

Annual Report for Year 2 (2023-2024) of the Time Limited Water
Quality Standard for Chloride

June 30, 2024

Prepared by The Village of New Lenox



The Village of New Lenox is a member
of the Lower Des Plaines Watershed
Group



1.0 Introduction

This Annual Report has been prepared by The Village of New Lenox to report on progress in meeting the requirements for the Time Limited Water Quality Standard for Chloride. The Village of New Lenox is a discharger covered under the Time Limited Water Quality Standard for Chloride for the Chicago Area Waterways System and Lower Des Plaines River watersheds. This Annual Report has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride.

Chloride does not degrade over time and continues to accumulate in the environment. Proactive measures to reduce the amount of chloride discharged can help reduce the impacts from chloride on receiving waterways and the environment. Chloride impacts aquatic life, vegetation, and infrastructure. As the chloride concentrations increase and our waters become saltier, aquatic and plant biodiversity decreases and native species are overtaken by salt tolerant invasive species.

Chlorides are commonly found in road salt, fertilizers, water softeners, dust suppressants, and certain industrial processes. Chloride-based deicers, like rock salt, are used on parking lots, sidewalks, and roads to provide safe surfaces to the public during the winter months. These deicers are one of most common sources of chloride in the Chicago region.

The water quality standard for chloride for the Chicago Area Waterway System (CAWS) was updated as part of the rulemaking process related to changing the designated use of the CAWS. The chloride standard was updated from 1,500 mg/L during the winter and 500 mg/L during the summer to 500 mg/L all year round. The change in the chloride water quality standard took effect in 2018. Because portions of the CAWS were not going to meet this new standard due to the need to maintain public safety on roads, highways, sidewalks and parking lots during the winter months, a joint submittal and supporting individual petitions were submitted between 2015 and 2018 to the Illinois Pollution Control Board for a variance from the chloride standard. The joint petition laid out best management practices that can be achieved by the petitioners to reduce their chloride use while maintaining public safety during winter storms. In addition to the CAWS, portions of the Lower Des Plaines River watershed were included as it receives water from the CAWS.

On November 4, 2021, the IPCB issued an Opinion and Order for a Time Limited Water Quality Standard (TLWQS) for Chloride for portions of the CAWS and Lower Des Plains River watersheds. The TLWQS for Chloride watersheds are defined in the Opinion and Order as the Des Plaines River watershed from the Kankakee River to the Will County Line (except for the DuPage River watershed) and the CAWS watershed (except the North Branch Chicago River watershed upstream of the North Shore Channel and those portions of the watershed located in Indiana). This is a watershed-based approach to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS for Chloride to create PMPs and implement specific best management practices based on their operations to reduce their chloride discharges.

2.0 Organization, Facility Information

Agency Name: The Village of New Lenox		
Facility Name: STP#1, STP #2, STP #3		Permit Number: ILG103025
Facility Address: 1 Veterans Pkwy		
City: New Lenox	State: Illinois	Zip Code: 60451

The Village of New Lenox is a southwest suburb of Chicago that is experiencing continuous growth. The Village of New Lenox currently maintains 133.4 road-miles (equivalent to 328.4-miles of 12-foot lanes) of roadway, two commuter parking lots, and parking lots and driveways for the Village Hall, Police Station, and a variety of other Village-owned locations

2.1 Level of Service for Winter Maintenance Activities

The Village of New Lenox’s goal is to make our roadways as safe as possible throughout a snow/ice event, and obtain bare pavement as quickly as possible after the event concludes. Pretreatment (anti-icing) on main roads before snowfalls is conducted when appropriate. Accumulated snow is plowed off and deicers are applied during snow storms, and a final clean-up with the goal of bare pavement curb-to-curb immediately after the storm concludes is performed.

3.0 Best Management Practices

Details regarding The Village of New Lenox’s implementation of the best management practices (BMPs) identified as part of the TLWQS for Chloride are included below.

