

Chloride Pollutant Minimization Plan for The Village of Channahon

11-12-2022

Prepared by the Village of Channahon



The Village of Channahon 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 Channahon to reduce the environmental impacts from the organization’s chloride related operations. The Village of Channahon 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: The Village of Channahon		
Facility Name: Channahon Public Works		Permit Number: ILG103059
Facility Address: 26555 S. Navajo Dr.		
City: Channahon	State: IL	Zip Code: 60410

Channahon is thriving community of 13,383 (2020 Census) residents located 45 miles southwest of Chicago, just west of Joliet and east of Morris in southwest Will County and eastern Grundy County. Channahon owns, operates and maintains a 1.43MGD wastewater plant, five wells with two treatment plants, and 85.4 center line miles of roadways.

2.2 Chloride Sources

The Villages known chloride sources are winter road maintenance, salt storage and residential water softening.

Provide a description of your operations:

- The village of Channahon’s Snow Policy is attached.
- *All salt stored by the Village of Channahon is stored in a 2,000-ton permanent dome structure on a concrete pad to prevent contact with stormwater. Channahon attempts to minimize salt spillage while loading vehicles and any remaining residual is swept up and returned to the dome.*

2.3 Level of Service for Winter Maintenance Activities

Provide reasonable road conditions for traffic flow throughout the winter driving season. The first events of the season are the most critical. Drivers are not accustomed to driving on snow/ice. Road surface temperatures may be near freezing point. Minimize the ice to road bond that causes hazardous driving in accordance with the Villages Snow Policy.

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.

Channahon also monitors effluent chloride concentrations on a monthly basis from its wastewater treatment plant.

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 Channahon are included in the snow and ice plan, which is included as Appendix 1. The BMPs identified are outlined below:

Workgroup BMP

BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
The permittee must participate in a Chlorides workgroup for the	X		The Village of Channahon has been a member of the Lower Des Plaines

CAWS or LDP, depending on the watershed within which the facility's discharge is located.			Watershed Group since March of 2017. The Village is an original founder and attends all bimonthly meetings.
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Salt Storage and Handling BMPs

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 Channahon is stored in a permanent dome structure on a concrete pad to prevent contact with stormwater. Constructed in 1995.
Cover salt piles at all times except when in active use, unless stored indoors.	X		All salt is stored in a permanent dome structure unless it's being used. Loaded trucks, when not in use, park inside the public works garage. Constructed in 1995.
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 Permanent dome structure is surrounded 360 degrees by asphalt pavement, sloped to ensure proper drainage away from the salt stockpile. Constructed in 1995.
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.	X		Channahon currently uses 3 above ground holding tanks for deicing material. Two 5,000 gallon and one 8,000 gallons. Implemented in 2019. See attached documents.
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; 		2023	Channahon will implement a written inspection program for storage facility, structures and work area and evaluate the opportunity to reuse wash water. All other bullet points are currently being met.

<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. 			
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Winter Maintenance Operations BMPs

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		The Village calibrates all salt spreading equipment annually before November 30 th . Implemented in 2018.
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.		2026	Three plow trucks currently do not have pre-wet systems and will be replaced through capital purchases pending product availability and funding.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X		The Village utilizes both truck mounted and handheld noncontact thermometers. Implemented in 2018.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.		2023	Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.
Track and record salt quantity used and storm conditions from each call-out.	X		See attached documentation. Implemented in 2020.

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.			
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 held annually where we review the Villages snow policy and procedural power point presentation. Implemented in 2000.
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		All snow operations are executed by village personnel.
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.	X		Channahon will complete annual reporting. Implemented in 2022.
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.		2026	Three plow trucks currently do not have pre-wet systems and will be replaced through capital purchases pending product availability and funding.
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.	X		A sufficient number of vehicles are currently equipped with thermometers. Units are designated in the equipment inventory attached. Implemented in 2018.
MS4/CSO/IDOT/TOLLWAY Only - Before the first re-evaluation, develop a method for conducting		2023	Creation and implementation of a post-winter review.

