

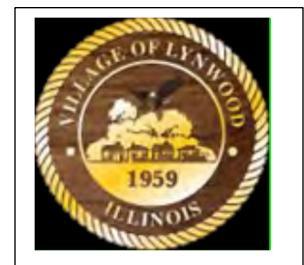
Annual Report for Year 2 (2023-2024) of the Time Limited Water Quality Standard for Chloride

April 30, 2024

Prepared by Village of Lynwood



Village of Lynwood is a member of the Chicago Area Waterways Chloride Workgroup



1.0 Introduction

This Annual Report has been prepared by The Village of Lynwood to report on progress in meeting the requirements for the Time Limited Water Quality Standard for Chloride. The Village of Lynwood 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 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: Village of Lynwood		
Facility Name: Village of Lynwood		Permit Number: ILG103023
Facility Address: 21460 Lincoln Highway		
City: Lynwood	State: IL	Zip Code: 60411

Located within Cook County, Illinois approximately 26 miles south of the City of Chicago, the Village of Lynwood is located between State Route 394 and the Indiana state line. The Village of Lynwood maintains approximately 26 miles of streets during each snowfall. Built in 1999, our salt storage shed is located at the Village of Lynwood Public Works facility at 19850 Stony Island Avenue and has a capacity of 700 tons of rock salt and typically has 600 tons of rock salt in storage on average. Currently, the Village of Lynwood only uses rock salt for snow and ice control. As described above, rock salt is stored in a covered, domed structure located at the Village of Lynwood Public Works facility.

2.1 Level of Service for Winter Maintenance Activities

The Village of Lynwood’s goal is to have priority streets plowed within 8 hours from the time that the snow stops falling. For neighborhood streets, the Village of Lynwood’s goal is to plow the neighborhood streets within 16 hours of the completion of the priority streets. The goal for the neighborhood streets is to make the streets passable and provide good traction at stop signs, hills, and curves. It is not practical to remove all snow and/or ice down to bare pavement on neighborhood streets. During normal salt spreading and/or plowing events, the Public Works Department has up to 5 plow trucks in use on the road. Priority (main) streets are the first to be plowed followed by neighborhood streets. The Public Works Department typically uses 2 sets of 2-truck teams plowing tandem so they can clean an entire side of the street during each pass. When 2-truck tandem plowing is implemented, only the rear truck is allowed to spread salt to the road.

3.0 Best Management Practices

Details regarding Village of Lynwood’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 Lynwood has been a member of the Chicago Area Waterways Chloride Workgroup since 2021.

Salt Storage and Handling BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
<p>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 stormwater does not come into contact with the salt.</p>	<p>The Village of Lynwood stores approximately 600 tons of rock salt in a permanent dome structure on a concrete pad to prevent contact with stormwater. See Snow and Ice Control Plan for more details.</p>
<p>Cover salt piles at all times except when in active use, unless stored indoors.</p>	<p>Any surplus salt that does not fit in the dome structure is stored on a concrete pad and covered with a tarp. Surplus to be used first. See Snow and Ice Control Plan for more details.</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 is working on this.</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 Lynwood stores approximately 600 tons of rock salt in a permanent dome structure on a concrete pad to prevent contact with stormwater.</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; 	<p>The Village of Lynwood is currently implementing the following good housekeeping practices:</p> <p>Clean up of salt at end of each event; good practices during loading/unloading; cleanup after loading; annual inspection and repairs when practical; and maintaining pad and equipment.</p> <p>The Village of Lynwood will implement the following starting the FY23 season:</p>

<ul style="list-style-type: none"> • 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 activity finished where applicable; • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water. 	<p>Written inspection program for storage facility, structures and work area.</p> <p>The Village of Lynwood will evaluate the opportunity to reduce wash water within the next few years and will investigate pricing, local community techniques and policies.</p> <p>The Village of Lynwood does not currently tarp trucks while transporting salt; however, when event is complete, all trucks are stored in a closed garage.</p> <p>Details are provided in the Village of Lynwood’s Snow and Ice Control Plan and Stormwater Management Plan.</p>
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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>Calibration is completed by Village of Lynwood staff each year.</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>Working to implement by 2025</p>
<p>Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.</p>	<p>In the current season, the Village of Lynwood supplied each vehicle with handheld pavement thermometers. Ground temperature was taken several times by each driver during each event. We are currently pricing the cost to upgrade trucks.</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>Working to implement by 2025</p>