Workgroup BMP

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility’s discharge is located.	The Village of New Lenox has been a member of the Lower Des Plaines Watershed Group since 2017. The Village’s Wastewater Reclamation Superintendent attends monthly meetings as Board member (Treasurer). The Village’s Street Superintendent is a member of the Chloride Reduction Committee which meets quarterly.

Salt Storage and Handling BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
Store all salt on an impermeable pad that must be constructed to ensure that minimal stormwater is coming into contact with salt unless the salt is stored in a container that ensures	The Village of New Lenox stores all bulk rock salt in the salt dome at the Public Works facility. This dome has an asphalt bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013.

<p>stormwater does not come into contact with the salt.</p>	
<p>Cover salt piles at all times except when in active use, unless stored indoors.</p>	<p>The Village of New Lenox stores all bulk rock salt in the salt shed at the Public Works facility. This shed has an asphalt bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013</p>
<p>For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.</p>	<p>The Village of New Lenox stores all bulk rock salt in the salt dome at the Public Works facility and salt is loaded immediately outside of the dome’s entrance. The dome sits higher than the rest of the yard and all snowmelt and stormwater drains away from the work area. This salt dome and work area were first used in 2013.</p>
<p>MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.</p>	<p>The Village of New Lenox stores all bulk rock salt in the salt shed at the Public Works facility. This shed has an asphalt bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013.</p>
<p>Good housekeeping practices must be implemented at the site, including:</p> <ul style="list-style-type: none"> • cleanup of salt at the end of each day or conclusion of a storm event; • tarping of trucks for transportation of bulk chloride; • maintaining the pad and equipment; • good practices during loading and unloading; • cleanup of loading and spreading equipment after each snow/ice event; • a written inspection program for storage facility, structures and work area; • removing surplus materials from the site when winter 	<p>Per the Village of New Lenox’s Pollution Prevention Plan (created in 2019):</p> <p>The following BMP’s are in place for delivery, storage, and loading activities:</p> <ul style="list-style-type: none"> • Delivery trucks must be tarped while in route delivering road salt; • Delivery trucks will dump directly into salt dome whenever possible; • Road salt is stored in a salt dome with asphalt floor and shingled roof that can contain over 100% of annual salt order; • Salt dome is inspected annually for leaks and signs of leaching salt; • Salt dome is used exclusively for salt storage and is kept free of debris, trash, and equipment not related to snow and ice control; • Delivery and loading areas are cleaned with skid steer bucket to remove spilled or excess salt on pavement after each delivery and loading; and • All trucks containing road salt are emptied and scraped into salt dome prior to washing.

<p>activity finished where applicable;</p> <ul style="list-style-type: none"> • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water. 	
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Winter Maintenance Operations BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
<p>Calibrate all salt spreading equipment at least annually before November 30th. Records of the calibration results must be maintained for each piece of spreading equipment.</p>	<p>A third-party vendor (Force America) performs the calibration on twenty-one (21) trucks equipped with pre-wetting and computer controls each year. Unfortunately, the vendor could not be obtained prior to November 30, 2023. All trucks were calibrated on December 12, 2023. Records are maintained in Caretgraph OMS Software.</p>
<p>Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading equipment as the salt is deposited on the road.</p>	<p>Twenty-one (21) of twenty-four (24) trucks that spread salt are equipped with on-board prewet equipment; pre-wet equipment is used each event. The three (3) remaining trucks are next on the equipment replacement plan to be replaced, and replacement equipment will include on-board prewet equipment. Due to supply chain issues, staying on this schedule may be outside of the Village’s control.</p> <p>This past year, a chassis was purchased and is scheduled to be built prior to the 2024-2025 winter season. It will have a v-body salt spreader and pre-wet equipment. This truck will replace a “1-ton” plow truck (ST-37) that does not have on-board pre-wetting equipment.</p>
<p>Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.</p>	<p>Starting in 2018, the Supervisor’s vehicle is equipped with pavement thermometer and sets the application rate prior to crews starting work. Since that time, ten (10) plow trucks have been equipped with pavement thermometers for pavement readings throughout the Village.</p> <p>With the purchase of four (4) new chassis this past budget year, all four vehicles will be built and equipped with pavement thermometers for snow removal purposes.</p>
<p>Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.</p>	<p>Salt application rates based on pavement temperatures have been implemented. The chart displaying temperature and corresponding rates can be found in our “Snow & Ice Plan Addendum.” Implementation of this BMP began in 2014.</p>