<p>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>			
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Additional BMPs Identified for Agency/Facility

BMP	Currently Implementing	Agency Description of Current Implementation
Wastewater Effluent chloride monthly testing	X	

5.0 Plan to Implement BMPs

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

BMP	Plan to Implement BMP	Schedule for Implementation
<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</p>	<p>Creation and implementation of a post-winter review.</p>	<p>2023</p>

<p>should occur annually in the spring/early summer following each winter season.</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>Three plow trucks currently do not have pre-wet systems and will be replaced through capital purchases pending product availability and funding. 2 trucks per year.</p>	<p>2026</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>Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.</p>	<p>2023</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>Three plow trucks currently do not have pre-wet systems and will be replaced through capital purchases pending product availability and funding. 2 trucks per year.</p>	<p>2026</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; • good practices during loading and unloading; • cleanup of loading and spreading equipment after each snow/ice event; 	<p>Channahon will implement a written inspection program for storage facility, structures and work area and evaluate the opportunity to reuse wash water. All other bullet points are currently being met.</p>	<p>2023</p>

<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; <p>evaluate the opportunity to reduce or reuse the wash water.</p>		

6.0 Other Chloride TLWQS Required Milestones

The Village of Channahon 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.	Completed 2020	Details regarding documentation practices for tracking deicing salt usage can be found in attached documentation.
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.	The Village of Channahon 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;	By July 1 of Year 3, the workgroups will submit a Status Report to the IEPA.	

<p>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>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, the workgroups will submit a re-evaluation to the IEPA and IPCB.</p>	

PUBLIC WORKS DEPARTMENT

SNOW POLICY

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OBJECTIVE

Provide reasonable road conditions for traffic flow throughout the winter driving season. The first events of the season are the most critical. Drivers are not accustomed to driving on snow/ice. Road surface temperatures may be near freezing point. Minimize the ice to road bond that causes hazardous driving.

SECTION A - SNOW POLICY

A) Roads are to be completed in the following order and in the manner prescribed. All of the below statements may change depending on weather conditions and/or administration direction:

1) **MAINS:** Curbed and salted to bare pavement at all times regardless of the snow amount. All roads coming out onto a main are to be plowed and salted 75 feet back from the intersection unless otherwise instructed.

2) **SECONDARIES:** Curbed and salted to bare pavement at all times regardless of the snow amount.

3) **SIDESTREETS:** To be done based on your supervisors instructions.

4) **COURTS AND EYEBROWS:** To be done based on your supervisors instructions.

B) **ICING:** All areas to be fully salted regardless of time.

C) **PRETREATMENT:** If required, will be done on regular time only. When pretreatment of roads are required, rock salt will only be used with the Superintendents approval. This method is more wasteful than effective but could be used in certain situations. At the beginning of the snow season areas will be specified to receive said pretreatment.

D) **SCHOOL ZONES:** To be bare pavement for school days only at 7 AM and/or 2 PM if on regular time.

SECTION B - SNOW REMOVAL CALLOUT PROCEDURE

A) Snow is considered an emergency situation and makes everything normally done subject to change. Starting times, hours and days worked will be determined by snow command based on weather conditions and man power. Under normal circumstances the Street Division will be called in first off the rotating snow roster. The Utilities Division will be used to back-up the Street Division as needed using their rotating snow roster. Depending on the circumstances, snow removal operations may involve the entire Public Works Department working at once or may require splitting them into two distinguish crews for shift duty.

B) If Snow Command must split the department into separate crews for shift work the following guidelines will be followed:

1) The system involves the rotation between two teams: the Red and the Blue. The rotation concerns which team starts each storm.

2) Normal shifts will start at or between the following times:

0000 hours to 1200 hours*

1200 hours to 2400 hours*

* There is an additional 2 hour callout possibility at the beginning of each shift due to a minimum 2 hour callout

stated in policies set elsewhere. Example: If you are called in at 2230 hours to start a storm which means you would work until 1200 hours or a total of 13.5 hours for your shift.

