

# Chloride Pollutant Minimization Plan

## Village of La Grange, IL

### 2022

Prepared with the assistance of Baxter & Woodman, Inc.



## 1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by the Village of La Grange to reduce the chloride related environmental impacts from its winter operations. The Village is a discharger covered under the Time Limited Water Quality Standard (TLWQS) 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 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 planned 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 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 and deicers, fertilizers, water softeners salts, 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). A watershed-based approach is being implemented to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS to create Chloride PMPs and implement specific best management practices based on their operations to reduce chloride discharges.

## 2.0 Organization Info, Facility Specific Info

### 2.1 Facility Overview / Description

Agency Name: Village of La Grange		
Facility Name: Village of La Grange Public Works		Permit Number: ILR400364
Facility Address: 320 East Ave		
City: La Grange	State: IL	Zip Code: 60525

The Village of La Grange is in Cook County located west of Chicago. The Village services a population of over 16,000. The Village maintains 76 lane miles of roadway including La Grange Road and Ogden Ave, U.S. Routes 12/20/45 and 34, respectively. During the winter season, the Village prioritizes salting and snow plowing IDOT roads within the Village, main roads, and train stations. The Village stores salt and deicing materials at the Public Works facility.

The Village has a covered brick structure with an impermeable floor surface that is designated for salt storage. The surface is pitched away from the entrance of the structure to prevent salt wash out of the structure. The storm sewer inlet near the salt storage structure is covered during winter operations to prevent salt from entering the sewer system. The Village has a combined sewer system, and all water is treated before entering nearby surface waters. No salt is stored outside of the designated structure and salt is ordered on an as needed basis to prevent overfilling the storage. Liquid deicer solutions are stored in indoor tanks inside the vehicle storage garage.

## **2.2 Chloride Sources**

The Village's main chloride source is from winter road and sidewalk maintenance. The Village provides winter maintenance for 76 lane miles of roadway including IDOT roads. The Village has five planned snowplow routes as part of its winter operations plan. The Village also salts and snowplows sidewalks in the downtown area. All salt and deicing materials are stored in covered structures at the Public Works Facility. All Village vehicles and equipment are washed in a designated washing area that drains to the combined sewer after each winter event. The wash bay area has a pitched surface to direct wash water to the combined sewer system. The Village has no other salt usage.

## **2.3 Level of Service for Winter Maintenance Activities**

The Village has five planned snowplow routes, one for each of the five Village-owned application trucks. The snowplow routes cover the 76 lane miles of roadway including IDOT roads. Further details about winter maintenance practices currently being implemented by the Village of La Grange are included in the Village's snow and ice plan, which is included as Appendix 1.

Each truck is equipped with on-board pre-wetting equipment. The Village implements an on-board prewetting protocol using an organic blend. The Village uses a Force America systems on their trucks. Force America provides support and will come out for service calls. Equipment calibration is performed annually and after significant maintenance. Each truck setting and rate is documented at start of every snow season and salt usage for each truck is documented after each winter event. The Village calibrates vehicle application rates for each truck by weight annually.

The Village has equipment for anti-icing (pretreatment) of select route areas. Anti-icing is performed as needed based on weather forecast, pavement temperature and other factors.

The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. Pavement temperature monitoring from DTN has 5 pavement monitoring sites within 5 miles of the Public Works facility, and 20 pavement monitoring sites within 15 miles. This data is available by App that all operators have access to. It is also displayed on monitors in real-time at the facility. A meteorologist is also available through DTN that can provide forecasting data specific to the Village upon request.

### 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.

The Village does not perform any additional chloride monitoring and relies on the Lower Des Plaines Watershed Group for information.

### 4.0 Chloride Reduction BMPs

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 La Grange are included in the snow and ice plan, which is included as Appendix 1. 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	2023	The Village of La Grange will become a member of the Lower Des Plaines Watershed Group in 2023. Once members, the Village of La Grange Public Work's staff will attend workgroup 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 the Village is stored in a dedicated permanent covered structure on a concrete pad for containment and to prevent contact with stormwater.
Cover salt piles at all times except when in active use, unless stored indoors.	X		Salt is delivered as needed and stored in the permanent storage structure. No salt is stored outside of the salt structure.
For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to	X		All salt is stored inside the permanent structure. The impervious surface is pitched away from the opening of the