<p>Track and record salt quantity used and storm conditions from each call-out.</p>	<p>Each driver/operator completes a “plow ticket” tracking miles driven and salt quantity used. This is verified with AVL/GPS reporting on computer-controlled equipment. This practice began prior to the year 2000.</p>
<p>Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams.</p>	<p>The Village of New Lenox has been performing anti-icing to some degree since 2011. Anti-icing criteria and priorities are detailed in the Snow Plan Addendum on pages 7-8.</p>
<p>Provide employees involved in winter maintenance operations with annual training before November 30th on best management practices in the use of road salt in operations, including the practice of plowing first and applying salt only after snow has been cleared.</p>	<p>The Village of New Lenox completed annual training for twenty-four (25) of employees out of twenty-nine of employees who are part of the winter maintenance operations on October 10, 2023. A list of annual training topics by type of employee is included as Appendix 4.</p>
<p>Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are properly trained and comply with all applicable BMPs.</p>	<p>Our current contract with a snow removal company does not contain applicable BMP’s. This contract is set to expire after the winter of 2023/2024 and if a contract extension is not granted, the future contract will include the applicable BMP’s.</p>
<p>Complete an annual report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submitted to the IEPA’s website and to the watershed group.</p>	<p>This report will be submitted prior to the due date of July 1, 2024.</p>
<p>Obtain and put into place equipment necessary to implement all salt spreading/deicing measure specified in this BMP, such as any new or retrofitted salt spreading equipment necessary to allow for pre- wetting and proper rates of application.</p>	<p>Twenty-one (21) of twenty-four (24) trucks that spread salt are equipped with on-board prewet equipment; pre-wet equipment is used each event. The three (3) remaining trucks are next on the equipment replacement plan to be replaced, and replacement equipment will include on-board prewet equipment. Due to supply chain issues, staying on this schedule may be outside of the Village’s control. This past year, four (4) chassis were purchased and are scheduled to be built prior to winter 2024-2025. These builds will include plows, pre-wetting equipment, and pavement thermometers.</p>
<p>MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on</p>	<p>Starting in 2018, the Supervisor’s vehicle is equipped with pavement thermometer and sets the application rate prior to crews starting work. Since that time, ten (10) plow trucks have</p>

<p>the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation.</p>	<p>been equipped with pavement thermometers for pavement readings throughout the Village. Any vehicles missing pavement thermometers will be outfitted with them prior to the reevaluation.</p>
<p>MS4/CSO/IDOT/TOLLWAY Only - Before the first re-evaluation, develop a method for conducting a post-winter review to identify areas of success and areas in need of improvement. Items to be completed as part of the review must include, but are not limited to, an evaluation of each salt spreader’s application rate, variations in application rates, and discussion of the variation compared to the recommended rates. Once developed, the review should occur annually in the spring/early summer following each winter season.</p>	<p>An end of season review was held on April 15, 2024 with twenty-one of the twenty-two plow truck operators from the previous season.</p>

Additional BMPs Identified for Agency/Facility

BMP	Agency Description of Current Implementation
Site Specific Forecasting Service	The Village of New Lenox uses a forecasting service that utilizes certified meteorologists for a daily 6-day forecast and snow/ice warnings immediately prior to the event.

