

CROW WING COUNTY

Storm Event 5-2024-9 March 24-27, 2024



Reported Event Conditions

Date:	3/24-27/2024
Event No:	5-2024-9
Begin Time:	3/24/24 1AM
End Time:	3/27/24 4AM
Weather:	Rain/Snow
Precipitation:	16" Snow
Temperature:	32/11
Wind:	10-35 MPH

Event Costs

Salt	\$58,380
Sand	\$0
Brine	\$5,434
Equipment/Fuel	\$116,138
Personnel Reg.	\$16,465
Personnel OT	\$22,413
Total	\$218,831
Cost Mile	\$391
Season Total:	1.09M

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%

— MnDOT Highway

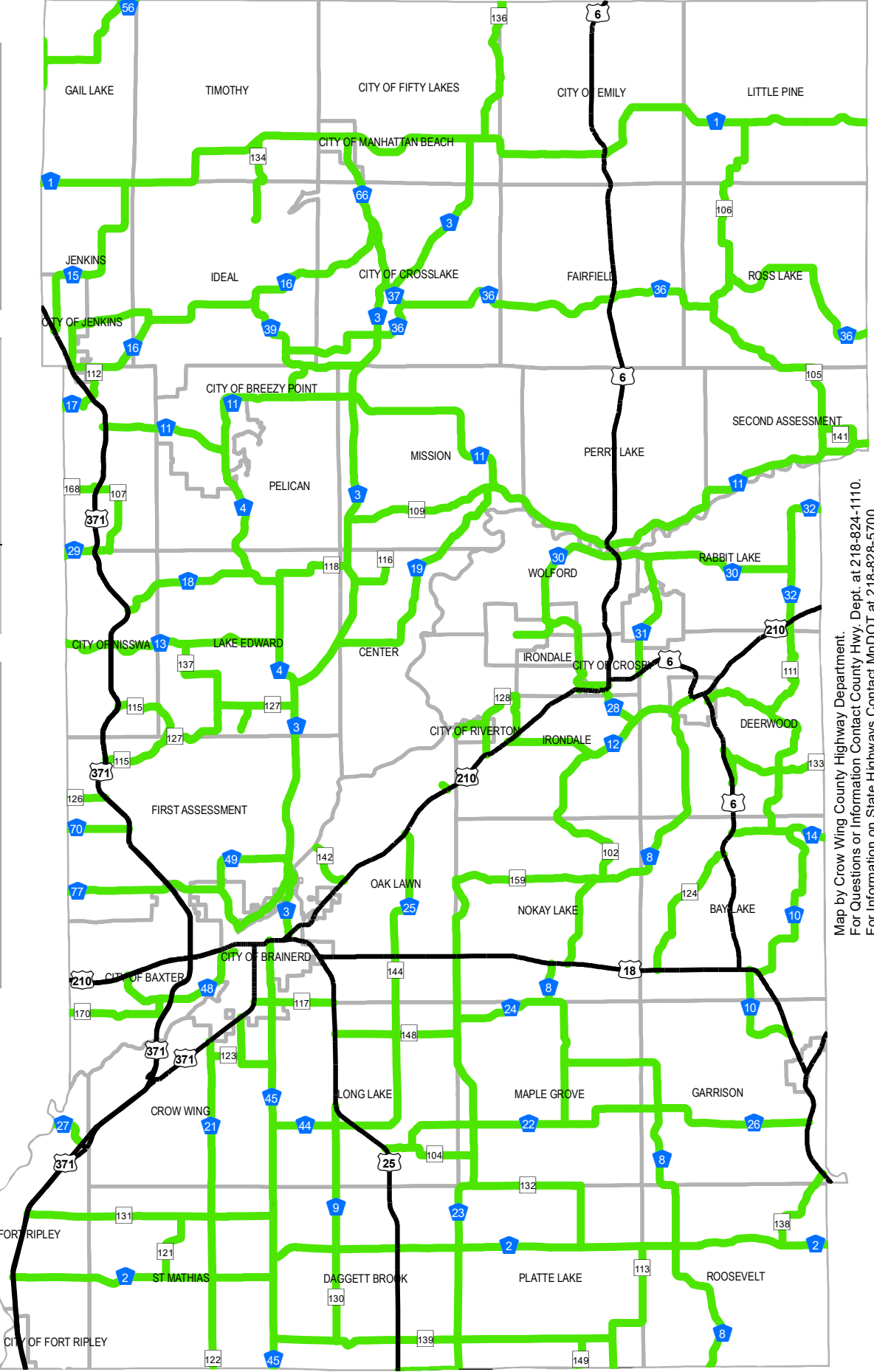
Route Priority

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

Route Target

- Target Achieved
- Target Partly Achieved
- Target Not Achieved

Report Date: 4/1/2024



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.

