOUSE, 20.0 FEET NORTH OF THE CORNER OF A FENCE POST, 15.0 FEET NORTH AND 15.0 FEET EAST OF THE CENTER OF THE ROAD (18TH AVENUE) IN LINE WITH THE EAST-WEST FENCES, 1.5 FEET WEST OF A FENCE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1057.363	.033	3				VERTICAL CONTROL SURVEY	1972 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.520 12B = -98.517 09 = -98.418 03 = -98.290

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 4 C

NGS Name: TT 4 C

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	23	106 N	14 W	435800.00	922747.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1936	2010	DESTROYED	Horz=NO Vert=NO	NO	5162		SEE DESCRIPTION

Monument Type

BRIDGE WING WALL

Disk Type

SEE DESCRIPTION

Mon. Agency

USGS

Description: (1974)

Stamping: TT 4 C 1936

IN ROCHESTER, 0.7 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52, IN THE SOUTHEAST CORNER OF TRUNK HIGHWAY 63 BRIDGE NUMBER 5162.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1050.641	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.464 12B = -98.487 09 = -98.405 03 = -98.205

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 4 WM

NGS Name: TT 4 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	22	105 N	12 W	435328.00	921530.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1952) Stamping: TT 4 WM 1952

4.5 MILES NORTHWEST OF CHATFIELD, 1.0 MILE SOUTHEAST THEN SOUTH ALONG COUNTY ROAD 7 SOUTHEAST FROM THE JUNCTION OF COUNTY ROAD 7 SOUTHEAST AND TRUNK HIGHWAY 52 IN CHATFIELD, 50.0 FEET NORTH AND 29.0 FEET WEST OF THE NORTHWEST CORNER OF THE TOWN HALL, 40.0 FEET EAST OF A ROAD.

Station Notes

5-12-2010 FOUND THE MONUMENT INTACT, BURIED 12.0-15.0 INCHES ON ITS SIDE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1275.532	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.044 12B = -98.044 09 = -97.936 03 = -97.831

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_4_WM-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_4_WM-1-12MAY2010.jpg		May 12, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 40 E

NGS Name: TT 40 E

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	10	106 N	14 W	435957.00	922949.00		

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1934) Stamping: TT 40 E 1934 1020

IN ROCHESTER, AT THE JUNCTION OF COUNTY ROAD 25 AND COUNTY ROAD 8 SOUTHWEST, 45.0 FEET NORTH OF COUNTY ROAD 25, 300.0 FEET EAST OF COUNTY ROAD 9 SOUTHWEST, 81.0 FEET WEST OF A SCHOOL STEP, 10.0 FEET EAST OF THE SOUTHWEST CORNER OF THE SCHOOLYARD.

Station Notes

7-15-2010 THE SCHOOL IS NOW A RESIDENCE, AND THE STEPS ARE STILL IN USE. THE TIES FALL IN A PAVED TRAIL. THE MARK HAS BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>		<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>			<u>Year</u>	<u>Reference</u>
1019.624	.033	3				VERTICAL CONTROL SURVEY		1957	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.599 12B = -98.612 09 = -98.543 03 = -98.340

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 40 WM

NGS Name: TT 40 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092144/
USGS Quad: SIMPSON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	23	106 N	22 W	435749.83	922924.81		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1936	2010	DESTROYED	Horz=NO Vert=NO	NO	5162		SEE DESCRIPTION

Monument Type

CONCRETE POST (PREFABRICATED)

Disk Type

BENCH MARK DISK

Mon. Agency

USGS

Description: (2008)

Stamping: TT 40 WM 1935

4.1 MILES SOUTHEAST OF ROCHESTER, 0.8 MILE SOUTH ALONG TRUNK HIGHWAY 63 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN 1.35 MILES WEST ON COUNTY ROAD 117 SOUTHWEST, 38.0 FEET SOUTH AND 548.0 FEET WEST OF A TEE-ROAD NORTH, 1.0 FOOT NORTH AND 10.0 FEET WEST OF A FENCE CORNER.

Station Notes

THE POSITION FALLS IN A NEWER DITCH BOTTOM (2003). GRADED OUT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.517 12B = -98.540 09 = -98.474 03 = -98.261



Mn/DOT Name: TT 41 WM

NGS Name: TT 41 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092233/
USGS Quad: ROCHESTER

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	3	106 N	13 W	440032.00	922243.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (1964)

Stamping: TT 41 WM 1953

4.6 MILES EAST OF ROCHESTER, 3.2 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND TRUNK HIGHWAY 52 IN ROCHESTER, 409.0 FEET SOUTH AND 31.0 FEET EAST OF A CROSSROADS (TRUNK HIGHWAY 14 AND 50TH AVENUE).

Station Notes

THE OLMSTED COUNTY SURVEYOR VISITED THE AREA OF THE STATION AND FOUND NOTHING 7-8-2008.
6-17-2010 THE POSITION FALLS IN A DITCH BOTTOM. GRADED OUT.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.258 12B = -98.268 09 = -98.146 03 = -98.021



Mn/DOT Name: TT 49 WM

NGS Name: TT 49 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	7	106 N	15 W	440000.00	923932.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	1964	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SURVEY DISK	USGS

Description: (2016)

Stamping: TT 49 WM 1953

2.4 MILES SOUTH OF BYRON, 1.9 MILES SOUTH ALONG 280TH AVENUE FROM THE JUNCTION OF 280TH AVENUE AND TRUNK HIGHWAY 14 IN BYRON, THEN 0.9 MILE EAST ON 15TH STREET SOUTHWEST, 48.0 FEET SOUTH AND 227.0 FEET WEST FROM A TEE-ROAD WEST (15TH STREET AND 109TH AVENUE), 4.0 FEET WEST OF A POWER POLE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1165.910	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.415 12B = -98.422 09 = -98.340 03 = -98.140

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 5 WM

NGS Name: TT 5 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	27	105 N	12 W	435211.00	921437.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974) Stamping: TT 5 WM 1952

3.4 MILES NORTHWEST OF CHATFIELD, 3.0 MILES NORTHWEST ALONG TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 0.9 MILE EAST OF CUMMINGSVILLE CHURCH, 645.0 FEET EAST OF A FARM ROAD NORTH, 41.0 FEET NORTH OF TRUNK HIGHWAY 30, 8.0 FEET EAST OF A POLE.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1021.255	.033	3				VERTICAL CONTROL SURVEY	1957 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.107 12B = -98.107 09 = -97.998 03 = -97.890

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 50 WM

NGS Name: TT 50 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092414/
USGS Quad: ROCK DELL

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	17	106 N	15 W	435909.00	923820.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974)

Stamping: TT 50 WM 1953

1.5 MILES WEST OF SALEM CORNERS, 1.5 MILES WEST ALONG COUNTY ROAD 25 FROM THE JUNCTION OF COUNTY ROAD 25 AND COUNTY ROAD 3 IN SALEM CORNERS, 28.0 FEET SOUTH AND 234.0 FEET WEST OF A ROAD AT A FENCE SOUTH, 26.0 FEET WEST OF A ROAD SOUTH.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1094.712	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.514 12B = -98.523 09 = -98.448 03 = -98.238

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 51 WM

NGS Name: TT 51 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NE	15	106 N	15 W	435915.00	923629.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	SEE DESCRIPTION	USGS

Description: (1974)