3.1 Analysis of BMPs Implemented

While winter was once again relatively mild and snow/ice totals were very low, the events that impacted our community tended to be extreme. There were many events that were borderline in temperature or proceeded by rain, making pretreatment impractical. The Village of New Lenox also experienced two-days of moderate- to high-drifting winds. These winds impacted most of the Village, and made rural roads on the outskirts of the Village very difficult to treat appropriately. However, staff better understands the borderline events and is showing they will apply little to no salt when pavement temperatures are near 32F

3.2 Analysis of Alternative Treatments or New Technology

The Village of New Lenox began adding patrol wing-plows to plow/salt trucks in 2017. Using a wing-plow simultaneously with a nose plow allows more snow to be removed in one pass of the truck, allowing safer travel for roadway users and reducing overlap of salt-spreading. Three trucks were successfully retrofitted with wing-plow equipment.

4.0 Deicing/Anti-Icing Agents Used

Materials used The Village of New Lenox for the 2023-2024 winter season are included as Appendix 1.

Materials used in sidewalk deicing were not tracked per event, and parking lot deicers are included in the totals for the roadways as our system does not allow for this to be easily separated. The amounts used for the season will be added into the totals for the season, but not reflected in any particular event.

4.1 Application Rates

The application rates used by The Village of New Lenox for the 2023-2024 winter season are included as Appendix 2. No changes were made from the rates used in 2022-2023.

4.1.1 Application Rate Analysis

The past winter can be characterized as short yet extreme. A majority of the events held extreme conditions such as heavy, freezing rain, moderate to high drifting, and/or large temperature shifts. Because of this, analysis of application rates is difficult.

4.2 Application Practices

The Village of New Lenox uses the following practices to apply deicing and anti-icing materials:

- Direct liquid application for anti-icing using brine;
- Deicing with on-board pre-wetting;
- De-icing with pre-treated salt loaded onto trucks (only two trucks without pre-wetting);
- De-icing with dry salt loaded on trucks (only two trucks without pre-wetting);
- Direct liquid application for anti-icing using “Bare Ground” (magnesium chloride product) on maintained sidewalks;
- Direct liquid application for deicing using “Bare Ground” (magnesium chloride product) on maintained sidewalk; and
- De-icing with commercially available ice-melt products on maintained sidewalks.

4.3 Call Outs

A total of 17.9 inches of snow was reported in the Village of New Lenox for the 2023-2024 winter. There were four (4) freezing rain events and twenty-one (21) snow event(s) for the 2023-2024 winter. The Village of New Lenox had nineteen (19) of call outs completed during the

2023-2024 winter. A log of all call outs completed by The Village of New Lenox are included as Appendix 3.

4.4 Use of Liquids

Liquids were used in zero anti-ice applications this season. Many winter events were proceeded by rain or snow that melted due to warm pavements, where anti-icing applications would have been wasted. All de-icing events utilize pre-wet salt with onboard pre-wet equipment.

5.0 Training

The Village of New Lenox completed annual training for twenty-four (25) of employees out of twenty-nine of employees who are part of the winter maintenance operations on October 10, 2023. A list of annual training topics by type of employee is included as Appendix 4.

6.0 Deicing and Snow Removal Equipment and Maintenance

The Village of New Lenox uses equipment listed in Appendix 5 during winter maintenance activities.

6.1 Description of Equipment Washing and Wash Water Collection

Snow removal equipment is washed after each winter event, provided forecast calls for two business days of clear weather. All vehicles are washed indoors at the Public Works Building where floor drains are connected to the wastewater system.

7.0 Material Storage

The Village of New Lenox maintains two (2) storage areas. Information regarding the storage area(s) is included in Appendix 6.

8.0 Capital Purchases

Identified capital purchases from The Village of New Lenox's PMP to implement the BMPs and reduce chlorides in our operations over the first 5-year term of the Chloride TLWQS are included as Appendix 7.