<p>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>structure, and salt is swept away from the opening. The facility was built to drain stormwater away from the storage structure.</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><b>X</b></p>		<p>The Village has a permanent, covered structure for salt storage and liquid deicers are stored within indoor tanks,</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 activity finished where applicable;</li> <li>• annual inspection and repairs completed when practical;</li> <li>• evaluate the opportunity to reduce or reuse the wash water.</li> </ul>	<p><b>X</b></p>		<p>The Village implements good housekeeping practices:</p> <ul style="list-style-type: none"> <li>• salt is cleaned up at the end of each day or conclusion of a storm event;</li> <li>• bulk salt transportation and storage is not performed by the Village;</li> <li>• The Village maintains the pad and equipment;</li> <li>• good practices during loading and unloading are performed;</li> <li>• vehicles and equipment are washed in a designated washing area that drains to the combined sewer after each snow/ice event. Wash bay area has a pitched surface to direct wash water to combined sewer;</li> <li>• the Village is writing an inspection program for storage facility, structures and work area;</li> <li>• the Village does not store surplus materials outside of designated covered areas;</li> <li>• annual inspection and repairs completed as a part of normal operations;</li> <li>• the Village does not currently produce its own brine, but will evaluate the opportunity to reduce or reuse the wash water.</li> </ul>

## 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		Application rate is calibrated annually on each truck. Each truck setting and rate is documented at start of every snow season and after significant maintenance. The Village calibrates the application rate for each truck by weight.
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		The Village uses an on-board prewetting protocol using an IDOT organic blend.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X		The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. DTN has 5 pavement monitoring sites within 5 miles of the PW facility. The Village also has a handheld pavement temperature sensor to use when needed.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X		The Village has a protocol in place and has adopted Minnesota DOT guidelines and practices.
Track and record salt quantity used and storm conditions from each call-out.	X		The Village records salt usage per truck for each winter event. The Village also has a 5-year running average of annual salt usage that is used to approximate the salt required for the next winter season.
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.	X		The Village has anti-icing equipment and pretreatment of pavement is performed in select route areas. The Village's Snow and Ice Plan is included as Appendix 1.
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	X		Winter maintenance training is fulfilled as a function of a Union requirement. The Village sends and will continue to send employees to local deicing workshops. Village employees have also attended Minnesota DOT deicing workshops.

first and applying salt only after snow has been cleared.			
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		The Village does not contract out winter operations work.
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.		July 1, 2023	Annual report will be completed by July 1, 2023.
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		The Village has the necessary equipment.
<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 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.	X		The Village has a subscription to Data Transmission Network (DTN) Weather Sentry that provides live pavement temperatures and weather forecasts. DTN has 5 pavement monitoring sites within 5 miles of the PW facility. The Village also has a handheld pavement temperature sensor to use when needed.
<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.		July 1, 2023	The Village will hold a post winter/spring meeting to discuss areas of success and areas in need of improvement.

### Additional BMPs Identified for Agency/Facility

If your agency currently does any other BMPs for chlorides specific to your operations (for industrial members – this may include any BMPs related to chlorides in your processes), list them out in the table below and provide details about how you are currently implementing those BMPs. If you don't use any additional BMPs, feel free to delete this section.

BMP	Currently Implementing	Agency Description of Current Implementation
Salt sidewalks on main roads.	X	The Village uses a Kabota sidewalk plow to remove snow and to salt sidewalks in downtown areas.

### 5.0 Chloride Reduction BMPs for Salt Storage Facilities

As part of the Chloride TLWQS, specific BMPs were identified for Salt Storage Facilities to reduce the chloride impact on the watershed. Implementing these BMPs over 15-year term and evaluating additional BMPs at 5-year intervals, will lead to reduced chloride concentrations in the watersheds. 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	2023	The Village of La Grange will become a member of the Lower Des Plaines Watershed Group in 2023. Once members, the Village of La Grange Public Work's staff will attend group meetings.