Track and record salt quantity used and storm conditions from each call-out.	Village of Lynwood is currently maintaining records of each winter storm call out.
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.	Working to implement by 2025
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.	The Village of Lynwood completes annual training for winter maintenance staff each year. Prior to November 30, staff is trained on snow routes, deicing procedures, calibration and BMPs currently used.
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.	Not applicable as the Village of Lynwood does not currently use contractors for snow and ice control.
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.	The Village of Lynwood will complete and submit an annual report each year to IEPA and the workgroup by July 1.
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.	Working to implement by 2025
MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles	Originally targeted to install in the 2023-2024 season, due to budget restraints it was not possible. Looking to implement within the next couple of seasons.

<p>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>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>VOL developed a condition check list to document the weather, vehicle used and staffing for each event. Developing more accurate record keeping during each event as the drivers started and ended their shifts. Understanding that our upgrades for the next couple of seasons are determined budgetarily, the condition check list records are discussed and prioritized to what is needed. Public awareness was also increased with more postings to our website as well as handouts available at Village Hall. As housekeeping is improving, better tracking during events, the purchase of salt and usage has decreased. The future needs will include retrofitted technology, new equipment with ground sensors and moving forward with better deicing methods.</p>

Additional BMPs Identified for Agency/Facility

BMP	Agency Description of Current Implementation

3.1 Analysis of BMPs Implemented

The Village of Lynwood participated in workshops provided by Watershed Group giving us a better understanding of good housekeeping practices. By using the recommended application rates, there was a decrease in salt usage. Better practices of loading/unloading during events made us more aware of cleanup methods. Finally, keeping records of each event gave more insight of equipment used, making changes and better ideas for updating our practices and equipment.

3.2 Analysis of Alternative Treatments or New Technology

Winter 2022-2023 introduced the use of portable sensors to measure the ground temperature, updating the deicing application rates as recommended by TLWQS. The next season we are focusing on upgrading our fleet technology gradually to include pre-treating with brine or organic compounds by season 2025.

4.0 Deicing/Anti-Icing Agents Used

Materials used by Village of Lynwood for the 2023-2024 winter season are included as Appendix 1.

4.1 Application Rates

The application rates used by Village of Lynwood for the 2023-2024 winter season are included as Appendix 2.

4.1.1 Application Rate Analysis

Using the recommended application rate from the TLWQS and analyzing each event, the Village of Lynwood noticed a decrease of salt usage during this snow season. Monitoring each event, making the proper calibration changes, tracking each event/callout showed improvement in our procedures. As we continue to update our fleet, gradually progress to a pre-treatment liquid deicing the Village of Lynwood monitor our winter events tracking improvements as we gradually phase out or using the minimal amount of rock salt in our procedures while maintaining safe roads for our residents.

4.2 Application Practices

Village of Lynwood uses the following practices to apply deicing and anti-icing materials:

- Deicing with dry salt loaded into dump trucks and 1-ton pickup with spreading equipment.
- Brine is not used by Village of Lynwood.
- No changes were made to previous years practice.

4.3 Call Outs

A total of 10 inches of snow was reported in Village of Lynwood for the 2023-2024 winter. There were 4 freezing rain event(s) and 7 snow event(s) for the 2023-2024 winter. Village of Lynwood had [11] of call outs completed during the 2023-2024 winter. A log of all call outs completed by Village of Lynwood are included as Appendix 3.

4.4 Use of Liquids

As the Village of Lynwood continues to update our fleet, we will gradually progress to a pre-treatment liquid deicing. The Village of Lynwood will monitor our winter events tracking the improvements to gradually phase out or using the minimal amount of rock salt in our procedures while maintain safe roads for our residents.

5.0 Training

Village of Lynwood completed annual training for [5] of employees out of [5] of employees who are part of the winter maintenance operations on [10/25, 11/01, 11/15, 11/29]. A list of annual training topics by type of employee is included as Appendix 4.

6.0 Deicing and Snow Removal Equipment and Maintenance

Village of Lynwood uses equipment listed in Appendix 5 during winter maintenance activities.

