

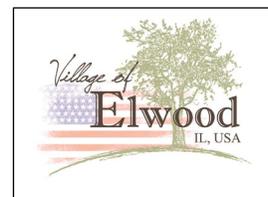
Chloride Pollutant Minimization Plan for Village of Elwood

11/8/2022

Prepared by Larry Lohmar



Village of Elwood 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 Village of Elwood to reduce the environmental impacts from the organization's chloride related operations. Village of Elwood 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 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 Info, Facilities' Specific Info

2.1 Facility overviews/descriptions

Agency Name: Village of Elwood		
Facility Name: Village of Elwood		Permit Number: ILG103063
Facility Address: 26550 Elwood International Port Road		
City: Elwood	State: IL	Zip Code: 60421

We are a small community with 2000 residents in a quiet rural area. Public Works Department is responsible for providing snow and ice control for 38 lane-miles of streets. There are 11 cul-de-sacs and five Village owned parking lots. Parking lots consist of a Village Hall, Police Station, three parks, one Public Works facilities.

We have a covered inside storage of 410 ton of salt capacity with an average of 300 ton on hand starting late summer.

2.2 Chloride Sources

For our roads we only use Thawrox Treated Salt and it its’s source is Compass Minerals in Calumet Illinois. On hand for winter, we keep average 300 ton in a covered building with concrete floor.

We also keep on hand average of 30 ton in concrete inground storage for the purpose water softening.

Our winter operations include resupplying of salt used for snowplowing operations which includes stocking of salt in our indoor shed, emptying of our plow trucks at the salt pile and restocking of salt. We maintain all roads, parking lots, and sidewalks by the school only.

2.3 Level of Service for Winter Maintenance Activities

Per our plan for a snow event, we send all trucks out to clear and open the main arteries down to pavement and then they proceed to start clearing secondary streets, parking lots and sidewalks.

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.

All trucks have salt monitors that read back to the village.

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 Village of Elwood 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		Village of Elwood has been a member of the Lower Des Plaines Watershed Group since 2017 Staff that attended are Director of Public Works, Public works Forman, and varies employees of public works at seminars and meetings.

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 Village of Elwood is stored in a permanent dome structure on a concrete pad to prevent contact with stormwater.
Cover salt piles at all times except when in active use, unless stored indoors.	X		Village of Elwood stores salt in one storage building that can hold a combined 410 tons of rock salt.
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		All areas around our salt storage have been sloped away to prevent rain from entering the salt containment area.
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.	N/A		Village of Elwood is not an MS4 and does not operate CSOs
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		All performed as standard operating procedures the Village of Elwood uses good housekeeping practices for winter road salt related work including loading, salt deliveries, and facility inspections.

<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		Calibration done each year by Village of Elwood staff.
Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading	X		Village of Elwood uses pretreated salt in all its trucks.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X		Village of Elwood Director and Forman use hand held thermometers to constantly check road pavement temperatures.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X		Application rates are adjusted by Director and Forman based on pavement temperatures and weather conditions as conditions change.
Track and record salt quantity used and storm conditions from each call-out.	X		Done automatically by equipment in trucks and sent to operations computer which maintains 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)		2026	Village to develop a written plan for implementation of anti-icing liquids for storms.

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		Training is completed by Director of Public Works the first week of November for each year.
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.	N/A		Village of Elwood doesn't contract out any snowplowing or salting operations.
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.		Will complete first report in 2023	Village of Elwood 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.	X		Completed by Director of public works
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.		2023-2026	Will budget to equip sufficient number of trucks with temperature sensors starting in 2023 and completed by 2026
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	N/A		Village of Elwood is not an MS4 and does not operate CSOs

<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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5.0 Plan to Implement BMPs

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

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: Village to develop a written plan for implementation of anti-icing liquids for storms. Plan and cost to be prepared for Village budget on May 1st 2023.

Schedule to Implement: When approved would plan to purchase equipment for mixing and storage in year 2024. A concrete retaining area would need to be built and a tank would need to be set along with pumping equipment and hookups. Plan to be operational by 2026 season.

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: Village of Elwood will complete and submit an annual report each year to IEPA and the workgroup by July 1. Report completed by Village of Elwood.

BMP: Install equipment to measure the pavement temperature on our vehicles to provide additional information to be more accurate when adjusting application rates for salt for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation.

Plan to Implement: Village of Elwood will budget for and plan to purchase five truck mounted pavement temperature sensors for the winter maintenance so that all vehicles are equipped. Due to the expense of equipping the entire fleet at once, 2 vehicle(s) will be outfitted at a given time to buffer the additional expense across several years, but will still provide for pavement temperature information to make decisions regarding application rates of deicer during winter storms. Replacement trucks will be spec'd to include mirror mounted temperature sensors.

Schedule for Implementation: Start budgeting for the sensors in fiscal year 2023. Anticipate all fleet will be equipped by end of fiscal year 2026.

7.0 Other Chloride TLWQS Required Milestones

Village of Elwood 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.	3/2023	Our salt usage is tracked by electronically sent from trucks to our operations computer.
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.	By July 1 of each year, beginning in Year 2 2023	Village of Elwood will submit an annual report to the workgroup and IEPA.
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.	By July 1 2024, the workgroups will submit a Status Report to the IEPA.	Village of Elwood will submit an annual report to the workgroup and IEPA.
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.	By July 12025, the workgroups will submit a re-evaluation to the IEPA and IPCB.	Village of Elwood will submit an annual report to the workgroup and IEPA.