

CROW WING COUNTY

Snow Event 7-2023-12 February 20-25, 2023

Reported Event Conditions

Date:	2/20-25/2023
Event No:	7-2023-12
Begin Time:	2/20 10AM
End Time:	2/25 5AM
Weather:	Snow
Precipitation:	10" Snow
Temperature:	26/-19
Wind:	15-40 MPH

Event Costs

Salt	\$24,034
Sand	\$2,176
Brine	\$1,735
Equipment/Fuel	\$89,138
Personnel Reg.	\$22,637
Personnel OT	\$13,429
Total	\$153,149
Cost Mile	\$273
Season Total:	1.55M

Priority By Route

Priority 1

% Target 1A Met:	100%
% Target 1B Met:	100%

Priority 2

% Target 2A Met:	100%
% Target 2B Met:	100%

Priority 3

% Target 3A Met:	100%
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— MnDOT Highway

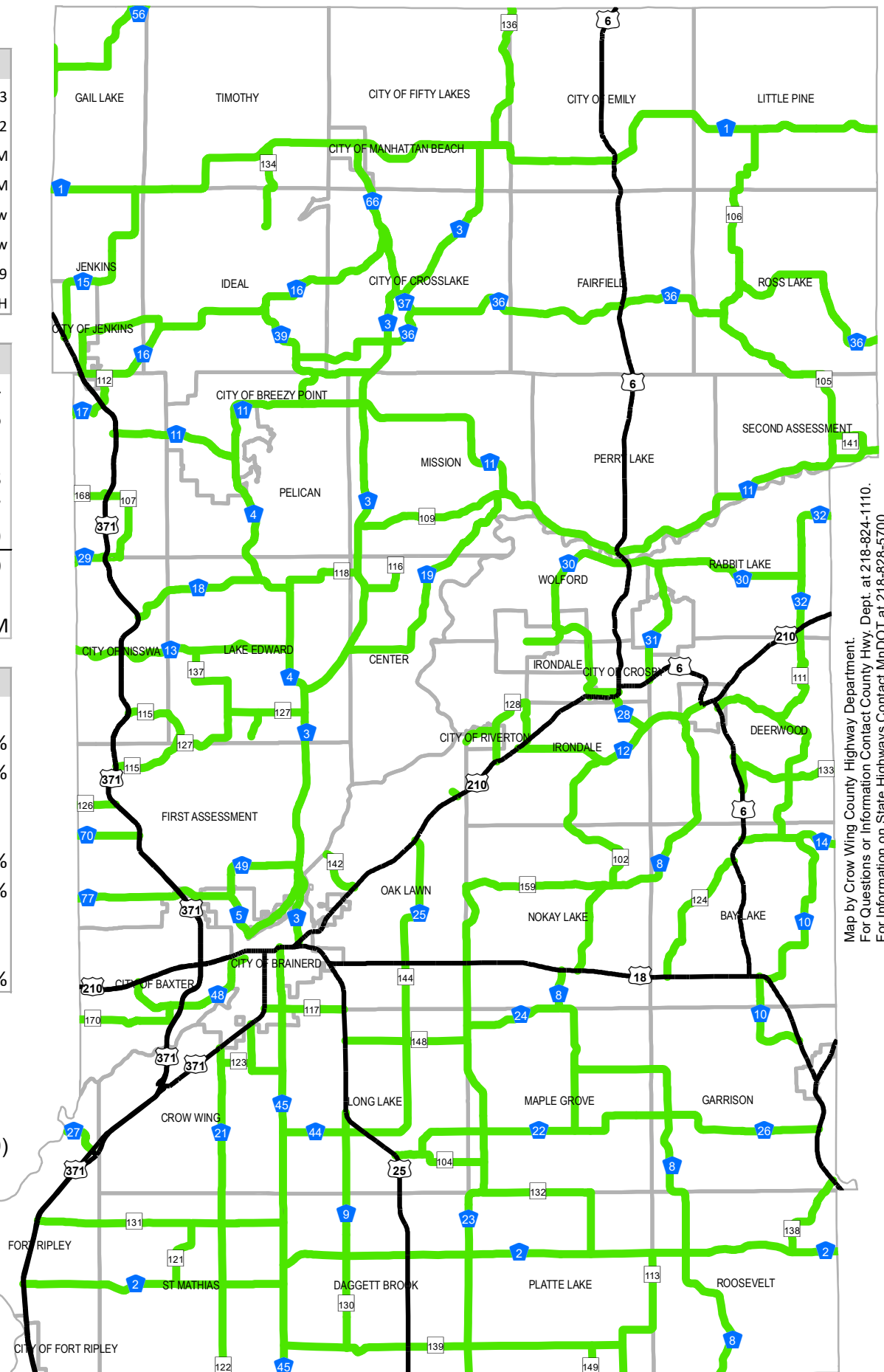
Route Priority

- 1 (ADT>5000)
- 2 (500>ADT<5000)
- 3 (ADT<500)

Route Target

- Target Achieved
- Target Partly Achieved
- Target Not Achieved

Report Date: 3/2/2023



Map by Crow Wing County Highway Department.
For Questions or Information Contact County Hwy. Dept. at 218-824-1110.
For Information on State Highways Contact MnDOT at 218-828-5700.

