

Annual Report for Year 1 (2022-2023) of the Time Limited Water  
Quality Standard for Chloride

June 30, 2023

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 to Chloride Issue in CAWS/LDPR**

This Pollutant Minimization Plan (PMP) has been prepared by The Village of New Lenox to reduce the environmental impacts from the organization's chloride related operations. 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 PMP has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride. The term of this PMP covers the first 5-years of the TLWQS period and will be updated following the re-evaluations at Years 4 ½, 9 ½, and 14 ½.

Chloride is a permanent pollutant. It 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 Plaines 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 131.5 road-miles (equivalent to 327-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><b>MS4/CSO Only</b> - 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"> <li>• cleanup of salt at the end of each day or conclusion of a storm event;</li> <li>• tarping of trucks for transportation of bulk chloride;</li> <li>• maintaining the pad and equipment;</li> <li>• good practices during loading and unloading;</li> <li>• cleanup of loading and spreading equipment after each snow/ice event;</li> <li>• a written inspection program for storage facility, structures and work area;</li> <li>• removing surplus materials from the site when winter</li> </ul>	<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"> <li>• Delivery trucks must be tarped while in route delivering road salt;</li> <li>• Delivery trucks will dump directly into salt dome whenever possible;</li> <li>• Road salt is stored in a salt dome with asphalt floor and shingled roof that can contain over 100% of annual salt order;</li> <li>• Salt dome is inspected annually for leaks and signs of leaching salt;</li> <li>• Salt dome is used exclusively for salt storage and is kept free of debris, trash, and equipment not related to snow and ice control;</li> <li>• Delivery and loading areas are cleaned with skid steer bucket to remove spilled or excess salt on pavement after each delivery and loading; and</li> <li>• All trucks containing road salt are emptied and scraped into salt dome prior to washing.</li> </ul>

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

**Winter Maintenance Operations BMPs**

<b>BMP</b>	<b>Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP</b>
<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. All trucks were calibrated on December 8, 2022. 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, one of the three trucks mentioned above was replaced; this replacement vehicle is equipped with a nose plow, computer-controlled spreader, and on-board pre-wet 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>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 &amp; 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>Twenty-five (25) staff members attended the “Public Roads Deicing Workshop” on October 12, 2022. This workshop was presented by Bolton Menk, Inc and was suggested as a training source by the Lower Des Plaines Watershed Group.</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 2022/2023 and future contracts 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 turned in by the due date of July 1, 2023.</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.</p> <p>This past year, one of the three trucks mentioned above was replaced; this replacement vehicle is equipped with a nose plow, computer-controlled spreader, and on-board pre-wet equipment.</p>
<p><b>MS4/CSO/IDOT/TOLLWAY Only</b> - Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information</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. Any vehicles missing pavement</p>

<p>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>thermometers will be outfitted with them prior to the reevaluation.</p>
<p><b>MS4/CSO/IDOT/TOLLWAY Only</b> - 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 17, 2023 with seventeen of the twenty-two plow truck operators from the previous season.</p>

**Additional BMPs Identified for Agency/Facility**

<b>BMP</b>	<b>Agency Description of Current Implementation</b>
<p>Site Specific Forecasting Service</p>	<p>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.</p>

**3.1 Analysis of BMPs Implemented**

Drivers expressed frustration with the table dictating the salt application rate, stating it was too complex and difficult for them to make a decision while in the cab. Also, when The Village of New Lenox experienced a snow storm with high winds and low temperatures, operators pointed to the specified salt-rates as to why road conditions did not meet our level-of-service.

**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. While supply chain issues have prevented the purchase of new trucks equipped with wing-plows, a budget request was made and granted to retrofit three existing trucks with wing-plows.

## **4.0 Deicing/Anti-Icing Agents Used**

Materials used by The Village of New Lenox for the 2022-2023 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 2022-2023 winter season are included as Appendix 2.

#### **4.1.1 Application Rate Analysis**

Application rates seemed to work well throughout the year. A snow storm that began on December 22, 2022 brought extremely cold temperatures with it, dropping from 32°F to -9°F in roughly twelve hours. Plow operators believe increased salt rates may have improved road conditions during and immediately after the storm, as snow pack remained on our roadways for up to three-days after the storm ended. Aside from this extreme case, salt rates worked reasonably well.

A request from snow-plow operators is to simplify the salt-rate table, making it easier for them to make a decision on their own when needed in the cab of their truck. This request will be acted on for the following season. This will mean compromises in the existing chart, but should be a net-zero effect on salt totals over the years.