Stamping: TT 51 WM 1953

IN SALEM CORNERS, 585.0 FEET NORTH AND 33.0 FEET EAST OF A CROSSROADS (COUNTY ROAD 25 SOUTHWEST AND COUNTY ROAD 3), 16.0 FEET SOUTH AND 2.0 FEET WEST OF A FENCE CORNER.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1076.090	.033	3				VERTICAL CONTROL SURVEY	1965 USGS-VERT

Geoid Separations(ft): GEOID18 = -98.615 12B = -98.622 09 = -98.550 03 = -98.340

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 52 WM

NGS Name: TT 52 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	12	106 N	15 W	435935.00	923435.00			1953	2010	NOT FOUND	Horz=? Vert=YES	NO			STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (1953) Stamping: TT 52 WM 1953

4.4 MILES SOUTHEAST OF BYRON, 2.4 MILES SOUTH ALONG COUNTY ROAD 3 SOUTHWEST FROM THE JUNCTION OF COUNTY ROAD 3 SOUTHWEST AND TRUNK HIGHWAY 14 IN BYRON, THEN 1.6 MILES EAST ON 20TH STREET SOUTHWEST, 31.0 FEET NORTH AND 435.0 FEET EAST OF A CROSSROADS, 24.0 FEET WEST OF A DRIVEWAY SOUTH.

Station Notes

BELIEVE THIS STATION HAS BEEN GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1149.469	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.665 12B = -98.671 09 = -98.602 03 = -98.392

* No Horizontal Positions in the Database *



Mn/DOT Name: TT 53 WM

NGS Name: TT 53 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 43092411/
USGS Quad: SALEM CORNERS

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	8	106 N	14 W	435951.00	923203.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1953	2010	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2010)

Stamping: TT 53 WM 1953 1061

3.6 MILES SOUTHWEST OF ROCHESTER, 2.5 MILES SOUTH ON COUNTY ROAD 22 (WEST CIRCLE DRIVE) FROM THE JUNCTION WITH TRUNK HIGHWAY 14, THEN 1.4 MILES WEST ON COUNTY ROAD 25 (SALEM ROAD SOUTHWEST), 384.0 FEET WEST OF A ROAD AT A FARM ENTRANCE, 49.0 FEET SOUTH OF COUNTY ROAD 25, 14.0 FEET NORTHEAST OF A POWER POLE, 5.0 FEET SOUTHWEST OF A BURIED CABLE SIGNPOST, 0.5 FOOT SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1060.526	.033	3				VERTICAL CONTROL SURVEY	1984	USGS-VERT

Geoid Separations(ft): GEOID18 = -98.655 12B = -98.661 09 = -98.602 03 = -98.392

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_53_WM-3SE-06MAY2010.jpg	SE	May 6, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_53_WM-2-06MAY2010.jpg		May 6, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_53_WM-1-06MAY2010.jpg		May 6, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: TT 6 WM

NGS Name: TT 6 WM

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DP7546](#)

[Get Map](#)

NGS Quad / Sta Num : 43092113/

USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	35	105 N	12 W	435103.14	921348.30	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1952	2013	GOOD	Horz=YES Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	USGS

Description: (2007)

Stamping: TT 6 WM 1952 982

2.0 MILES NORTHWEST OF CHATFIELD, 0.7 MILE SOUTH THEN WEST ALONG COUNTY ROAD 13 FROM THE JUNCTION OF COUNTY ROAD 13 AND TRUNK HIGHWAY 30 IN CHATFIELD, 29.0 FEET SOUTH OF COUNTY ROAD 138, 130.0 FEET EAST OF A FARM DRIVE, 91.0 FEET NORTHEAST OF THE NORTHEAST CORNER OF A HOUSE, 5.0 FEET NORTH-NORTHEAST OF A POWER POLE NUMBER 16890, 0.5 FOOT NORTH OF A WITNESS POST

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
982.488	.016	2/1					VERTICAL ADJUSTMENT	2017	00000900
982.491	.016	2/1					VERTICAL CONTROL SURVEY	2014	VSTCH

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
982.052	.033	3					VERTICAL CONTROL SURVEY	1957	USGS-VERT

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
982.364	.262			884.191	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.176 12B = -98.172 09 = -98.081 03 = -97.962

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>				<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>Latitude</u>	<u>Longitude</u>								
43 51 03.13869	92 13 48.29597			681129.852	106945.158	.131	3	GPS - RTRN	2013 RTRN2013

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>				<u>UTM - Zone 15</u>				<u>Project Info</u>	
<u>MN State Plane - South Zone</u>				<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	
<u>X</u>	<u>Y</u>								
3091530.389	643316.819			1843441.039	15930407.026	.131	3	GPS - RTRN	2013 RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_6_WM-DP7546-3S-11MAY2010.jpg	S	May 11, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_6_WM-DP7546-2-21AUG2007.jpg		Aug 21, 2007
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/TT_6_WM-DP7546-1-21AUG2007.jpg		Aug 21, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: U 132

NGS Name: U 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0039](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

	<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	
SW	10	106 N	12 W	
	435933.00	921500.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1934) Stamping: U-132 1934

1.0 MILE WEST OF EYOTA, 1.0 MILE WEST ON THE RAILROAD FROM THE EYOTA WATER TANK, 0.6 MILE NORTHWEST ON 19TH STREET SOUTHEAST FROM THE JUNCTION OF 19TH STREET SOUTHEAST AND COUNTY ROAD 7 SOUTHEAST IN EYOTA, 33.0 FEET EAST OF RAILROAD MILEPOST 38, AT A WYE JUNCTION, 45.0 FEET NORTH OF THE ROAD, 30.0 FEET SOUTH OF THE MAIN RAILROAD TRACK.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1271.106	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1271.037	.007	1					VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.028 12B = -98.018 09 = -97.897 03 = -97.805

* No Horizontal Positions in the Database *



Mn/DOT Name: U 24

NGS Name: U 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0303](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	21	107 N	14 W	440316.13	923053.89	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1933) Stamping: 1.081.769U24.1933

3.5 MILES NORTHWEST OF ROCHESTER, 0.5 MILE NORTHWEST ALONG VALLEYHIGH DRIVE NORTHWEST FROM THE JUNCTION OF VALLEYHIGH DRIVE NORTHWEST AND COUNTY ROAD 151 IN ROCHESTER, 895.0 FEET NORTHWEST OF RAILROAD MILEPOST 140, AT THE SOUTH END OF A SHALLOW CUT, 88.0 FEET NORTHWEST OF A ROAD CROSSING, 46.0 FEET WEST OF THE WEST RAIL OF THE RAILROAD TRACKS, 34.0 FEET NORTH OF A ROAD, 3.0 FEET NORTH OF A FENCE, 1.5 FEET EAST OF A RIGHT-OF-WAY LINE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1081.858	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1081.769	.033	3				VERTICAL CONTROL SURVEY	1965	USGS-VERT
1081.769	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1081.769	.007	1				VERTICAL CONTROL SURVEY	1933	L80 MINN

Geoid Separations(ft): GEOID18 = -98.599 12B = -98.602 09 = -98.514 03 = -98.353

* No Horizontal Positions in the Database *



Mn/DOT Name: UE 31 B

NGS Name: UE 31 B

County: OLMSTED, MN (Sheet 1)

NGS ACRN:
NGS Quad / Sta Num : 44092323/
USGS Quad: BYRON

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	9	107 N	15 W	440527.00	923808.00		

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	2010	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE DECK	NAIL	USGS

Description: (1965)

Stamping:

4.1 MILES NORTH OF BYRON, 2.3 MILES NORTHWEST OF TABLET (31 GJS), 0.1 MILE EAST ON COUNTY ROAD 103 FROM THE JUNCTION OF COUNTY ROAD 103 AND COUNTY ROAD 105 IN BYRON, IN THE CENTER OF A WOOD DECK BRIDGE OVER THE MIDDLE BRANCH OF THE ZUMBRO RIVER, COPPER NAIL AND WASHER, PAINTED UE CENTERLINE 1030.