6.1 Description of Equipment Washing and Wash Water Collection

Snowplows, equipment were not washed

7.0 Material Storage

Village of Lynwood maintains 1[one] storage area. Information regarding the storage area is included in Appendix 6.

8.0 Capital Purchases

Identified capital purchases from Village of Lynwood'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.

8.1 Explanation of Capital Purchases Unable to Be Made According to the Reported Plan

All capital project purchases need board approval before ordering/purchasing. We are currently evaluating high priority needs to get our department in a more updated position.

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

Village of Lynwood does not collect chloride monitoring data.

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

This section does not apply to Village of Lynwood.

10.0 Program Evaluation

The Village of Lynwood participated in workshops provided by Watershed Group giving us a better understanding of good housekeeping practices. By using the recommended application rates, there was a decrease in salt usage. Better practices of loading/unloading during events made us more aware of cleanup methods. Finally, keeping records of each event gave more insight of equipment used, making changes and better ideas for updating our practices and equipment.

10.1 Proposed Steps for the Coming Year

Proposed steps for next year will include updating fleet with installed thermometers instead of the handheld, pricing out tarps for the trucks for upgrades and looking into a liquid pretreatment.

11.0 Workgroup Participation

Village of Lynwood has been participating in workgroup meetings, including required workshops and training seminars.

Chloride TLWQS Annual Report
Appendix 1 - Deicing/Anti-Icing Agents Used

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 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
Rock Salt	Dry	3900	0			278					278
Rock Salt	Dry	7605	0				406.64				406.64
											0
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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	3900	0	100%	0%	0%	0%	0%	0%			
2023-2024	7605	0	100%	0%	0%	0%	0%	0%			

PAVEMENT TEMPERATURE		ROCK SALT	
30 and above	<i>Degrees</i>	100	<i>Lbs/lane mile</i>
25-30	<i>Degrees</i>	200-300	<i>Lbs/lane mile</i>
20-25	<i>Degrees</i>	300-350	<i>Lbs/lane mile</i>
15-20	<i>Degrees</i>	300	<i>Lbs/lane mile</i>
0-15	<i>Degrees</i>	350-400	<i>Lbs/lane mile</i>
Less than 0	<i>Degrees</i>	400-500	<i>Lbs/lane mile</i>

The above table using the recommended application rate from the TLWQS and analyzing each event, the Village of Lynwood noticed a decrease of salt usage during this snow season. Monitoring each event, making the proper calibration changes, tracking each event/callout showed improvement in our procedures. As we continue to update our fleet, gradually progress to a pre-treatment liquid deicing the Village of Lynwood monitor our winter events tracking improvements as we gradually phase out or using the minimal amount of rock salt in our procedures while maintaining safe roads for our residents.

Organization Name:
Village of Lynwood

Chloride TLWQS Annual Report
Appendix 4 - Annual Training

Role in Winter Operations	Training Topics Covered
10/25/2023 -- Supervisors	Calibration training
11/01/2023 -- Plow Drivers & Supervisors	Inspection of fleet including spreader and plows
11/15/2023 -- Plow Drivers & Supervisors	training for measuring ground temperature, calibrating of trucks
11/29/2023 -- Plow Drivers & Supervisors	Review of snow routes, applications rates, good housekeeping practices and changes

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
1997 International Dump 4900	D1	MECHANICALLY	dry	
2017 Peterbilt Dump 348	D2	MECHANICALLY	dry	
2008 Ford F450 Dump 1-Ton	D4	MECHANICALLY	dry	
2020 International 4900 Dump	D5	MECHANICALLY	dry	
2005 International 7400 Dump	D6	MECHANICALLY	dry	
2010 International 4900 Dump	D8	MECHANICALLY	dry	

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)
Public Works Yard	Rock Salt	500 tons			yes		yes
Public Works Yard	Rock Salt		600 tons		yes		yes

Organization Name:
Village of Lynwood

Chloride TLWQS Annual Report
Appendix 7 - Capital Purchases

Capital Purchase Description	Plan/Schedule for Purchase
Truck for pretreatment-spray nozzles, tanks	pending council approval
long term tank for organic mix	pending council approval
upgrade snow plow fleet	pending council approval