Plow drivers do struggle to follow the prescribed application rates on occasion, which will always be the case. When road conditions are bad, it is easy to think that increasing the application rate will assist road conditions, or keep good road conditions around longer. The Village of New Lenox is not immune to this, particularly in extreme situations, but operators are becoming more accustomed to decreased salt usage.

### **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 seventeen and two-tenths (17.2) inches of snow was reported in The Village of New Lenox for the 2022-2023 winter. There were three (3) freezing rain events and forty-two (42) snow events for the 2022-2023 winter. The Village of New Lenox had nineteen (19) of call outs completed during the 2022-2023 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 are used in both anti-icing and deicing applications. This past season, one plow truck has been replaced with a pre-wet equipped truck.

Liquids were used in two (2) 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.

## **5.0 Training**

The Village of New Lenox completed annual training for twenty-five employees out of twenty-five (25) of twenty-nine (29) employees who are part of the winter maintenance operations on October 12, 2022. 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**

## **10.0 Program Evaluation**

Our fleet continues to be improved for snow removal. One truck with a mechanical spreader was replaced and another is budgeted to be replaced in the same manner this upcoming year. Wing plows allow operators to clear entire lanes in a single pass, allowing more salt to reach bare pavement easier.

Sidewalk and parking lot materials will be tracked by event next season.

### **10.1 Proposed Steps for the Coming Year**

A replacement for a 1-ton dump truck (ST-26) has been approved in this year's budget. The Village of New Lenox will attempt to purchase this vehicle, but supply chain issues with the specified chassis (F550) may not allow an order to be placed.

Three (3) 2.5-ton trucks are budgeted and scheduled to have wing-plows retrofitted onto them. While this does not directly reduce salt usage, plowing off more snow in a single pass allows for better, more efficient salt usage.

The salt-rate chart will be simplified for the following season. Modifying the chart itself will have a net-zero effect on salt-usage (up slightly in some circumstances, down slightly in others), but it is expected that simplifying the chart will give plow operators confidence in decision making and prevent some from going way overboard in application rates when their confidence is low.

Pavement thermometers will be purchased this season if current funds allow. A budget request for pavement thermometers will be made December 2023 for the 2024/25 Budget 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 Chloride Reduction Committee which meets quarterly. 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	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 for 2023-2024 (Year 3) in Tons or Gallons	Total Amount used for 2023-2024 (Year 4) in Tons or Gallons	Total Amount used for 2023-2024 (Year 5) in Tons or Gallons	Total Amount Used Over First 5-Year Term
Salt	Dry	8.33		37					37
Salt	Pre-Wet	318.67		1539.5					1539.5
Brine	Liquids	56.3		7784					7784
Bare Ground	Liquids		45275	275					275
Ice-Melt	Pretreated		45275	0.3					0.3
Salt	Dry		115680	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	327	160,955	3%	97%	17%	72%	72%	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	
12/15/2022	5pm	12/15/2022	9pm	Snow	0.8	30 and dropping	Slushy	setting sun, falling air and pavement	Rock salt, brine	Dry; prewetted	2	68		150	150		deicing	all		1	yes	
12/16/2022	1:30pm	12/16/2022	4pm	Snow	0.7	30 and dropping	slushy, snow cover	setting sun, falling air and pavement	Rock salt, brine	Dry; prewetted	2	66.5		150	150		deicing	all		1	yes	
12/17/2022	3am	12/18/2022	10pm	Snow	trace	23 and dropping	light snow cover	drifting winds in open areas	Rock salt, brine	Dry; prewetted	2	42		350	350		deicing	all	spot treat		yes	
12/22/2022	2pm	12/24/2022	9:30am	Snow	2.7	32 to 0	snow pack	blizzard conditions	Rock salt, brine	Dry; prewetted		380		0	400		deicing	all		4	yes	dry salt sprayed with CaCl
12/26/2022	3:30am	12/24/2022	11am	snow	trace	21	snow pack		Rock salt, brine	Dry; prewetted	2	63		300	300		deicing	all		1	yes	snow pack from previous storm removed
1/5/2023	7am	1/5/2023	11am	snow	0.8	30	slushy		Rock salt, brine	Dry; prewetted	2	61		150	150		deicing	all		1	yes	
1/20/2023	7am	1/20/2023	3:30pm	-	-	30	clear		Brine	Liquid			2823			40	anti-icing	76 road miles		1	N/A	pretreatment for forecasted event
1/22/2023	3am	1/22/2023	8am	snow	0.4	30	slushy, snow cover		Rock salt, brine	Dry; prewetted	2	46		150	150		deicing	all		1	yes	
1/24/2023	7am	1/24/2023	3:30pm	-	-	28	clear	sunny	Rock salt, brine	Dry; prewetted			4686			80	anti-icing	78 road miles		1	yes	pretreatment for forecasted event
1/25/2023	3am	1/25/2023	noon	snow	3.4	28	snow covered	temperatures increasing, drifting winds	Rock salt, brine	Dry; prewetted	6	195		200, 150	200, 150		deicing	all		3	yes	
1/26/2023	3am	1/26/2023	10am	snow	1	25	snow covered	temperatures dropping, drifting winds	Rock salt, brine	Dry; prewetted	4	158		350	350		deicing	all		2	yes	
1/27/2023	7am	1/27/2023	4pm	snow	0.7	25	variable	light snow, high winds, sun after event before	Rock salt, brine	Dry; prewetted	2	76		350	350		deicing	all		1	yes	
1/28/2023	noon	1/30/2023	9am	snow, ice	1.0; 0.05 ice	14 to 30 degrees	variable	minor drifting winds. Spotty event	Rock salt, brine	Dry; prewetted	6	166		varied	varied		deicing	all		3	yes	
2/16/2023	4pm	2/16/2023	7:15pm	snow, ice	0.4; 0.03	25-30 degrees	variable	drifting winds throughout Village	Rock salt, brine	Dry; prewetted	2	62		200	200		deicing	all		1	yes	
2/17/2023	4am	2/17/2023	9am	snow	trace	30	light snow cover	trace snow, clean up from overnight blwoing	Rock salt, brine	Dry; prewetted	2	60		150	150		deicing	all		1	yes	
3/3/2023	3pm	3/3/2023	6pm	snow	0.7	30+	slushy		Rock salt, brine	Dry; prewetted	2	59		150	150		deicing	all		1	yes	
3/13/2023	3am	3/3/2023	7am	snow	0.5	28	spotty snow covered	overnight snow clean-up	Rock salt, brine	Dry; prewetted	1	37		150	150		deicing	all		1	yes	

