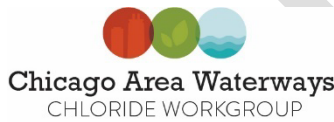


Chloride Pollutant Minimization Plan for The Village of Midlothian

10/31/2022

Prepared by Village of Midlothian

DRAFT



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



1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by The Village of Midlothian Public Works Dept. to reduce the environmental impacts from the organization's chloride related operations. The Village of Midlothian 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 Info, Facilities' Specific Info

2.1 Facility overviews/descriptions

Village of Midlothian		
Public Works		Permit Number: ILR400387
14801 S. Pulaski Rd		
Midlothian	IL	60445

The Village of Midlothian Public Works Dept is responsible for the winter road maintenance of 82.4 lane miles of Village side streets and 10 Metra and Village owned park

2.2 Chloride Sources

Known chloride sources within the Village of Midlothian:

- Winter Maintenance of Village owned streets, parking lots, and sidewalks. Maintenance of Metra parking lots.
- Storage of salt for winter maintenance.

2.3 Level of Service for Winter Maintenance Activities

Removal of snow and ice from Village owned streets, parking lots, and sidewalks during and after a snow/ice storm. All removal to be completed asap, or within a reasonable timeframe due to storm total amounts, duration, and manpower available.

3.0 Chloride Monitoring Data

Chloride monitoring data will be collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data will be maintained by the workgroups. Chloride data for the CAWS will be 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.

4.0 Chloride Reduction BMPs for POTWs, MS4s, CSOs, Industrial Sources, IDOT/Tollway

As part of the Chloride TLWQS, specific BMPs were identified for POTWs, MS4s, CSOs, Industrial Sources, and IDOT/Tollway to reduce the chloride impact on the watershed. These BMPs will be implemented over the 15-year term and additional BMPs evaluated at 5-year intervals during the 15-year term. Further details about winter maintenance practices currently being implemented by The Village of Midlothian are included in the snow and ice plan, which is included as Appendix [#]. The BMPs identified are outlined below:

Workgroup BMP

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
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.	X		The Village of Midlothian has been a member of the Chicago Area Waterways Chloride Workgroup since 2021. The Village has attended meetings and mentoring sessions.

Salt Storage and Handling BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
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.	X		All salt stored by The Village of Midlothian is stored in a permanent structure on an asphalt pad to prevent contact with stormwater. This practice has been implemented since the structure was built in the 2000's.
Cover salt piles at all times except when in active use, unless stored indoors.			
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.	X		Area around salt storage structure is sloped away from the opening of the structure to allow sufficient snow melt and rainwater runoff. This practice has been implemented since the structure was built in the 2000's.
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.			
Good housekeeping practices must be implemented at the site, including: <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; 	X		Sufficient clean up of excess or spilt salt is performed after each salt event at the salt storage facility. Trucks and equipment is emptied and cleaned after each plowing/salting event. This practice has been implemented since the salt storage facility was built in the 2000's.

<ul style="list-style-type: none"> • 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. 			
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Winter Maintenance Operations BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
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.	X	2022/2023	Calibration of all salt trucks are performed before the start of each plow/salt season. Records of calibrations will be kept starting with the 2022/2023 season.
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.	X		Pre-wetting has been performed since the 2017/2018 season with 4 out of 6 trucks now having the ability of pre-wetting the salt as it's deposited. All new trucks purchased to replace older trucks will have pre-wetting ability.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X		One of our 6 salt trucks has a pavement thermometer. This practice has been implemented since 2017.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X		Salt rates are determined by a deicing guide that takes current pavement temperatures, temperature trends, weather conditions, maintenance actions, pre-wetted salt, and dry salt into consideration. Since 2017.
Track and record salt quantity used and storm conditions from each call-out.	X		Salt amounts are record for each truck after each salt event. Since 2021.
Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products)		2026	Four out of six trucks currently have pre-wetting capabilities. As new trucks are purchased in the coming years, they will be outfitted with pre-wet capabilities. Since 2017.

beginning with critical locations such as bridges over streams.			
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.	X		Employees are trained at the beginning of each plow/salt season on best management practices and operation of equipment. Since 2017.
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.	X		Meetings with deicing contractor to discuss BMPs for sidewalks. Since 2017.
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.		2023	Annual report will be created at the end of the 2022/2023 plow/salt season.
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.	X	2026	Four out of six trucks currently have pre-wetting capabilities. As new trucks are purchased in the coming years, they will be outfitted with pre-wet capabilities. Since 2017.
MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on 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.		2026	As new trucks are purchased to replace old vehicles, pavement thermometers will be included in the build.
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		2023	A method will be developed to determine successful practices and "needs improvement" practices so re-evaluation can be more productive.