3) How a shift might work.

Example #1:

- Blue crew is on call first.

- Blue crew are called out at 0200 hours.

- Blue crew works until 1200 hours.

- Red crew reports to work at their normal time of 0730 hours to start their normal day. They will take over at

1200 hours and continue snow removal operations until completed or until the Blue crew reports in at 2400 hours.

- Once the storm is over, the first crew up to start next storm will be Red.

Example #2:

- Blue crew is up.

- Storm begins during the normal work day.

- Normal Street Department will handle snow operations.

- If needed, Blue crew will stay after normal working hours until cleaned up or 2400 hours whichever comes first.

- If they work until 2400 hours and the village is not complete Red crew will be called in at 2400 hours to complete or continue clean-up.

- Once the storm is over, the first crew up to start next storm will be Red.

4) The beginning time of a storm starts from the time the first call is given to the first driver.

- 5) All snow related callouts of icing, drifting, etc. but not limited to, are made at any time off the snow roster.
 - 6) There is generally at least an 8 hour period after the end of a shift before an individual will be called back between snow callout operations. Snow Command will practice this procedure as best as possible but may not always be practical.
 - 7) Any time that a snow call goes out sooner than 6 hours after the previous one has ended, this is considered 1 storm regardless of length. Call out for this will be based on the type of call out and/or how many drivers are needed.
- C) If the crews are not split and the entire department is used to plow, Snow Command will determine length and time the crew will stay and what kind of action will be taken.
- D) Changing places or covering for other drivers is not permissible unless allowed by the Superintendent.
- E) The master Snow Board will be on display at the Blackberry Facility.
- F) Employees will take breaks during snow removal operations, but must contact the supervisor in charge and request permission.

SECTION C - SNOW EXEMPTION POLICY

A) TIME OFF FOR SNOW DRIVERS

Snow removal season generally runs from November 1 to April 1, though it is acknowledged that there really is no actual set snow season. November 1 to April 1 are only used for convenience and have no actual legal standing. These dates are used as discussion points only.

It is acknowledged that time off during snow removal season is often unavoidable. Due to the importance of snow removal operations, time off requests of snow drivers must be more strictly limited than other times of the year. It is the policy of the department to grant requested time off to only one (1) snow driver at any given time. If needed by necessity, time off can be cancelled by Snow Command at any time.

Reference Union handbook, Section 5.7, Section 5.8 and Section 5.9

SECTION D - SNOW REMOVAL PROCEDURES

A) CALLOUTS:

- 1) Snow callouts are considered mandatory attendance.
- 2) Callouts may run off the red/blue scheduling, when deemed necessary.
- 3) People previously reported as sick, exempted, or on vacation will not be called unless it is deemed unavoidable necessary by the Village.
- 4) Inexperienced personnel (*) will ride-along/train until otherwise so stated by the snow supervisors.
- 5) When notified to report, the employee is expected to come in as fast as possible. Prolonged delays from call-time to report-time may be questioned and may be subject to disciplinary action.

B) CHECKING IN:

- 1) **All snow shift personnel** will check in at the Public Works facility on Blackberry Road.
- 2) Take the correct equipment/paperwork with you when on snow shift:
 - a) **Route book:** Take the correct book (in truck). Make certain you know which route you are in, where that route is located in the Village and where your route begins.
 - b) **Truck checkout sheet:** Fill it out completely on both sides. Do not carry a checkout sheet over from driver to driver or from truck to truck. Failure to properly fill out the paperwork is unacceptable.
 - a. (See pages 14 – 15)
 - c) **Snow Removal Operations Sheet:** Same procedure as truck checkout sheet. Anytime you take a truck to do snow removal operations you must fill one of these out. (See page16)
 - d) **Hand equipment:** If needed, take flashlight, crowbar, etc.