Station Notes

THE BRIDGE WAS REPLACED IN 1992 BY BRIDGE NUMBER 55550.

* No Horizontal or Vertical Positions in the Database *

Geoid Separations(ft): GEOID18 = -98.425 12B = -98.425 09 = -98.327 03 = -98.156



Mn/DOT Name: V

NGS Name: V

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP2138](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	4	107 N	14 W	440615.00	923050.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
	1991	DESTROYED	Horz=NO Vert=NO	NO			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
SEE DESCRIPTIVE TEXT	UNKNOWN	NGS

Description:

Stamping:

4.4 MILES SOUTH OF ORONOCO, 0.3 MILE SOUTH ALONG TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND COUNTY ROAD 14 IN ORONOCO.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1062.478	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.546 09 = -98.448 03 = -98.310

* No Horizontal Positions in the Database *



Mn/DOT Name: V 132

NGS Name: V 132

County: OLMSTED, MN (Sheet 1)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	106 N	12 W	435921.00	921348.00	2	

NGS ACRN: OO0041	Get Map
NGS Quad / Sta Num : 43092114/	
USGS Quad: EYOTA	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES		FLUSH	SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	BENCH MARK DISK	NGS

Description: (1967)

Stamping: V-132 1934

IN EYOTA, AT THE JUNCTION OF NORTH FRONT STREET EAST AND CENTER AVENUE, IN THE SOUTHWEST CORNER OF THE ABANDONED WATER COLUMN FOOTING, 255.0 FEET WEST OF THE WEST END OF A RAILROAD DEPOT, 9.0 FEET SOUTH OF THE SOUTH RAIL OF THE RAILROAD TRACKS.

Station Notes

3-31-2010 FOUND 2 FOOTINGS AT GROUND LEVEL. NO DISK.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>									
Orthometric Height			Ellipsoid (NAD83)			Project Info			
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
1240.673	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025	
<u>NGVD29</u>									
Orthometric Height			Ellipsoid (NAD83)			Project Info			
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>	
1240.611	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT	
1240.611	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN	

Geoid Separations(ft): GEOID18 = -98.041 12B = -98.028 09 = -97.910 03 = -97.818

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/V_132-OO0041-3E-31MAR2010.jpg	E	Mar 31, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/V_132-OO0041-2-31MAR2010.jpg		Mar 31, 2010
Disk:			

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: V 24

NGS Name: V 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0304](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	17	107 N	14 W	440445.00	923202.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	YES			SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1970)

Stamping: 1046.258 V 24 1933

2.7 MILES SOUTHEAST OF THE DOUGLAS RAILROAD STATION, 0.4 MILE WEST ALONG COUNTY ROAD 22 FROM THE JUNCTION OF COUNTY ROAD 22 AND TRUNK HIGHWAY 52 IN ROCHESTER, THEN CONTINUE WEST 0.8 MILE ON 55TH STREET NORTHWEST, 400.0 FEET SOUTHEAST OF A RAILROAD BRIDGE, 79.0 FEET SOUTH OF A ROAD CROSSING, 73.0 FEET SOUTHWEST OF THE SOUTHWEST RAIL OF THE RAILROAD TRACKS, 71.0 FEET EAST OF THE NORTHEAST CORNER OF A SCHOOL FOUNDATION, 4.0 FEET SOUTHWEST OF A PROPERTY LINE FENCE.

Station Notes

5-5-2010 THE RAILROAD IS NOW A TRAIL WITH A NEWER BRIDGE. THE VICINITY HAS BEEN DISTURBED BY NEWER HOMES AND LANDSCAPING. GRADED OUT.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1046.356	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1046.258	.007	1				VERTICAL CONTROL SURVEY	1971 L22214
1046.258	.007	1				VERTICAL CONTROL SURVEY	1971 L106 MINN
1046.258	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT
1046.258	.007	1				VERTICAL CONTROL SURVEY	1933 L81 MINN

Geoid Separations(ft): GEOID18 = -98.579 12B = -98.586 09 = -98.487 03 = -98.336

* No Horizontal Positions in the Database *



Mn/DOT Name: W 132

NGS Name: W 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0043](#)

[Get Map](#)

NGS Quad / Sta Num : 43092114/

USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	13	106 N	12 W	435901.63	921216.09	2	3

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2013	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (2013)

Stamping: W 132 1934

1.3 MILES EAST OF EYOTA, 1.38 MILES SOUTHEAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 7 (CENTER AVENUE) IN EYOTA, AT TRUNK HIGHWAY 14 MILEPOINT 227.1, 78.0 FEET NORTH OF A RAILROAD, 24.0 FEET SOUTH OF TRUNK HIGHWAY 14, IN THE EAST END OF THE SOUTH HEADWALL OF A TRUNK HIGHWAY 14 DOUBLE BOX CULVERT, 1.0 FOOT WEST OF THE EAST EDGE.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1209.699	.016	2/1				VERTICAL ADJUSTMENT	2017 00000900
1209.699	.016	2/1				VERTICAL CONTROL SURVEY	2014 VSTCH
1209.699	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1209.647	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1209.647	.007	1				VERTICAL CONTROL SURVEY	1934 L81 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1209.633	.262		1111.582	.197	2011	GPS - RTRN	2013 RTRN2013

Geoid Separations(ft): GEOID18 = -98.067 12B = -98.054 09 = -97.939 03 = -97.844

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

<u>Geodetic Position</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 59 01.62908	92 12 16.08736	687468.410	155455.094	.131	3	GPS - RTRN	2013	RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)

<u>MN State Plane - South Zone</u>		<u>UTM - Zone 15</u>					<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
3097221.403	691903.076	1849728.771	15978903.621	.131	3	GPS - RTRN	2013	RTRN2013

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_132-OO0043-3S-23JUN2010.jpg	S	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_132-OO0043-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_132-OO0043-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: W 24

NGS Name: W 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0305](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
SW	36	108 N	15 W	440626.40	923414.80	2	

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1933	2010	GOOD	Horz=NO Vert=YES	YES		FLUSH	STEEL ROD IMBED IN MON

Monument Type	Disk Type	Mon. Agency
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (2012)

Stamping: W 24 1933 1077.406

4.4 MILES SOUTHWEST OF ORONOCO, 2.8 MILES WEST ALONG COUNTY ROAD 14 FROM THE JUNCTION OF COUNTY ROAD 14 AND TRUNK HIGHWAY 52 IN ORONOCO, 410.0 FEET SOUTH-SOUTHEAST ALONG A PAVED TRAIL FROM COUNTY ROAD 14 (75TH STREET NORTHWEST), 47.0 FEET EAST OF THE PAVED TRAIL, 16.0 FEET EAST OF A DIRT TRAIL, 1.0 FOOT WEST OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1077.524	.016	2/0				VERTICAL ADJUSTMENT	1991 00000025