2022/2023 Summary For Snow Event 7-2023-12

Date 2/20/23 - 2/25/23

Salt Tons	Salt \$	Sand Tons	Sand \$	Brine gal	Brine \$	Mat. Total	Equip \$	Reg. Personnel	OT \$
165.75	\$24,034	64	\$2,176	2629	\$1,735	\$27,945	\$89,138	\$22,637.00	\$13,429

Total \$153,149

50.6 Plow hrs.

\$3,025 per/hr.

810 Man hrs.

\$273 per/CL/mile

\$5.78 per/household for entire County

Forecast

2-20-23 3" of snow starting at 1:00 am and continuing until 8:00 pm, with 35 mph winds. On 2-21-23, 2.5" of snow beginning at 1:00 pm and continuing until 2:00 am 2-22-23, with 25 mph winds. On 2-22-23, 8" of snow forecasted to start falling again at 6:00 pm and continue until 12:00pm on 2-23-23, with 40 mph winds. An inch of snow forecasted late 2/24 into the morning of 2/25/23.

Pre Plan

2-20-23 have the plows start at 9:00 am and plow until evening when all the roads are plowed and open, using treated salt only where needed at intersections. 2-21-23 check routes at 7:00 am for drifting and apply treated salt only where necessary at intersections. 2-22-23 begin plowing at 4:00 am and apply treated salt only where necessary at compacted intersections. 2-23-23 begin plowing at 4:00 am and apply no material because of blowing snow and cold temps. Begin plowing again on 2-24-23 to scrape and push back drifts. Apply 500 lbs. of sand to intersections where snow compacts. 2-25-23, watch roads to see if plowing is needed for the snowfall and apply 300 lbs. if we do need to plow.

Actual Event

Event start: 2-20-23 1:00AM

Event ended 2/25/2023 5:00AM

Details/Comments

Snowplows began plowing at 9:00 am on 2-20-23, with treated salt to intersections and some curves, 3".
 Snowplows began plowing at 7:00 am on 2-21-23 and applied salt to only intersections and pushed drifts.
 Snowplows began plowing at 4:00 am on 2-22-23 and applied salt to only intersections & some curves 1"
 Snowplows began plowing at 4:00 am on 2-23-23 and applied sand to only intersections & compaction 3-8".
 Snowplows began plowing at 5:00 am on 2-24-23 and applied sand to only intersections and pushed drifts.
 Snowplows began plowing at 6:00 am on 2-25-23 and applied 300 lbs. of treated salt to centerlines, 1" snow.

Conditions

Multiple rounds of snow from winter storm Olive starting Monday, 2-20 and continuing through Thursday, 2-24. Strong winds caused blowing and drifting issues. Very cold with dry snow. Extremely cold temps and wind chills later in the event.

Road	Road Temp	Date	Time	Air Temp
Hwy 6	17	2\20\23	9:00 AM	14
Hwy 25	19	2\20\23	9:00 AM	11
Hwy 6	6	2\21\23	7:00 AM	0
Hwy 25	6	2\21\23	7:00 AM	-1
Hwy 6	7	2\22\23	4:00 AM	1
Hwy 25	8	2\22\23	4:00 AM	5
Hwy 6	10	2\23\23	3:00 AM	4
Hwy 25	12	2\23\23	3:00 AM	7
Hwy 6	-5	2\24\23	7:00 AM	-16
Hwy 25	-4	2\24\23	7:00 AM	-13

Date	High	Low
2/19/2023	30	9
2/20/2023	26	-1
2/21/2023	13	1
2/22/2023	17	3
2/23/2023	7	-19
2/24/2023	11	0
2/25/2023	20	-6
2/26/2023	28	23
2/27/2023	32	10

Source: weather.com. Monthly Weather. 56401

Summary

Roads cleaned up well on 2-20-23 due to the cold temps, strong winds and dry snowfall. We did experience some drifting issues from the 20-35 mph winds. Those drifts were cleaned up on 2-21-23 and all roads met goals. Called crews in at 4 am 2-22-23. 1" of snow ended at 12am 2-22-23 but the roads all blew open, even the priority 2s. We held off on an earlier start because we anticipated drifting issues into the afternoon. Snow began again around 9:00 pm 2-22-23 and continued until 2 pm 2-23-23. 4" of snow north and 8" south. 25-35 mph winds caused drifting issues. All roads plowed and in good shape by 5 pm. Some snow blew onto roadways over night and into 2-24-23. We also observed that snow compact at intersections and freeze due to exhaust, slow moving traffic and the extremely cold temps. Snowplows came back at 6:00 am 2-25-23 to plow 1" of snow and apply salt to centerlines to aid in melting since road temps would be favorable.

Decisions Made

Because of the dry snow and cold temps, we did not apply very much material early during the event. We were aggressive with our start times and working later 2-23. Applied sand to intersections 2-24-23. Salt to centerlines 2-25-23 when the road temps would be above 20 degrees.

Lessons Learned

Dry snow and aggressive start times did not allow snow to compact and the roads cleaned up well with little to no material. The cold temps and blowing snow compacted at intersections, which prevented us from reaching our bare wheel path goals on 2-24. On 2-25 we were able to achieve bare wheel paths with salt and warmer road temps.

Goals Met/Not Met

Plowing		Goals
Priority 1	Met	6 hr.
Priority 2	Met	8 hr.
Priority 3	Met	10 hr.

Bare wheel paths		Goals
Priority 1	Met	18 Hr.
Priority 2	Met	48 hr.