C) REMOVAL OPERATIONS:

- 1) Breaks: Normally taken at the closest place to your route and only with the supervisor's permission.
- 2) At the start of the shift, quickly and efficiently check out your assigned vehicle, plow, spreader and radio before leaving the garage area. Report any problems to the supervisor.
- 3) If the plow blade is less than ¾" below the moldboard, report this to the supervisor.
- 4) Plow, salt, open and curb your route as per the supervisor's instructions.

- 5) The following definitions are to be in effect:
- a) **Full Salt:** To fully salt the entire road surface.
 - b) **Spot Salt:** To salt all intersections and to salt a 75 foot long stretch every 300 feet between intersections and fully salt all hills and curves.
 - c) **Salt Only:** To use salt as instructed while plowing only when deemed fully necessary.
 - d) **Plow Only:** To plow only while not salting unless so instructed.
 - e) **Open Only:** To open street in each direction.
 - f) **Open Only with Courts:** When running the side routes under Open you will include all the court throats and eyebrows on that map page even if the court is listed as being on a main or secondary, unless the court is uninhabited or does not yet exist. When opening the bubbles of courts and eyebrows, you will run your pass in such a way while articulating your plow so as to aim the snow towards the center of the bubble away from the curb while leaving at least an 8 foot cleared path. This may mean running 2 trips around the bubble.
 - g) **Curb:** The road center must be cleared first, if not already done. Curbing means to get the snow within 1 foot of the actual curb. Except for parked cars, badly jutting mailboxes or large and damaging tree branches, **NO** road will be considered curbed if the snow is more than 1 foot from the curb. The only exception to this will be the case where the snow is piled so high that it falls down by gravity behind the plow. Roads without curbs are to be plowed at least 1 foot beyond the pavement edge whenever possible, keeping in mind shoulder holes and side ditches.
 - h) **Corners:** To push back the snow piled around street corners up and onto the parkway. When doing this, sod, and the locations of fire hydrants, manholes, etc., must be kept in mind. The supervisor's permission is needed for this, except in the case of an obviously large and dangerous pile which you feel cannot be left, such as one which will block the view of crossing traffic. Call the supervisor if you have any questions about a particular pile.
 - i) **Courts:** Means to clear all the snow from the roadway of any court or eyebrow. The snow is to be placed in such areas that will least interfere with driveways, mailboxes and fire hydrants. Pushing snow out of a court or eyebrow and across the road will not be done, unless approved by the supervisor.
 - j) **Normal:** To plow and salt as usual one section at a time according to the route book.
 - k) **75 Foot Back:** On certain main routes, off-shoot roads are listed to be plowed and salted for between 75 to 100 feet back away from the main road intersection.
- 6) Always plow from the centerline to the curb, unless otherwise instructed.

- 7) All traffic laws apply while driving. Maximum speed limit on all side streets is 20mph. Speed on all other roads will be controlled by your common sense, snow type, road conditions and weather conditions but should never exceed the speed limit.
- 8) Spread salt at the rate of 300-500 pounds per lane mile and no further out than 3 feet outside the plowed lane unless circumstances such as an ice storm dictate otherwise or unless otherwise instructed.
- 9) Lane mile: Is the center line distance from start to finish multiplied by the number of lanes. Channahon has 85.4 centerline miles of roadways. (2021)
- 10) Tandem (2 truck) runs will only be done with supervisor approval. It consists of one combined pass each way on designated roads, except for those roads which need two combined passes. Normally, do not run the curb when doing a tandem run. The wingman (following truck) will salt enough to cover the entire two truck path. When empty, the wingman and the lead truck will switch positions and continue. When the road is opened, report to the supervisor for further instructions.
- 11) Do not run any road with the truck bed raised.
- 12) Changing blades are the driver's responsibility, request assistants as needed. If you are not certain of both the changing or safety procedures involved, state so to the supervisor.
- 13) Minor vehicle repairs are the driver's responsibility. If you cannot make the repair, inform the supervisor.
- 14) Report all requests for towing/pushing of our equipment to the supervisor.
- 15) Requests for towing/pushing by non-employees is not to be done. If at all, pass the request on to the supervisor.
- 16) When the temperature/wind-chill is about 0 degrees during the operation, never let your fuel go below ½ tank. Check with the supervisor for instructions and for fuel line anti-freeze.
- 17) Unless otherwise stated by a supervisor, drivers are responsible for cleaning up their own mess whether inside the truck or inside the garage area when making repairs, etc.
- 18) When plowing mains, stay off any other roads whenever possible. When plowing secondaries, stay off side streets whenever possible.
- 19) Any plowing/salting reported as finished, will be checked by the supervisor.
- 20) Any street missed but which is reported as done is absolutely unacceptable.
- 21) Follow your verbal instructions and your route maps. **DO NOT TRUST YOUR MEMORY ON THE ROUTING!**