9.0 Environmental Monitoring Data

Chloride monitoring data is collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data is maintained by the workgroups. Chloride data for the CAWS is collected by MWRD for the CAWS watershed and provided to the workgroups as part of the annual reporting as required by the IPCB order. The Lower Des Plaines Watershed Group also maintains a USGS monitoring station in the

Des Plaines River at Channahon, IL that collects continuous conductivity data to estimate chloride concentrations.

Chloride monitoring data reports are posted to <https://www.cawswatershed.org/reports/> and <https://ldpwatersheds.org/about-us/lower-des-plaines-watershed-group/our-work/chloride-tlwqs/>.

9.1 Organization Specific Chloride Monitoring Data

The Village of New Lenox collects chloride monitoring data as part of its NPDES effluent data and the data is included as Appendix 8.

9.2 Changes to the Facility's NPDES Treatment Technologies for Chloride

No changes were made.

10.0 Program Evaluation

Our fleet continues to be improved for snow removal. It is expected that three chassis will be built and replace three older trucks in the fleet. All three will have pavement thermometers (old trucks did not), and two will have mid-mount wing-plows (old trucks did not).

Pre-treatment is still a priority to apply on emergency routes and main roads, but circumstances did not allow an appropriate application this year.

11.0 Workgroup Participation

The Village of New Lenox has been a member of the Lower Des Plaines Watershed Group (LDPWG) since 2017. The Village's Wastewater Reclamation Superintendent attends monthly meetings as Board member (Treasurer). The Village's Street Superintendent is a member of the Winter Roads Training Committee. All staff that worked in snow/ice removal from roadways attended training suggested by the LDPWG.

Material or Product	Dry, Pre-Wet, Pretreated, or Liquid	Lane Miles Treated with the Product for 2022-2023	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2022-2023	Lane Miles Treated with the Product for 2023-2024	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2023-2024	Total Amount used for 2022-2023 (Year 1) in Tons or Gallons	Total Amount used for 2023-2024 (Year 2) in Tons or Gallons	Total Amount Used Over First 5-Year Term
Salt	Dry	8.33		8.33		37	44	81
Salt	Pre-Wet	318.67		320.07		1539.5	2134.2	3673.7
Brine	Liquids	56.3		56.3		7784	500	8284
Bare Ground	Liquids		45275		45275	275	125	400
Ice-Melt	Pretreated		45275		45275	0.3	0.25	0.55
Salt	Dry		115680		115680	included in road total	included in road total	0
								0

Estimates of Relative Material Amounts Applied and Coverage Achieved

Year	Total Lane Miles Maintained	Total Parking Lot and Sidewalk Area (Sq. Ft.) Maintained	Percent of Total Lane Miles Treated with Dry Materials	Percent of Total Lane Miles Treated with Pre-Wet or Pretreated Materials	Percent of Total Lane Miles Treated with Liquids	Percent of Total Parking Lot and Sidewalk Area Treated with Dry	Percent of Total Parking Lot and Sidewalk Area Treated with Pre-wet or Pretreated Materials	Percent of Total Parking Lot and Sidewalk Area Treated with Liquids
2022-2023	318.67	160,955	3%	97%	17%	72%	72%	28%
2023-2024	320.07	160,955	3%	100%	18%	72%	28%	28%