<b>Role in Winter Operations</b>	<b>Training Topics Covered</b>
(2) Supervisor/Snow Command	Environmental impact of salt, anti-icing process, application rates, good housekeeping
(23) Plow Operator	Anti-icing, application rates, good housekeeping, loading and unloading, application rates, VONL Snow & Ice Policy, routing, plow/spreader operation, truck cleaning

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	
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	
2.5-Ton Dump Truck	ST-9	Computer Controlled	Pre-Wet	
2.5-Ton Dump Truck	ST-10	Computer Controlled	Pre-Wet	Front-mount wing plow; 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	ST-43	Computer Controlled	Pre-Wet	
1-ton Dump Truck	ST-26	Controlled	Dry	Used in Parking Lots
1-ton Dump Truck	ST-27	Controlled	Dry	Spare truck not assigned a route
1-ton Dump Truck	ST-36	Computer Controlled	Pre-Wet	
1-ton Dump Truck	ST-37	Controlled	Dry	Spare truck not assigned a route
Pick-up Truck	ST-45	None	N/A	Snow Command Truck; Pavement Thermometer



<b>Location of Storage Area</b>	<b>Material Stored (Rock Salt, Salt Brine, etc.)</b>	<b>Amount of Material Stored 2022-2023</b>	<b>Material stored under permanent cover? (yes/describe other)</b>	<b>Material stored in a fully enclosed structure? (yes/describe other)</b>	<b>Material stored on an impervious pad? (yes/describe other)</b>	<b>Good housekeeping practices followed at storage area? (yes/describe other)</b>
2401 Ellis Road	Rock Salt	5,500 tons	Yes, salt dome	Yes, salt dome	Yes, asphalt floor	Yes
2401 Ellis Road	Brine	up to 9,000-gallons	No, storage tanks outdoors	No, storage tanks outdoors	Yes, concrete pad	Yes
1 Veterans Parkway	Ice-Melt (treated bags of salt)	up to 40-bags at a time	Yes, indoors loading dock	Yes, indoors loading dock	Yes, concrete floor	Yes
1 Veterans Parkway	Bare Ground (Magnesium Chloride liquid de-icer)	220-gallon tote	Yes, indoors loading dock	Yes, indoors loading dock	Yes, concrete floor	Yes

<b>Capital Purchase Description</b>	<b>Plan/Schedule for Purchase</b>
Continue to replace last mechanical spreaders with computer-controlled spreaders and prewetting equipment.	One (1) truck was replaced this past budget year, with another one budgeted for this current year.
Continue to add pavement thermometers to salt spreading equipment.	Pavement thermometers will be requested for the 2024/2025 budget year in December of 2023. Up to three units may be purchased this budget year if funds allow.