- 22) Mars light and all other lights, except for running lights, are to be turned off when you are in the garage except when testing them – no matter how long you stay. This also applies when parking elsewhere for break, loading salt, or fueling.
- 23) Stop as needed to clear snow from the windshield, air intake and radio antennas.
- 24) Check your plow condition each hour or immediately after hitting a large plow trip.
- 25) Drivers will note where the plow trips are in whatever section you are doing, i.e. house address, light pole #, etc. Most are listed in the route book. Take the necessary measures to avoid plow damage due to the trips.
- 26) Use care when raising the bed on tailgate spreaders to avoid snagging the hydraulic lines.
- 27) Keep the top of all spreaders clear of large chunks.
- 28) Leave the salt pad as clear as possible of debris and chunks.
- 29) Adjust your speed and salt spreading pattern to the road conditions so as to cause as little damage as possible to mailboxes, pedestrians, other vehicles, etc.
- 30) Do not dawdle with time in any route. Supervisors have a very good idea about the length of time it should take to do any section of any route. If your timing is too slow or much too fast, the situation will be investigated.

D) CHECKING OUT:

- 1) At the end of shift, drivers are to remain in their routes until called in by a supervisor.
- 2) Leave the vehicle with a minimum of $\frac{1}{2}$ tank of fuel and $\frac{3}{4}$ load of salt unless otherwise instructed by the supervisor.
- 3) Correctly clean the vehicle bed and inside the cab. Park the vehicle in the correct stall, drain the air tanks and plug the vehicle in if required or unless otherwise instructed.
- 4) Return the hand equipment and route book to their proper place.
- 5) Complete all paperwork and make certain that the supervisor is aware of the condition in which you left your route.
- 6) Check out only after the supervisor gives you permission to do so.
- 7) Put your completed paperwork in the “in” box in the supervisor’s office.

SECTION E - SNOW REMOVAL SAFETY

1) Driving:

- a) Normal driving rules of the road apply at all times.
- b) Drive with the weather conditions in mind and always realize that you are driving a very large, heavy vehicle which does not stop or handle just like a car.
- c) Drive very defensively. Always watch the other guy, others have a tendency not to see your vehicle coming. Always anticipate what the other guy might do.

2) Attaching Plow:

- a) Always use two people to do this operation.
- b) Do not stand between the truck and the plow hitch when lining up the vehicle.
- c) Be very careful when standing behind the plow for attaching. Make sure that a slight push by the vehicle will not tip the plow over upon you.
- d) Use great care while putting in any necessary pins, etc. Do not get your fingers caught between two pieces of moving metal.
- e) If the plow needs to be elevated, use a floor jack.

3) Loading Salt:

- a) If using the loader, do not run with a full bucket in the raised position. This could unbalance the loader. Keep the bucket low when moving and raise it only when by the truck.
- b) Do nothing with the loader about which you have any uncertainty as to your capabilities.

4) Grate Cleaning:

- a) The reason is for traffic safety. A frozen chunk of salt could roll off your vehicle and hit a car or even you.
- b) Turn off the auger and spinner while at the salt pad.
- c) In order to avoid spillage of salt while moving, load only to the top of the steel bed. Do not dump the load. Spillage could damage an oncoming car or damage the suspension of a truck.
- d) Clear the salt lumps. If you must climb, in order to clean the lumps use extreme care and sure hand grips when climbing up and down. Use even more care while standing on top. Do not balance yourself on the lumps. Keep totally aware and use extreme caution and common sense when carrying out this operation.