Pavement Temp and Trend	Winter Condition	Maintenance Actions	Salt Rate Lbs/Lane-mile	PreWet Rate Gallons/Ton	PreWet Blend
≥30°F↑	Snow	Plow and apply treatment	100	15	#1 100% Brine
	Freezing Rain	Apply treatment	150	none	N/A
30°F↓	Snow	Plow and apply treatment	150	15	#2 85% Brine 15% Carbohydrate
	Freezing Rain	Apply treatment	200	none	N/A
25-30°F↑	Snow	Plow and apply treatment	200	15	#2 85% Brine 15% Carbohydrate
	Freezing Rain	Apply treatment	250	none	N/A
25-30°F↓	Snow	Plow and apply treatment	250	15	#3 70% Brine 30% Carbohydrate
	Freezing Rain	Apply treatment	300	none	N/A
20-25°F↑	Snow	Plow and apply treatment	300	20	#3 70% Brine 30% Carbohydrate
	Freezing Rain	Apply treatment	350	none	N/A
20-25°F↓	Snow	Plow and apply treatment	350	20	#4 60% Brine 40% Carbohydrate
	Freezing Rain	Apply treatment	400	none	N/A
15-20°F↑	Snow	Plow and apply treatment	400	20	#4 60% Brine 40% Carbohydrate
	Freezing Rain		450	none	N/A
15-20°F↓	Snow	Plow and apply treatment	400	20	#5 50% Brine 50% Carbohydrate
	Freezing Rain		500	none	N/A
0-15°F↑↓	Snow	Plow and apply treatment	400	20	#12 50% Brine 25% CaCl 25% Carbohydrate
≤0°F	Snow	Plow and apply treatment	400	20	#25 50% CaCl 50% Carbohydrate

Agency Name:				The Village of New Lenox																		
Call Out Information				Weather					Materials Used					Application Rates and Methods (list all used)					Other Information			
Date of Call Out	Call Out Time	Completion Date	Completion Time	Precipitation Type	Precipitation Amount (inches)	Pavement Temperatures	Pavement Conditions	Other Weather Info: (examples of info to include: pavement temps rising or falling, air temps, wind, blowing snow, length of storm, heavy snow, light snow, frost, duration of event, etc)	Types of Deicing Agent Used (example: rock salt, calcium chloride, etc)	Dry Solids, Pre-wetted or pretreated solids, Liquids?	Amount of Dry Material Used (including Roads, Parking Lots, Sidewalks, etc)	Amount of Pre-Wetted/Pretreated Material Used (including Roads, Parking Lots, Sidewalks, etc)	Amount of Liquid Used (including Roads, Parking Lots, Sidewalks, etc)	Application Rates used for Dry Solids	Application Rates used for Pre-wetted or Pretreated Solids	Application Rates used for Liquids	Type of Application (Examples: Anti-icing, Deicing, etc)	How many lane miles and/or square feet or parking lots and sidewalks were treated?	How many deicer and/or anti-icing application passes were made?	Were mechanical methods (plowing, scraping, sweeping, etc) used before applying deicer materials? YES or NO	Notes	
11/26/2023	6:45am	11/26/2023	9:15am	snow	1	32-34	slushy accumulation		Rock salt, brine	Dry; prewetted	2	58		100	100	N/A	Deicing	All		1	Yes	
12/5/2023	5:20am	12/5/2023	6:35am	wintery mix	0.3	34+	wet	slushy accumulation on bridge decks	Rock salt, brine	Dry; prewetted	0	0.2		N/A	150	N/A	Deicing	2		1	Yes	Bridge decks only treated