2023/2024 Summary For Snow Event 5-2024-9

Date 3/24-3/27/24

Salt Tons	Salt \$	Sand Tons	Sand \$	Brine gal	Brine \$	Mat. Total	Equip \$	Reg. Personnel	OT \$
589.7	\$58,380	0	\$0	8234	\$5,434	\$63,815	\$116,138	\$16,465.00	\$22,413

Total \$218,831

49.6 Plow hrs.

\$4,410 per/hr.

794 Man hrs.

\$391 per/CL/mile

\$8.25 per/household for entire County

Forecast

8"-19" of snow forecasted on 3/22/24. Totals started to drop as 3/24/24 approached. Event was forecasted Midnight 3/24/24 - noon 3/26/24. Rain was forecasted to fall on 3/25/24. Strong winds 10-35 mph starting from the east and transitioning to the north, northwest Tuesday. Updated storm forecast was expected to end at 8:00 p.m. on 3-27.

Pre Plan

Begin plowing at noon on 3/24/24 and apply 200 lbs. on C/L, begin plowing at 3:00 a.m. 3/25/24 and apply 200 lbs on C/L and begin plowing at 3:00 a.m. on 3/26/24 and apply 300 lbs.

Actual Event

Event start: 3/24/24 1:00AM

Event ended 3-27-24 4:00AM

Details/Comments

Light wet snow started to fall overnight on 3/23/24. About an inch of accumulation at 12:00PM 3/24/24. Snow continued overnight and by 4 a.m. 3/25/24 there was 6". East winds were a factor, causing drifting on a few roads. Roads scraped down well but became quickly covered again with the continuous snow. 4 additional inches by 3 a.m. 3/26/24. Another 3 inches fell during the day and overnight on 3/26/24. The event tapered off around 4:00 a.m. 3/27/24, but small snow squalls to the north end of the county caused more snow during the day on 3/27/24 before ending at 4 a.m. and another 3" of snow. We ended the event with about 16" total, although due to the moisture content it settled out to about 10" by 3/27. Heavier amounts were seen in the central and north end of the county.

Conditions

Continuous snow and wind throughout the event. Temps in the mid-teens to low 30s. Strong winds from the east then north, northwest at 15-35 mph. Continued falling and blowing snow stuck to the roads and started to melt before freezing on 3-26-24 causing ice on all roads, even trunk highways. The temperature dropped 5 degrees cooler than forecasted with the NW winds.

Road	Road Temp	Date	Time	Air Temp
Hwy 6	29	3/24/24	12:00PM	28
Hwy 25	29	3/24/24	12:00PM	28
Hwy 6	24	3/25/24	3:00AM	28
Hwy 25	31	3/25/24	3:00AM	29
Hwy 6	25	3/26/24	3:00AM	23
Hwy 25	32	3/26/24	3:00AM	26
Hwy 6	15	3/27/24	3:00AM	16
Hwy 25	19	3/27/24	3:00AM	15

Date	High	Low
3/22/2024	32	9
3/23/2024	33	21
3/24/2024	28	25
3/25/2024	32	20
3/26/2024	21	13
3/27/2024	27	11
3/28/2024	39	13
3/29/2024	42	25

Source: weather.com. Monthly Weather. 56401

Summary

Roads cleaned up well due to light salt applications on 3/24 & 25. Compaction was observed early on Sunday and Monday on untreated areas. Roads cleaned up well Monday but became covered again overnight. Continued snowfall during the day started to melt and froze causing compaction on 3/26 into 3/27. Scrapeing and reapplication of salt melted ice compaction and the roads started to melt clean.

Decisions Made

Early starts and long shifts kept traffic moving as it snowed. Light salt application through the event kept the snow soft and allowed for easy removal until 3/26. We were seeing areas where the wind was blowing snow across the road and it was sticking to salted areas. We stopped applying salt early on 3/26 to stop the snow from collecting. We applied later in the day to allow the compaction to soften overnight before resuming operation 3/27.

Lessons Learned

Applying a small amount of salt during the day Sunday & Monday kept the snow soft and allowed for quick clean up without compaction. Everything we tried on 3/26 was ineffective. We salted, then stopped and then reapplied to allow the salt to soften the collecting compaction overnight. It did soften the compaction and reactivated on 3/27 for removal of the compacted snow.

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.