- e) If you have a tailgate spreader, similar rules apply. Make sure the bed is down all the way and the auger and spinner are off while loading. Only load to the top of the metal bed sides. Remove any chunks. Exercise extreme caution, awareness and common sense when doing this.

5) Blade Changes/Bolt Replacement:

- a) Make sure that there is at least one other person nearby to help you during the operation or in case of accident.
- b) Use protective glasses and gloves.
- c) Wash off the plow first.
- d) Put jack stands under the raised plow before any work is done.
- e) For a blade change, use the floor jack designed for holding plow blades to move the blade around.
- f) Be very careful of the sharp metal edge of the old and new blade.
- g) If you need the torch to replace the blade and if you are not very familiar with torching operations, do not attempt to use it. Ask for help. Improperly used, the torches can be very dangerous.
- h) Keep yourself aware of the hot metal if a torch is used.
- i) At all times, watch out for your fingers and flying bits of metal.

6) Unloading Vehicles:

- a) Turn off the auger and spinner at the PTO before climbing into any vehicle bed to unload it. This applies to all vehicle types.
- b) **CAUTION!** Make certain that the auger and spinner are not moving before you climb into any truck body or come near any tailgate spreader for cleaning purposes.
- c) Do not climb into any tailgate spreader to remove the salt unless there is another person very close at hand.
- d) Raise the bed of a tailgate truck, but take the placement of the hoses and spinner in consideration when doing so.
- e) Always use extreme care and common sense when unloading.

7) Wash down:

- a) Use protective gear and eye protection when washing down any vehicles.
- b) When raising the bed to wash out the bed of a tailgate spreader, be very careful not to damage the hoses and spinner assembly.

- c) Two people are to be present during the wash down.

8) Safety:

- a) Common sense is paramount in snow safety as in any other safety matter. Not all jobs can be made error-proof. No amount of talking, warning signs or safety devices will prevent an accident unless your own common-sense rules first. Job knowledge and common sense are key points in any operation. Your personal safety is almost entirely in your personal hands. Use common sense at all times.
- b) Do not assume that you know all about the safety of any given operation.
- c) Do not be embarrassed to admit a lack of job knowledge concerning an operation. Ask for help and information.
- d) Do not do something you are not sure about. Contact your supervisor.
- e) Do not take chances in order to get a job done. **The bigger the chance, the bigger the possible injury.**
- f) Report all injuries to a supervisor immediately.
- g) Report to a supervisor anything which you feel is a safety problem.
- h) Make feasible suggestions on any safety issue at any time.

9) Brine making and applications:

- a) Brine is to be made in the AccuBatch system to a target concentration of 23.3% indicated on the conductivity analyzer per manufacturers spec.
- b) All snow removal equipment outfitted with pre-wet systems shall utilize Brine during every snow event at a rate of 1-1.25 gallon per lane mile.
- c) Hot Mix shall be a mixture of 70% Brine and 30% SNI Bio Melt and implemented using the villages water truck for all hot spots and mains within the snow routes for pre-treatment/anti icing purposes at a target rate of 10gallons per lane mile.

