



Mn/DOT Name: MALMO RM 1

NGS Name: MALMO RM 1

County: AITKIN, MN (Sheet 1)

NGS ACRN: [CP4237](#) [Get Map](#)
 NGS Quad / Sta Num : 46093312/
 USGS Quad: MALMO

				<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	32	45 N	24 W	462004.80	933133.33	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>
1960	2023	GOOD	Horz=NO Vert=YES	YES		PROJECTS 8 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: (1967) **Stamping:** MALMO NO 1 1960

0.5 MILE WEST OF MALMO, 0.2 MILE WEST ALONG TRUNK HIGHWAY 18 FROM THE JUNCTION OF TRUNK HIGHWAY 18 AND TRUNK HIGHWAY 47 IN MALMO, THEN 0.2 MILE WEST ON 220TH STREET, THEN 0.05 MILE NORTH ON 325TH AVENUE, 151.4 FEET WEST-SOUTHWEST OF 325TH AVENUE, 341.3 FEET SOUTH-SOUTHWEST OF MALMO RM 3, 69.1 FEET SOUTH-SOUTHEAST OF MALMO RM 2, 46.44 FEET WEST OF MALMO RESET.

Station Notes

DUE TO TREE COVER, THIS SURVEY MARK HAS BEEN ABANDONED FOR MNDOT GEODETIC HORIZONTAL SURVEYS. NO WITNESS POST, THE SURVEY MARK IS IN A MOWED 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>	
1255.470	.016	2/1					VERTICAL ADJUSTMENT	2021	00000963	
1255.470	.016	2/1					VERTICAL CONTROL SURVEY	2017	VAKIN	

<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>	
1253.823	.033	3					VERTICAL CONTROL SURVEY	1968	USGS-VERT	

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>	
1255.437	.262			1165.030	.197	2011	GPS - RTRN	2023	RTRN2023	
1255.332	.262			1164.939	.197	2011	GPS - RTRN	2016	RTRN2016	

Geoid Separations(ft): GEOID18 = -90.407 12B = -90.394 09 = -90.285 03 = -90.203

Lat/Lon and County Coordinates (Feet)

<u>NAD83(2011)</u>				<u>Aitkin County</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>					<u>Acc</u>	<u>Order</u>			
46 20 04.79716	93 31 33.32946			476428.355	165849.014	.131	3	GPS - RTRN	2023	RTRN2023
46 20 04.79635	93 31 33.32891			476428.393	165848.932	.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 - Central 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>			
2807556.738	815607.734			1507617.281	16835158.741	.131	3	GPS - RTRN	2023	RTRN2023
2807556.778	815607.652			1507617.319	16835158.659	.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/aitkin/MALMO_RM_1-CP4237-3W-28SEP2023.jpg	W	Sep 28, 2023
Monument:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/aitkin/MALMO_RM_1-CP4237-2-28SEP2023.jpg		Sep 28, 2023
Disk:	https://www.olmweb.dot.state.mn.us/geod/StationPhotos/aitkin/MALMO_RM_1-CP4237-1-28SEP2023.jpg		Sep 28, 2023

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