NGVD29

Orthometric Height			Ellipsoid (NAD83)			Project Info	
Height	Acc	Order (/Class)	Height	Acc	Adj	Determination Method	Year Reference
1077.406	.016	2/0				UNKNOWN/APPROXIMATE	1992 UNCHECKD
1077.406	.007	1				VERTICAL CONTROL SURVEY	1971 L22214
1077.406	.007	1				VERTICAL CONTROL SURVEY	1971 L106 MINN
1077.406	.016	2				VERTICAL CONTROL SURVEY	1935 CUTLER-VERT

Geoid Separations(ft): GEOID18 = -98.546 12B = -98.550 09 = -98.448 03 = -98.297

* No Horizontal Positions in the Database *

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_24-PP0305-3E-05MAY2010.jpg	E	May 5, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_24-PP0305-2-05MAY2010.jpg		May 5, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/W_24-PP0305-1-05MAY2010.jpg		May 5, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: WARD MNDT

NGS Name: WARD

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000801](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	105 N	11 W	435057.25	921013.30	2	2

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL ROD IMBED IN MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	HORIZONTAL CONTROL DISK	MNDT

Description: (1979) **Stamping:** WARD 1979

0.75 MILE EAST OF CHATFIELD, 0.95 MILE EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 193.0 FEET NORTH OF TRUNK HIGHWAY 30, 314.0 FEET EAST-SOUTHEAST OF THE SOUTHEAST CORNER OF A SHED, 148.91 FEET NORTHWEST OF WARD MNDT RM 1, 143.77 FEET NORTHEAST OF WARD MNDT RM 2, 133.2 FEET NORTH-NORTHWEST OF A WITNESS POST.

Station Notes

THE SURVEY MARK IS ON PRIVATE PROPERTY AND HAS BEEN ABANDONED FOR MNDOT GEODETIC USE.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1257.032	.016	2/2						VERTICAL ADJUSTMENT		1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1257.002	.016	2						VERTICAL CONTROL SURVEY		1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>				<u>Year</u>	<u>Reference</u>
1256.894	.262			1158.577	.197	2011		GPS - RTRN		2013	RTRN2013
1257.018	.197			1159.027	.131	1996		HORIZONTAL ADJUSTMENT		1999	17648

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.317 09 = -98.228 03 = -98.097

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Olmsted County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
43 50 57.25019	92 10 13.30172			696889.908	106485.760		.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>				<u>Olmsted County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
43 50 57.25062	92 10 13.30082			696889.973	106485.804		.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>				<u>Olmsted County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
43 50 57.23966	92 10 13.30161			696889.925	106484.694		.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>				<u>Olmsted County</u>			<u>Determination Method</u>			<u>Project Info</u>	
<u>Geodetic Position</u>				<u>X</u>	<u>Y</u>		<u>Acc</u>	<u>Order</u>		<u>Year</u>	<u>Reference</u>
<u>Latitude</u>	<u>Longitude</u>										
43 50 57.37152	92 10 12.71929						.100	2	CLASSICAL SURVEY	1980	16259



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107294.077	643067.555	1859195.163	15929963.301	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107294.142	643067.600	1859195.228	15929963.345	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107294.109	643066.489	1859195.181	15929962.235	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2482683.688	314994.167			.100	2	CLASSICAL SURVEY	1980	16259

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD-OO0801-3N-10JUN2010.jpg	N	Jun 10, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD-OO0801-2-10JUN2010.jpg		Jun 10, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD-OO0801-1-10JUN2010.jpg		Jun 10, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: WARD MNDT AZ MK

NGS Name: WARD AZ MK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000805](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
NE	32	105 N	11 W	435124.88	921007.40	2	2	1979	2013	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	STEEL SPIKE ADJ TO MON

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	AZIMUTH MARK DISK	MNDT

Description: (2010) Stamping: WARD 1979

1.0 MILE EAST OF CHATFIELD, 1.3 MILES EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, THEN 0.35 MILE NORTH AND WEST ON OLD TERRITORIAL ROAD NORTHEAST, THEN 0.4 MILE NORTH ON 155TH AVENUE SOUTHEAST, IN THE CENTER OF A FIELD ENTRANCE 31.5 FEET EAST OF 155TH AVENUE, 66.0 FEET EAST-SOUTHEAST OF A POWER POLE, 14.8 FEET NORTH-NORTHWEST OF A WITNESS POST.

Station Pair: WARD MNDT RM 1 - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.328	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1254.348	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.177	.262		1155.890	.197	2011	GPS - RTRN	2013	RTRN2013
1254.263	.197		1156.277	.131	1996	HORIZONTAL ADJUSTMENT	1999	17648

<u>NGVD29</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.788						RECIPROCAL VERTICAL ANGLE	1980	HORZ

Geoid Separations(ft): GEOID18 = -98.284 12B = -98.290 09 = -98.205 03 = -98.074

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 24.87910	92 10 07.39660	697297.267	109287.388	.131	3	GPS - RTRN	2013	RTRN2013

<u>NAD83(1996)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 24.87935	92 10 07.39552	697297.347	109287.414	.066	2	ADJUSTMENT	1999	17648

<u>NAD83(1986)</u>		<u>Olmsted County</u>					<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 24.86834	92 10 07.39638	697297.293	109286.299	.066	2	ADJUSTMENT	1986	17289

<u>NAD27</u>							<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Acc</u>	<u>Order</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
43 51 25.00014	92 10 06.81441			.100	2	CLASSICAL SURVEY	1981	16468



State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107664.021	645874.170	1859599.607	15932764.206	.131	3	GPS - RTRN	2013	RTRN2013

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107664.100	645874.197	1859599.686	15932764.232	.066	2	ADJUSTMENT	1999	17648

NAD83(1986)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>				<u>Year</u>	<u>Reference</u>
3107664.062	645873.081	1859599.634	15932763.117	.066	2	ADJUSTMENT	1986	17289

NAD27

MN State Plane - South Zone		<u>X</u>	<u>Y</u>	Acc	Order	Determination Method	Project Info	
<u>X</u>	<u>Y</u>						<u>Year</u>	<u>Reference</u>
2483053.623	317800.724			.100	2	CLASSICAL SURVEY	1981	16468

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_AZ_MK-OO0805-3E-12MAY2010.jpg	E	May 12, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_AZ_MK-OO0805-2-12MAY2010.jpg		May 12, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_AZ_MK-OO0805-1-23AUG2007.jpg		Aug 23, 2007

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: WARD MNDT RM 1

NGS Name: WARD RM 1

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001534](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

[Get Map](#)

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	32	105 N	11 W	435056.64	921011.45	2	C

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1979	2023	GOOD	Horz=YES Vert=YES	YES		RECESSED 3 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (2012)

Stamping: WARD NO 1 1979

0.95 MILE EAST OF CHATFIELD, 0.95 MILE EAST ALONG TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 FROM THE SOUTH JUNCTION OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, AT TRUNK HIGHWAY 74 MILEPOINT 21.05, 69.0 FEET NORTH OF TRUNK HIGHWAY 74/TRUNK HIGHWAY 30, 76.0 FEET WEST OF A POST WITH PI SIGN, 3.0 FEET NORTH OF A WITNESS POST.