12/31/2023	5pm	12/31/2023	6pm	Snow	Trace	32 and droppin	wet		Rock salt, brine	Dry; prewetted	2	63		150	150	N/A	Deicing	All		1	Yes	
1/6/2024	3:30am	1/6/2024	7:30am	Wet Snow	3.1	29-32	slushy, snow covered		Rock salt, brine	Dry; prewetted	4	148		200	200	N/A	Deicing	All		2	Yes	
1/7/2024	3:30am	1/7/2024	7:30am	Wet Snow	continued	29-32	slushy, snow covered		Rock salt, brine	Dry; prewetted	2	45		200	200	N/A	Deicing	All		1	Yes	
1/9/2024	3am	1/9/2024	9pm	Rain, snow	3.2	31-33	wet, slushy snow	rain transitioning to snow	Rock salt, brine	Dry; prewetted	8	375		150	150	N/A	Deicing	All		4	Yes	
1/12/2024	4am	1/12/2024	4pm	Wet snow	5.8	31	frozen slush	transitioned back to rain	Rock salt, brine	Dry; prewetted	6	237		200	200	N/A	Deicing	All		3	Yes	
1/12/2024	8pm	1/12/2024	midnight	light snow	0.2	20 and dropping	snow covered	drifting winds, blowing snows	Rock salt, brine	Dry; prewetted	2	53		400	400	N/A	Deicing	All		1	Yes	
1/13/2024	3am	1/13/2024	9am	blowing	N/A	4-10 degrees		blowing snows	Rock salt, brine	Dry; prewetted	2	221		400	400	N/A	Deicing	All		1	Yes	Only treated areas when blowing snow ended.
1/13/2024	10am	1/13/2024	4pm	blowing	N/A	4-10 degrees		blowing snows	Rock salt, brine	Dry; prewetted		78		N/A	400	N/A	Deicing	Blowing areas		Yes	Only treated areas when blowing snow ended.	
1/13/2024	4pm	1/13/2024	11pm	blowing	N/A	4-10 degrees		blowing snows	Rock salt, brine	Dry; prewetted		22		N/A	400	N/A	Deicing	Blowing areas		Yes	Only treated areas when blowing snow ended.	
1/14/2024	2am	1/14/2024	11am	blowing	N/A	4-10 degrees		blowing snows	Rock salt, brine	Dry; prewetted		0.5		N/A	400	N/A	Deicing	Blowing areas		Yes	Only treated areas when blowing snow ended.	
1/14/2024	noon	1/14/2024	10pm	blowing	N/A	4-10 degrees		blowing snows	Rock salt, brine	Dry; prewetted		1.5		N/A	400	N/A	Deicing	Blowing areas		Yes		
1/19/2024	3am	1/19/2024	10pm	dry snow	1.9	20 dropping to	snow covered	drifting winds, blowing snows	Rock salt, brine	Dry; prewetted	6	280		400	400	N/A	Deicing	All		3	Yes	
1/22/2024	3am	1/22/2024	noon	freezing rain	0.02	25 and rising	slick, ice cover	freezing rain with increasing temperatures	Rock salt, brine	Dry; prewetted	2	186		250	250	N/A	Deicing	All		1	Yes	
1/22/2024	10pm	overnight	3am	freezing rain	0.19		icy		Rock salt, brine	Dry; prewetted		80		N/A	400	N/A	Deicing	All		1	Yes	
1/23/2024	3am	1/23/2024	4pm	freezing rain	continued		icy		Rock salt, brine	Dry; prewetted	4	207		250	250	N/A	Deicing	All		2	Yes	
1/24/2024	3am	1/24/2024	7am	freezing rain	trace		icy		Rock salt, brine	Dry; prewetted	2	55		250	250	N/A	Deicing	All		1	Yes	
2/16/2024	9:30am	2/16/2024	11:30am	snow	0.5	27	snow covered		Rock salt, brine	Dry; prewetted	2	24		200	200	N/A	Deicing	All		1	Yes	