#### Salt Storage and Handling BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
All salt will be stored on an impermeable pad constructed to ensure that minimal stormwater comes into contact with salt.	X		All salt stored by the Village is stored in a dedicated permanent covered structure on a concrete pad for containment and to prevent contact with stormwater.
Pads will be constructed to direct stormwater away from the salt pile. The permittee must consider directing any drainage that enters the pad to a collection point where feasible.	X		All salt is stored inside the permanent structure. The impervious surface is pitched away from the opening of the structure, and salt is swept away from the opening. The facility was built to drain stormwater away from the storage structure.
Outdoor salt piles not stored under permanent cover must be covered by well-secured tarps at all times except when in active	X		Salt is delivered as needed and stored in the storage structure. No salt is stored outside of the salt structure.

<p>use. While working on the pile, fixed or mobile berms must be incorporated around non-working face to minimize stormwater contact. The permittee must stage tarp when starting final lift and tarp over the edge of the berm/pad where possible.</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 activity finished where applicable;</li> <li>• annual inspection and repairs completed when practical;</li> <li>• evaluate the opportunity to reduce or reuse the wash water.</li> </ul>	<p><b>X</b></p>		<p>The Village participates in good housekeeping practices:</p> <ul style="list-style-type: none"> <li>• salt is cleaned up at the end of each day or conclusion of a storm event;</li> <li>• bulk salt transportation and storage is not performed by the Village;</li> <li>• The Village maintains the pad and equipment;</li> <li>• good practices during loading and unloading are performed;</li> <li>• vehicles and equipment are washed in a designated washing area that drains to the combined sewer after each snow/ice event. Wash bay area has a pitched surface to direct wash water to combined sewer;</li> <li>• the Village is writing an inspection program for storage facility, structures and work area;</li> <li>• the Village does not store surplus materials outside of designated covered areas;</li> <li>• annual inspection and repairs completed as a part of normal operations;</li> <li>• the Village does not currently produce its own brine, but will evaluate the opportunity to reduce or reuse the wash water.</li> </ul>
<p>Annual training must be conducted for employees responsible for loading/unloading/handling at docks and trucks at the facility.</p>	<p><b>X</b></p>		<p>Annual winter maintenance training is fulfilled as function of a Union requirement. The Village sends and will continue to send employees to local deicing workshops. Village employees have also attended Minnesota DOT deicing workshops.</p>
<p>An Annual Report must be completed as required by paragraph 3(B) of this order. The report must be standardized in excel, and</p>		<p><b>July 1, 2023</b></p>	<p>Annual report will be completed by July 1, 2023.</p>

must be submitted to the IEPA and to the watershed group.			
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		The facility was built to drain stormwater away from the salt storage structure and into the combined sewer system.
The Permittee must make use of fixed and mobile berms where appropriate to redirect flow and tarp over the edge of the pad where possible to minimize stormwater contact.	X		The facility is designed to drain stormwater away from the salt storage structure.
The Permittee must consider retaining stormwater which contacts the salt from a 25-year/24-hour storm event where feasible. Such retention could be either within the berm or in a separate basin, or the impacted stormwater could be stored and used as pre-wetting brine.	X		Stormwater does not come in contact with stored salt.

**Additional BMPs Identified for Agency/Facility**

If your agency currently does any other BMPs for chlorides specific to your operations, list them out in the table below and provide details about how you are currently implementing those BMPs. If you don't use any additional BMPs, delete this section.

BMP	Currently Implementing	Agency Description of Current Implementation
N/A		

**6.0 Plan to Implement BMPs**

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

**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.

**Plan to Implement BMP:** The Village of La Grange will become a member of the Lower Des Plaines Watershed Group or Chicago Area Waterways Chloride Workgroup in 2023. Once members, the Village of La Grange Public Work’s staff will continue to attend workgroup meetings.

**Schedule for Implementation:** The Village will become a member of the LDPR in 2023

**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:** The Village will complete the annual report as part of the requirements for Year 2 of this variance.

**Schedule for Implementation:** The annual report will be submitted by July 1, 2023.

**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:** The Village will hold a post winter/spring meeting to discuss areas of success and areas in need of improvement as a part of annual MS4 training.

**Schedule for Implementation:** The meeting will take place after the winter season has ended and before July 1, 2023.

**7.0 Other Chloride TLWQS Required Milestones**

The Village of La Grange 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.	November 30, 2022	The Village records salt usage per truck for each winter event. The Village also has a 5-year running average of annual salt usage.
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.	The Village will submit an annual report to the workgroup and IEPA.
July 1st of YEAR 3, YEAR 8 and YEAR	By July 1 of year 3 2024, the workgroups will	

<p>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>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>	