Station Pair: WARD MNDT AZ MK - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.952	.016	2/1				VERTICAL CONTROL SURVEY	2024	VCHAT2
1254.952	.016	2/1				VERTICAL ADJUSTMENT	2017	00000900
1254.935	.016	2/1				VERTICAL ADJUSTMENT	2015	00000851
1254.968	.016	2/1				VERTICAL CONTROL SURVEY	2014	VSTCH
1254.945	.016	2/1				VERTICAL CONTROL SURVEY	2012	VPRED
1254.952	.016	2/2				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.925	.016	2				VERTICAL CONTROL SURVEY	1980	L24679

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1254.971	.262		1156.658	.197	2011	GPS - RTRN	2023	RTRN2023
1254.952			1156.645	.017	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018
			1156.645	.019	2011	HORIZONTAL ADJUSTMENT	2014	GPS2902-B
1254.945	.131		1156.904	.066	1996	GPS - STATIC	2014	HOLMS
1254.952			1156.638	.017	2011	GPS - STATIC	2014	HOLMS
1254.830	.262		1156.513	.197	2011	GPS - RTRN	2013	RTRN2013
1254.945			1156.641	.012	2011	HORIZONTAL ADJUSTMENT	2013	GPS2902
1254.952			1156.641	.012	2011	GPS - STATIC	2013	HPRED
1254.952	.131		1156.904	.066	1996	GPS - STATIC	2013	HPRED
1254.912	.262		1156.681	.197	2007	GPS - RTRN	2011	RTRN2011

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.320 09 = -98.231 03 = -98.097

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 50 56.63913	92 10 11.45405	697025.867	106425.110	.131	3	GPS - RTRN	2023	RTRN2023
43 50 56.63982	92 10 11.45372	697025.891	106425.180	.016		ADJUSTMENT	2014	GPS3018
43 50 56.63982	92 10 11.45372	697025.891	106425.180	.016		ADJUSTMENT	2014	GPS2902-B
43 50 56.64001	92 10 11.45380	697025.885	106425.200	.016	C	GPS - STATIC	2014	HOLMS
43 50 56.63924	92 10 11.45356	697025.904	106425.121	.131	3	GPS - RTRN	2013	RTRN2013
43 50 56.63982	92 10 11.45375	697025.889	106425.180	.010		ADJUSTMENT	2013	GPS2902
43 50 56.63982	92 10 11.45375	697025.889	106425.180	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 50 56.63950	92 10 11.45511	697025.790	106425.147	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
43 50 56.63956	92 10 11.45399	697025.872	106425.154	.033	C	GPS - STATIC	2014	HOLMS
43 50 56.63956	92 10 11.45399	697025.872	106425.154	.033	C	GPS - STATIC	2013	HPRED

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107430.824	643008.727	1859331.127	15929902.809	.131	3	GPS - RTRN	2023	RTRN2023
3107430.847	643008.798	1859331.151	15929902.879	.016		ADJUSTMENT	2014	GPS3018
3107430.847	643008.798	1859331.151	15929902.879	.016		ADJUSTMENT	2014	GPS2902-B
3107430.841	643008.817	1859331.145	15929902.898	.016	C	GPS - STATIC	2014	HOLMS
3107430.860	643008.739	1859331.163	15929902.820	.131	3	GPS - RTRN	2013	RTRN2013
3107430.845	643008.798	1859331.149	15929902.879	.010		ADJUSTMENT	2013	GPS2902
3107430.845	643008.798	1859331.149	15929902.879	.010	C	GPS - STATIC	2013	HPRED

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107430.746	643008.763	1859331.049	15929902.846	.131	3	GPS - RTRN	2011	RTRN2011

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3107430.828	643008.771	1859331.131	15929902.852	.033	C	GPS - STATIC	2014	HOLMS
3107430.828	643008.771	1859331.131	15929902.852	.033	C	GPS - STATIC	2013	HPRED

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_RM_1-OO1534-3E-12APR2023.jpg	E	Apr 12, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_RM_1-OO1534-2-12APR2023.jpg		Apr 12, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/WARD_RM_1-OO1534-1-12APR2023.jpg		Apr 12, 2023

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: WARD MNDT RM 2

NGS Name: WARD RM 2

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [001535](#) [Get Map](#)
NGS Quad / Sta Num : 43092113/
USGS Quad: CHATFIELD

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	32	105 N	11 W	435055.84	921013.10	2		1979	2023	DESTROYED	Horz=NO Vert=NO	NO		FLUSH	MARKER W/BAR MAGNET

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	REFERENCE MARK DISK	MNDT

Description: (1979) Stamping: WARD NO 2 1979

0.95 MILE EAST OF CHATFIELD, 0.95 MILE EAST ON TRUNK HIGHWAY 30 FROM THE JUNCTION OF TRUNK HIGHWAY 30 AND TRUNK HIGHWAY 52 IN CHATFIELD, 68.0 FEET NORTH OF TRUNK HIGHWAY 74, 5.0 FEET NORTH OF AN EAST-WEST FENCE LINE, 85.3 FEET WEST OF A WITNESS POST.

Station Notes

THE CONCRETE WAS BROKEN OFF AND THE DISK IS MISSING.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1252.238	.016	2/2					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
1252.209	.016	2					VERTICAL CONTROL SURVEY	1980	L24679

Geoid Separations(ft): GEOID18 = -98.310 12B = -98.317 09 = -98.228 03 = -98.097

* No Horizontal Positions in the Database *



Mn/DOT Name: X 132

NGS Name: X 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000045](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SW	17	106 N	11 W	435845.00	921012.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	RR		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	BENCH MARK DISK	NGS

Description: (1934) **Stamping:** X-132 1934

1.7 MILES WEST OF DOVER, 1.6 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND COUNTY ROAD 10 SOUTHEAST IN DOVER, 99.0 FEET NORTHEAST OF RAILROAD MILEPOST 34, IN THE NORTH END OF THE NORTHWEST HEADWALL OF A RAILROAD CULVERT, 18.0 FEET NORTHWEST OF THE RAILROAD.

Station Notes

6-23-2010 FOUND NO DRAINAGE STRUCTURES IN THE VICINITY OF THIS STATION.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1174.036	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1173.997	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.120 12B = -98.100 09 = -97.995 03 = -97.887

* No Horizontal Positions in the Database *



Mn/DOT Name: X 24

NGS Name: X 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0306](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SE	22	108 N	15 W	440829.40	923601.30	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1933	2012	GOOD	Horz=NO Vert=YES	YES	RR	FLUSH	NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
BRIDGE ABUTMENT	BENCH MARK DISK	NGS

Description: (2012) **Stamping:** X 24 1933 986.550

3.6 MILES SOUTHWEST OF ORONOCO, 3.4 MILES SOUTH ALONG COUNTY ROAD 31 FROM THE JUNCTION OF COUNTY ROAD 31 AND TRUNK HIGHWAY 52 (NORTHWEST OF ORONOCO), THEN 130.0 FEET NORTHWEST ON COUNTY ROAD 3 TO DOUGLAS STATE TRAIL CROSSING, THEN 650.0 FEET SOUTHEAST ALONG DOUGLAS STATE TRAIL, IN THE SOUTHEAST CORNER OF A BRIDGE OVER THE SOUTH BRANCH OF THE MIDDLE FORK OF THE ZUMBRO RIVER, 10.5 FEET EAST OF THE TRAIL, 1.8 FEET NORTH OF A WITNESS SIGN.