<p>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>			
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Additional BMPs Identified for Agency/Facility

BMP	Currently Implementing	Agency Description of Current Implementation
Deicing Workshop Training Video	X	All employees watched deicing training video
Calibration Mentoring Session	X	2 employees attended mentoring session.

5.0 Plan to Implement BMPs

The Village of Midlothian will implement the following BMPs to take steps towards compliance with chloride standards for the watershed.

BMP:

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.

Plan to Implement BMP:

Calibration of all salt trucks are performed before the start of each plow/salt season. Records of calibrations will be kept starting with the 2022/2023 season.

BMP:

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.

Plan to Implement BMP:

Four out of six trucks currently have pre-wetting capabilities. As new trucks are purchased in the coming years, they will be outfitted with pre-wet capabilities. Since 2017.

BMP:

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.

Plan to Implement BMP:

Annual report will be created at the end of the 2022/2023 plow/salt season.

BMP:

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.

Plan to Implement BMP:

Four out of six trucks currently have pre-wetting capabilities. As new trucks are purchased in the coming years, they will be outfitted with pre-wet capabilities. Since 2017.

BMP:

MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on 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.

Plan to Implement BMP:

As new trucks are purchased to replace old vehicles, pavement thermometers will be included in the build.

BMP:

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

Plan to Implement BMP:

A method will be developed to determine successful practices and “needs improvement” practices so re-evaluation can be more productive.

6.0 Other Chloride TLWQS Required Milestones

The Village of Midlothian will implement these specific milestones (not included in the above BMPs) as outlined by the Chloride TLWQS.

Milestone	Agency Completion Date	Agency Completion Details
6 MONTHS AFTER EFFECTIVE DATE: Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility.	Anticipated date of 1/31/23	Spreadsheets of salt/pre-wet usage for each truck.

<p>July 1st OF EVERY YEAR (BEGINNING WITH YEAR 2): Discharger must submit an Annual Report for the previous year beginning on May 1 and ending on April 30 of the following year to the Agency and the chlorides workgroup on. The report shall be on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available.</p>	<p>By July 1 of each year, beginning in Year 2023.</p>	<p>The Village of Midlothian will submit an annual report to the workgroup and IEPA.</p>
<p>July 1st of YEAR 3, YEAR 8 and YEAR 13: The chlorides workgroup submits a Status Report to the IEPA which includes an analysis on the following: chlorides monitoring data; report on the chloride workgroup’s outreach strategy, which includes outreach efforts to expand coverage of the TLWQS, and outreach and training for nonpoint sources; identification of any new BMPs, treatment technology or salt alternatives; identification of the impediments and potential solutions of those impediments faced by dischargers and those granted coverage under the TLWQS that prevent them from completing the training and making all capital purchases necessary to implement the required BMPs; and identification and description of any assistance (financial, technical, or otherwise) that the chloride workgroup may be able to provide.</p>	<p>By July 1 of year 3 2024, the workgroups will submit a Status Report to the IEPA.</p>	
<p>July 1st OF YEAR 4 ½: Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board’s order granting the TLWQS.</p>	<p>By July 1 of year 4 ½ 2025, the workgroups will submit a re-evaluation to the IEPA and IPCB.</p>	

Appendix 1 – Snow and Ice Plan/Policy for The Village of Midlothian

The Village of Midlothian
Snow and Ice Plan

Plowing and Salting:

At the beginning of all snow events, the Public Works Department begins the process of snow and ice removal operations. Each event has its own unique characteristics with a variety of conditions such as wind, temperature, timing, and moisture content. Our approach to snow removal must remain flexible to address these variables. During light to normal snowfall, roads will be plowed to their full width as soon as possible following an initial pass. During heavier snowfalls, roads will be widened as the storm intensity lessens. After a storm passes, clean-up operations will begin to fully clear intersections, remove snow piled in right-of-ways and cul-de-sacs, and salt the cleared roadways to prevent subsequent ice formation. In the event of rain preceding a snow event, trucks may 'pre-salt' in advance of plowing operations. Please be aware that the effectiveness of salt depends on several factors, including traffic volume, pavement type, sun/shade, and temperature.

The End of Your Driveway:

During the snow plowing process, trucks push snow from left to right along the blade of the plow, moving snow from the center to the edge of the road. The discharge from the plow is distributed along the curb or aggregate shoulder along the ditch line. This discharge, unfortunately, leaves a small row of snow long at the ends of driveways located along the route. While this is certainly aggravating, this natural result of plowing is unavoidable. Placing snow cleared from your driveway to the right side of your drive (away from approaching traffic) may help to minimize this inconvenience.