Role in Winter Operations	Training Topics Covered
(2) Supervisor/Snow Command	Environmental impact of salt, anti-icing process, application rates, good housekeeping
(23) Plow Operator	Environmental impact of salt, anti-icing process, application rates, good housekeeping

Type of Equipment	Equipment/Vehicle Number	Type of Spreader (mechanically controlled, computer controlled, etc.)	Type of Material Used with Equipment (Dry, Pre-Wet, Pretreated, Liquids)	Other Important Equipment Information
2.5-Ton Dump Truck	ST-1	Computer Controlled	Pre-Wet	Mid-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-2	Computer Controlled	Pre-Wet	Mid-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-3	Computer Controlled	Pre-Wet	Front-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-4	Computer Controlled	Pre-Wet	Front-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-5	Computer Controlled	Pre-Wet	Upfitted this year: Mid-mount wing plow and pavement thermometer
2.5-Ton Dump Truck	ST-6	Computer Controlled	Pre-Wet	Front-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-8	Computer Controlled	Pre-Wet	Front-mount wing plow; pavement thermometer
2.5-Ton Dump Truck	ST-9	Computer Controlled	Pre-Wet	Upfitted this year: Mid-mount wing plow and pavement thermometer
2.5-Ton Dump Truck	ST-10	Computer Controlled	Pre-Wet	Upfitted this year: Mid-mount wing plow and pavement thermometer
2.5-Ton Dump Truck	ST-32	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-33	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-34	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-35	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-40	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-41	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-42	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-50	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-51	Computer Controlled	Pre-Wet	
6-Wheel Dump Truck	ST-7	Computer Controlled	Pre-Wet, Liquids	Pavement thermometer; hook-body truck with interchangeable skids. One skid for direct liquid application, another for pre-wet salt spreading
6-Wheel Dump Truck	ST-43	Computer Controlled	Pre-Wet	
1-ton Dump Truck	ST-26	Mechanically Controlled	Dry	Spare truck not used in route
1-ton Dump Truck	ST-27	Mechanically Controlled	Dry	
1-ton Dump Truck	ST-36	Computer Controlled	Pre-Wet	
1-ton Dump Truck	ST-37	Mechanically Controlled	Dry	Used in Parking Lots
Pick-up Truck	ST-45	None	N/A	Snow Command Truck; Pavement Thermometer equipped

Location of Storage Area	Material Stored (Rock Salt, Salt Brine, etc.)	Amount of Material Stored 2022-2023	Amount of Material Stored 2023-2024	Material stored under permanent cover? (yes/describe other)	Material stored in a fully enclosed structure? (yes/describe other)	Material stored on an impervious pad? (yes/describe other)	Good housekeeping practices followed at storage area? (yes/describe other)
2401 Ellis Road	Rock Salt	5,500 tons	5,500 tons	Yes, salt dome	Yes, salt dome	Yes, asphalt floor	Yes
2401 Ellis Road	Brine	up to 9,000-gallons	up to 9,000-gallons	Outdoor Storage Tanks	Outdoor Storage Tanks	Yes, on concrete pad	Yes
1 Veterans Parkway	Ice-melt (treated bags of salt)	up to 40-bags at a time	up to 40-bags at a time	Yes, indoor loading dock	yes, indoor loading dock	Yes, on concrete floor	Yes
1 Veterans Parkway	Bare Ground (Magnesium Chloride liquid de-icer)	One (1) 220-gallon tote	One (1) 220-gallon tote	Yes, indoor loading dock	yes, indoor loading dock	Yes, on concrete floor	Yes
1 Veterans Parkway	Brine	n/a	One (1) 220-gallon tote	Yes, indoor loading dock	yes, indoor loading dock	Yes, on concrete floor	Yes

Capital Purchase Description	Plan/Schedule for Purchase
Continue to replace last mechanical spreaders with computer-controlled spreaders and prewetting equipment.	A 1-ton chassis was purchased last budget year. It will be built this budget year. The build includes a computer-controlled spreader and prewetting equipment.
Continue to add pavement thermometers to salt spreading equipment.	<p>Pavement thermometers were added to trucks ST-5, ST-9, and ST-10 when mid-mount wing plows were added.</p> <p>Replacement chassis for trucks ST-37, ST-32, and ST-33 have been purchased and are in our possession. The equipment builds will include pavement thermometers for these replacement trucks. Delivery of built trucks is expected prior to winter 2024-25.</p> <p>Replacement chassis for trucks ST-34 and ST-35 have been ordered and funds are secure for the equipment builds. The equipment builds will include pavement thermometers for these trucks. Delivery of these trucks is expected towards the end of winter 2024-25 or right after</p>

STP#1 Effluent Results		
	Chloride	Specific Conductance
May-23	208	1064
Jun-23	209	1032
Jul-23	160	979
Aug-23	170	965
Sep-23	683	1085
Oct-23	182	937
Nov-23	256	1085
Dec-23	224	958
Jan-24	543	1574
Feb-24	965	1225
Mar-24	310	1118
Apr-24	364	1098
May-24	250	1037