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
986.665	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

<u>NGVD29</u>				<u>Ellipsoid (NAD83)</u>				<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>		<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u>	<u>Reference</u>
986.550	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
986.550	.033	3					VERTICAL CONTROL SURVEY	1965	USGS-VERT
986.550	.016	2					VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
986.550	.007	1					VERTICAL CONTROL SURVEY	1933	L80 MINN

Geoid Separations(ft): GEOID18 = -98.491 12B = -98.487 09 = -98.392 03 = -98.228

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/X_24-PP0306-3N-04MAY2010.jpg	N	May 4, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/X_24-PP0306-2-04MAY2010.jpg		May 4, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/X_24-PP0306-1-04MAY2010.jpg		May 4, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: Y 132

NGS Name: Y 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [000048](#) [Get Map](#)
NGS Quad / Sta Num : 43092114/
USGS Quad: EYOTA

				<u>Reference</u>	<u>Reference</u>	<u>Vert</u>	<u>Horz</u>
<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Order</u>	<u>Order</u>
SW	15	106 N	11 W	435838.00	920820.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2010	DESTROYED	Horz=NO Vert=NO	NO	NONE		SEE DESCRIPTION

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
STRUCTURE (MASSIVE)	BENCH MARK DISK	NGS

Description: (1934) **Stamping:** Y 132 1934

IN DOVER, 0.1 MILE SOUTH ALONG COUNTY ROAD 10 FROM THE JUNCTION OF COUNTY ROAD 10 AND TRUNK HIGHWAY 14, 325.0 FEET NORTH OF THE MAIN RAILROAD TRACK, 10.0 FEET EAST OF A ROAD, IN THE SOUTH END OF THE EAST CURB OF A BRIDGE.

Station Notes

6-23-2010 THE BRIDGE OVER THE SOUTH FORK OF THE WHITEWATER RIVER WAS REPLACED BY BRIDGE 95764 IN 1986.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1147.097	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1147.068	.033	3				VERTICAL CONTROL SURVEY	1957	USGS-VERT
1147.068	.007	1				VERTICAL CONTROL SURVEY	1934	L81 MINN

Geoid Separations(ft): GEOID18 = -98.179 12B = -98.163 09 = -98.061 03 = -97.943

* No Horizontal Positions in the Database *



Mn/DOT Name: Y 24

NGS Name: Y 24

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0307](#) [Get Map](#)
NGS Quad / Sta Num : 44092321/
USGS Quad: ORONOCO

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
NW	14	108 N	15 W	440944.70	923546.80	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1934	2012	GOOD	Horz=NO Vert=YES	YES		FLUSH	MARKER IS STEEL ROD

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE MONUMENT (CAST-IN-PLACE)	BENCH MARK DISK	NGS

Description: (1972)

Stamping: Y 24 1933 1037.193

3.0 MILES WEST OF ORONOCO, 1.8 MILES SOUTH ALONG COUNTY ROAD 31 FROM THE JUNCTION OF COUNTY ROAD 31 AND TRUNK HIGHWAY 52 (NORTHWEST OF ORONOCO), 0.5 MILE SOUTHEAST OF A RAILROAD MILEPOST 130, 8.3 FEET EAST OF THE EAST RAIL OF THE RAILROAD TRACKS.

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1037.304	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

NGVD29

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1037.193	.016	2				VERTICAL CONTROL SURVEY	1935	CUTLER-VERT
1037.193	.007	1				VERTICAL CONTROL SURVEY	1934	L80 MINN

Geoid Separations(ft): GEOID18 = -98.481 12B = -98.474 09 = -98.382 03 = -98.222

* No Horizontal Positions in the Database *

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:			
Monument:			
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/Y_24-PP0307-1-26AUG2012.jpg		Aug 26, 2012

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: YANK MNDT

NGS Name: YANK

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [AC4937](#)
NGS Quad / Sta Num : 44092232/
USGS Quad: CHESTER

[Get Map](#)

1/4	Sec	Twp	Rng	Reference Latitude	Reference Longitude	Vert Order	Horz Order
NE	22	107 N	13 W	440347.90	922206.54	2	B

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1995	2015	GOOD	Horz=YES Vert=YES	YES		RECESSED 4 IN.	STEEL SPIKE ADJ TO MON

Monument Type	Disk Type	Mon. Agency
STEEL ROD (NO SLEEVE) (DEPTH 3 FT)	METAL ROD	MNDT

Description: (2016) **Stamping:** YANK 1995

5.0 MILES NORTHEAST OF ROCHESTER, 4.3 MILES EAST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 63 AND TRUNK HIGHWAY 14 IN ROCHESTER TO TRUNK HIGHWAY 14 MILEPOINT 217.9, THEN 3.9 MILES NORTH ON COUNTY ROAD 11, 91.0 FEET NORTHWEST OF COUNTY ROAD 2 (VIOLA ROAD NORTHEAST), 75.0 FEET SOUTHWEST OF COUNTY ROAD 11 (55 AVENUE NORTHEAST), 153.1 FEET EAST-SOUTHEAST OF A UTILITY POLE, 88.2 FEET NORTH-NORTHWEST OF A COUNTY ROAD SIGN POST, 49.0 FEET WEST-SOUTHWEST OF A STOP SIGN POST, 3.3 FEET SOUTH OF A WITNESS POST.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1253.285	.016	2/1					VERTICAL ADJUSTMENT	2008	00000425-32	
1253.301	.016	2/1					VERTICAL CONTROL SURVEY	2007	VYANK	

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)			Determination Method		Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj		Year	Reference	
1253.285				1155.090	.009	2011	HORIZONTAL ADJUSTMENT	2018	GPS3119	
1253.285	.131			1155.345	.066	1996	GPS - STATIC	2017	HMNCORS07	
1253.285				1155.090	.009	2011	GPS - STATIC	2017	HMNPH	
1253.259	.262			1155.040	.197	2011	GPS - RTRN	2015	RTRN2015	
1253.285				1155.090	.008	2011	HORIZONTAL ADJUSTMENT	2014	GPS3018	
1253.301	.131			1155.345	.066	1996	GPS - STATIC	2014	HOLMS	
1253.285				1155.093	.008	2011	GPS - STATIC	2014	HOLMS	
1253.285				1155.090	.007	2011	HORIZONTAL ADJUSTMENT	2013	GPS2950	
1253.301	.131			1155.309	.066	1996	GPS - STATIC	2013	HCHES	
1253.285				1155.086	.007	2011	GPS - STATIC	2013	HCHES	
1253.164	.262			1155.076	.197	2007	GPS - RTRN	2012	RTRN2012	
				1155.090	.006	2011	HORIZONTAL ADJUSTMENT	2012	GPS2800	
1253.278	.131			1155.181	.066	2007	HORIZONTAL ADJUSTMENT	2011	GPS2814	
1253.278	.131			1155.181	.066	2007	GPS - STATIC	2011	HFRON	
				1155.181	.066	2007	HORIZONTAL ADJUSTMENT	2010	GPS2364-B	
1253.278	.131			1155.345	.066	1996	GPS - STATIC	2010	HFRON	
1253.311	.131			1155.345	.066	1996	HORIZONTAL ADJUSTMENT	2007	GPS2364	
1253.311	.131			1155.345	.066	1996	GPS - STATIC	2007	HWABA	
				1155.181	.009	2007	HORIZONTAL ADJUSTMENT	2007	GPS2300	
1253.377	.098			1155.345	.049	1996	GPS - STATIC	2005	GPS2036	
1253.311	.131			1155.345	.066	1996	HORIZONTAL ADJUSTMENT	2003	GPS1770	
1253.344	.131			1155.345	.066	1996	HORIZONTAL ADJUSTMENT	2002	GPS1779	
1253.311	.131			1155.345	.066	1996	GPS - STATIC	2002	HI90	
1253.344	.131			1155.345	.066	1996	GPS - STATIC	2001	HKASS	
1253.367	.098			1155.345	.049	1996	GPS - STATIC	1997	GPS805-B	
1253.367	.131			1155.345	.066	1996	GPS - STATIC	1997	GPS805-C	

Geoid Separations(ft): GEOID18 = -98.215 12B = -98.218 09 = -98.087 03 = -97.995

Lat/Lon and County Coordinates (Feet)

NAD83(2011)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 47.89967	92 22 06.54073	644103.615	184114.299	.007		ADJUSTMENT	2018	GPS3119
44 03 47.89967	92 22 06.54073	644103.615	184114.299	.007	C	GPS - STATIC	2017	HMNPH
44 03 47.89920	92 22 06.53990	644103.676	184114.252	.131	3	GPS - RTRN	2015	RTRN2015
44 03 47.89967	92 22 06.54073	644103.615	184114.299	.007		ADJUSTMENT	2014	GPS3018
44 03 47.89968	92 22 06.54074	644103.614	184114.300	.007	C	GPS - STATIC	2014	HOLMS
44 03 47.89967	92 22 06.54073	644103.615	184114.299	.003		ADJUSTMENT	2013	GPS2950
44 03 47.89966	92 22 06.54073	644103.615	184114.298	.003	C	GPS - STATIC	2013	HCHES
44 03 47.89967	92 22 06.54073	644103.615	184114.299	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 47.89952	92 22 06.54056	644103.628	184114.284	.131	3	GPS - RTRN	2012	RTRN2012
44 03 47.89981	92 22 06.54163	644103.549	184114.313	.033	C	ADJUSTMENT	2011	GPS2814
44 03 47.89981	92 22 06.54163	644103.549	184114.313	.033	C	GPS - STATIC	2011	HFRON
44 03 47.89981	92 22 06.54163	644103.549	184114.313	.033	C	ADJUSTMENT	2010	GPS2364-B
44 03 47.89981	92 22 06.54164	644103.549	184114.313	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

Geodetic Position		Olmsted County		Acc	Order	Determination Method	Project Info	
Latitude	Longitude	X	Y				Year	Reference
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2017	HMNCORS07
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2014	HOLMS
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2013	HCHES
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2010	HFRON
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	ADJUSTMENT	2007	GPS2364
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2007	HWABA
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.016	B	GPS - STATIC	2005	GPS2036
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	ADJUSTMENT	2003	GPS1770
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	ADJUSTMENT	2002	GPS1779
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2002	HI90
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	2001	HKASS
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.016	B	GPS - STATIC	1997	GPS805-B
44 03 47.89940	92 22 06.54085	644103.606	184114.272	.033	C	GPS - STATIC	1997	GPS805-C

State Plane and UTM Coordinates (Feet)

NAD83(2011)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053482.862	719979.435	1806352.819	16007507.119	.007		ADJUSTMENT	2018	GPS3119
3053482.862	719979.435	1806352.819	16007507.119	.007	C	GPS - STATIC	2017	HMNPH
3053482.923	719979.388	1806352.880	16007507.072	.131	3	GPS - RTRN	2015	RTRN2015
3053482.862	719979.435	1806352.819	16007507.119	.007		ADJUSTMENT	2014	GPS3018
3053482.861	719979.436	1806352.818	16007507.120	.007	C	GPS - STATIC	2014	HOLMS
3053482.862	719979.435	1806352.819	16007507.119	.003		ADJUSTMENT	2013	GPS2950
3053482.862	719979.434	1806352.819	16007507.118	.003	C	GPS - STATIC	2013	HCHES
3053482.862	719979.435	1806352.819	16007507.119	.003		ADJUSTMENT	2012	GPS2800

NAD83(2007)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053482.874	719979.420	1806352.831	16007507.104	.131	3	GPS - RTRN	2012	RTRN2012
3053482.796	719979.448	1806352.753	16007507.133	.033	C	ADJUSTMENT	2011	GPS2814
3053482.796	719979.448	1806352.753	16007507.133	.033	C	GPS - STATIC	2011	HFRON
3053482.796	719979.448	1806352.753	16007507.133	.033	C	ADJUSTMENT	2010	GPS2364-B
3053482.795	719979.448	1806352.752	16007507.133	.007		ADJUSTMENT	2007	GPS2300

NAD83(1996)

MN State Plane - South Zone		UTM - Zone 15		Acc	Order	Determination Method	Project Info	
X	Y	X	Y				Year	Reference
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2017	HMNCORS07
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2014	HOLMS
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2013	HCHES
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2010	HFRON
3053482.853	719979.407	1806352.810	16007507.092	.033	C	ADJUSTMENT	2007	GPS2364
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2007	HWABA
3053482.853	719979.407	1806352.810	16007507.092	.016	B	GPS - STATIC	2005	GPS2036
3053482.853	719979.407	1806352.810	16007507.092	.033	C	ADJUSTMENT	2003	GPS1770
3053482.853	719979.407	1806352.810	16007507.092	.033	C	ADJUSTMENT	2002	GPS1779
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2002	HI90
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	2001	HKASS
3053482.853	719979.407	1806352.810	16007507.092	.016	B	GPS - STATIC	1997	GPS805-B
3053482.853	719979.407	1806352.810	16007507.092	.033	C	GPS - STATIC	1997	GPS805-C

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YANK-AC4937-3SW-30MAR2010.jpg	SW	Mar 30, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YANK-AC4937-2-30MAR2010.jpg		Mar 30, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YANK-AC4937-1-30MAR2010.jpg		Mar 30, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: YOGI

NGS Name: YOGI

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [DQ8156](#) [Get Map](#)
NGS Quad / Sta Num : 43092141/
USGS Quad: MARION

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>	<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
SW	29	106 N	12 W	435718.61	921732.82	2	3	2016	2016	GOOD	Horz=YES Vert=YES	YES		RECESSED 2 IN.	BAR MAG IN DRILL HOLE

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
ALUMINUM ALLOY ROD (NO SLEEVE) (DEPTH 11 FT)	METAL ROD (WITH REMOVABLE ID DISK)	MNDT

Description: (2016) Stamping: YOGI 2016

3.8 MILES SOUTHWEST OF EYOTA, 2.65 MILES WEST ALONG INTERSTATE HIGHWAY 90 FROM THE JUNCTION OF INTERSTATE HIGHWAY 90 AND TRUNK HIGHWAY 42 (THE JUNCTION IS 2.0 MILES SOUTH OF EYOTA), AT INTERSTATE HIGHWAY 90 MILEPOINT 221.4, 93.4 FEET SOUTH OF EASTBOUND INTERSTATE HIGHWAY 90, 5.8 FEET NORTH OF A RIGHT-OF-WAY FENCE, 1.5 FEET NORTH OF A WITNESS POST.

Station Pair: SIZER MNDT - OLMSTED, MN

Leveling-Derived Orthometric Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1253.213	.016	2/1				VERTICAL ADJUSTMENT	2019 00000938
1253.170	.016	2/1				VERTICAL CONTROL SURVEY	2017 VI90D6

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

<u>NAVD88</u>			<u>Ellipsoid (NAD83)</u>			<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>	<u>Determination Method</u>	<u>Year</u> <u>Reference</u>
1253.209	.262		1155.172	.197	2011	GPS - RTRN	2016 RTRN2016

Geoid Separations(ft): GEOID18 = -98.038 12B = -98.038 09 = -97.923 03 = -97.818

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>		<u>Olmsted County</u>		<u>Project Info</u>	
<u>Latitude</u>	<u>Longitude</u>	<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>
43 57 18.61204	92 17 32.81766	664389.129	144835.620	2016	RTRN2016

State Plane and UTM Coordinates (Feet)

<u>NAD83(2011)</u>		<u>UTM - Zone 15</u>		<u>Project Info</u>	
<u>X</u>	<u>Y</u>	<u>X</u>	<u>Y</u>	<u>Year</u>	<u>Reference</u>
3074287.664	680977.976	1826669.559	15968265.304	2016	RTRN2016

Station Photos

<u>Type</u>	<u>File Name</u>	<u>Dir</u>	<u>Date</u>
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YOGI-DQ8156-3S-13SEP2016.jpg	S	Sep 13, 2016
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YOGI-DQ8156-2-13SEP2016.jpg		Sep 13, 2016
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/YOGI-DQ8156-1-13SEP2016.jpg		Sep 13, 2016

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **



Mn/DOT Name: Z

NGS Name: Z

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [PP0322](#) [Get Map](#)
NGS Quad / Sta Num : 44092322/
USGS Quad: DOUGLAS

<u>1/4</u>	<u>Sec</u>	<u>Twp</u>	<u>Rng</u>	<u>Reference</u> <u>Latitude</u>	<u>Reference</u> <u>Longitude</u>	<u>Vert</u> <u>Order</u>	<u>Horz</u> <u>Order</u>
SE	9	107 N	14 W	440456.00	923032.00	2	

<u>Year Set</u>	<u>Last Recovery</u>	<u>Condition</u>	<u>Geodetic Usability</u>	<u>Photos</u>	<u>Bridge Num</u>	<u>F/P/R</u>	<u>Magnetic Properties</u>
1970	2010	DESTROYED	Horz=NO Vert=NO	NO			NO MAG MATERIAL

<u>Monument Type</u>	<u>Disk Type</u>	<u>Mon. Agency</u>
CONCRETE FOOTING - SMALL	CHISELED CROSS	MNDT

Description: (1970)

Stamping:

4.6 MILES NORTH OF ROCHESTER, 3.8 MILES NORTH ON TRUNK HIGHWAY 52 FROM THE JUNCTION OF TRUNK HIGHWAY 52 AND TRUNK HIGHWAY 14 IN ROCHESTER, 0.3 MILE NORTH OF A TOWNSHIP ROAD, 300.0 FEET SOUTH OF A BOX CULVERT, 240.0 FEET EAST OF TRUNK HIGHWAY 52 NORTHBOUND CENTERLINE STATION 2131+75, IN THE SOUTH END OF THE WEST HEADWALL OF A BOX CULVERT UNDER THE EAST FRONTAGE ROAD (OLD TRUNK HIGHWAY 52).

Leveling-Derived Orthometric Heights (Feet)

NAVD88

<u>Orthometric Height</u>			<u>Ellipsoid (NAD83)</u>			<u>Determination Method</u>	<u>Project Info</u>	
<u>Height</u>	<u>Acc</u>	<u>Order (/Class)</u>	<u>Height</u>	<u>Acc</u>	<u>Adj</u>		<u>Year</u>	<u>Reference</u>
1027.564	.016	2/0				VERTICAL ADJUSTMENT	1991	00000025

Geoid Separations(ft): GEOID18 = -98.560 12B = -98.563 09 = -98.468 03 = -98.323

* No Horizontal Positions in the Database *



Mn/DOT Name: Z 132

NGS Name: Z 132

County: OLMSTED, MN (Sheet 1)

NGS ACRN: [OO0052](#) [Get Map](#)
NGS Quad / Sta Num : 43092111/
USGS Quad: ST CHARLES

1/4	Sec	Twp	Rng	Reference	Reference	Vert	Horz
				Latitude	Longitude	Order	Order
NW	24	106 N	11 W	435814.16	920538.86	2	3

Year Set	Last Recovery	Condition	Geodetic Usability	Photos	Bridge Num	F/P/R	Magnetic Properties
1934	2013	GOOD	Horz=NO Vert=NO	YES		FLUSH	NO MAG MATERIAL

Monument Type	Disk Type	Mon. Agency
CULVERT - ANY SIZE, ANY TYPE	BENCH MARK DISK	NGS

Description: (2013)

Stamping: Z 132 1934

1.5 MILES WEST OF ST. CHARLES, 1.2 MILES WEST ALONG TRUNK HIGHWAY 14 FROM THE JUNCTION OF TRUNK HIGHWAY 14 AND LIBERTY AVENUE (TRUNK HIGHWAY 74 NORTH) IN ST. CHARLES, AT TRUNK HIGHWAY 14 MILEPOINT 232.8, 82.5 FEET EAST OF RAILROAD MILEPOINT 30, IN THE WEST END OF THE SOUTH HEADWALL OF A TRUNK HIGHWAY 14 DOUBLE BOX CULVERT, 67.0 FEET NORTH OF THE RAILROAD, 27.0 FEET SOUTH OF TRUNK HIGHWAY 14.

Leveling-Derived Orthometric Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1119.342	.016	2/0					VERTICAL ADJUSTMENT	1991	00000025

NGVD29				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1119.319	.016	2/0					UNKNOWN/APPROXIMATE	1992	UNCHECKD
1119.319	.007	1					VERTICAL CONTROL SURVEY	1934	L81 MINN

Non Leveling-Derived Orthometric and Ellipsoid Heights (Feet)

NAVD88				Ellipsoid (NAD83)				Project Info	
Height	Acc	Order (/Class)		Height	Acc	Adj	Determination Method	Year	Reference
1119.207	.262			1020.946	.197	2011	GPS - RTRN	2013	RTRN2013

Geoid Separations(ft): GEOID18 = -98.268 12B = -98.261 09 = -98.163 03 = -98.028

Lat/Lon and County Coordinates (Feet)

NAD83(2011)				Olmsted County				Project Info	
Geodetic Position				X		Y		Year	Reference
Latitude	Longitude								
43 58 14.16162	92 05 38.86025			716559.944		150918.746	.131 3	GPS - RTRN	2013 RTRN2013

State Plane and UTM Coordinates (Feet)

NAD83(2011)				UTM - Zone 15				Project Info	
MN State Plane - South Zone				X		Y		Year	Reference
X	Y								
3126368.274	687755.436			1878813.373		15974398.291	.131 3	GPS - RTRN	2013 RTRN2013

Station Photos

Type	File Name	Dir	Date
Location:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/Z_132-OO0052-3S-23JUN2010.jpg	S	Jun 23, 2010
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/Z_132-OO0052-2-23JUN2010.jpg		Jun 23, 2010
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/olmsted/Z_132-OO0052-1-23JUN2010.jpg		Jun 23, 2010

** All station images can be viewed at: <ftp://ftp.olmweb.dot.state.mn.us/geod/StationPhotos> **