**VILLAGE OF CHANNAHON
PUBLIC WORKS DAILY EQUIPMENT CHECKLIST**

Mar-04

ITEM	Frequency D/W/M	Start up	During/ end	Fluids added	CHECK	EQUIPMENT NO.
BATTERY	M				Water over plates	DATE:
BELTS/HOSES	W				Frayed, leaking	SAFETY INSPECTION, MONTH AND YEAR
ENGINE OIL *	D				Check when engine is off	
INSTRUMENTS	D				Check	DAILY CHECKOUT
HYDRAULIC OIL *	D				Check when engine is off	WEEKLY CHECKOUT
LIGHTS/SIGNALS	D				Must function	MONTHLY CHECKOUT
RADIATOR *	M				water over core	
TIRES/LUGS	D				Pressure: looseness	MILEAGE OUT:
BRAKES *	D/M				Test before leaving	MILEAGE IN:
ENGINE	D				Missing power	
HORN/HEATER	D				Check	HOURS OUT:
MUD FLAPS	D				Check, replace	HOURS IN:
POWER TAKEOFF	M				Engaging, shaft operation	
STEERING	D				Pulls, loose	% STARTING FUEL
TRANS OIL *	D				Check when running	%ENDING FUEL
WIPERS	D				Motor, blades	
ODD NOISES	D				Anything	UNLEADED DIESEL
AIR TANKS	M				Drain	PUMP END
CAB	D				Clean & check seat belts	PUMP START
MIRROR/WINDOWS	D				Cracked, loose	TOTAL GALLONS PUMPED
EXHAUST	D				Pipes, loud	*IF YOU FUEL, FAX COPY TO POLICE DEPARTMENT.
TRUCK BODY	D				Dents, scratches	
SUSPENSION	M				Springs, shocks, etc.	FAXED BY:
AXLE SEALS	W/M				Check for leaks	DATE FAXED:
2-WAY RADIO	D				Check before leaving	
OTHER					Anything	
KEY:						OPERATOR:
√ FOR OKAY						C#:
X FOR ADJUSTMENT NEEDED						SUPERVISOR:
XX FOR ADJUSTMENT MADE						

FILL IN ALL BOXES WHICH APPLY TO THAT EQUIPMENT
 USE A DIFFERENT SHEET FOR EACH PIECE OF EQUIPMENT AND EACH OPERATOR
 PUT AMOUNTS OF FLUIDS IN CORRECT BOXES
 MAKE COMMENTS ON OTHER SIDE, INCLUDING THINGS REPAIRED DURING USE

THE VEHICLE SAFETY INSPECTION MUST BE COMPLETED WITHIN THE MONTH SHOWN
***REMINDER: MARK DOWN ALL LUBRICANTS ADDED AND HOW MUCH!**

OPERATOR'S NAME: _____

DATE OF REPORT: _____

EQUIPMENT#: _____

OPERATOR'S COMMENTS: _____

SUPERVISOR'S EQUIPMENT DAMAGE REPORT

DATE OF REPORT: _____

DESCRIPTION OF DAMAGE: _____

INVESTIGATED BY: _____

CHECKED BY: _____

TITLE: _____

TITLE: _____

DATE: _____

ESTIMATED COST OF REPAIRS: PARTS _____ LABOR _____

CONTRACT REPAIR _____ IN-HOUSE REPAIR _____ COMBINATION REPAIR _____

ESTIMATED TIME OF SERVICE: _____

VILLAGE OF CHANNAHON
PUBLIC WORKS DEPARTMENT
SNOW/ICE EVENT PROCEDURES

OBJECTIVE:

Provide reasonable road conditions for traffic flow throughout the winter driving season. Roads will generally be clear of ice and snow but it does not mean bare or dry pavement during or immediately following each winter storm event.

PROCEDURES:

The Public Works Superintendent will monitor the weather forecasts throughout the snow season. The Superintendent will assign crews, as necessary, for handling each snow event. After normal operating hours (Monday thru Friday, 7:30am to 4:00pm), if road conditions begin to deteriorate or become hazardous, contact the Public Works Superintendent first. If not available, contact the Street Department Foreman. Inform them of current conditions of roads and the locations of potential hazards. They will determine actions to be taken by the Public Works crew.

SPECIAL NOTES:

Each winter storm event has unique characteristics that influence the method Public Works uses to combat the resulting snow/or ice related conditions.

During a snow/ice event the Public Works crews' efforts are to keep the roads passable. Once the last of the snow/ice falls the Public Works crews will try and have all roadways cleaned in six to eight hours.

All Public Works drivers have specific assignments to streamline our snow/ice control operations. If you should have a special request please contact either the Superintendent or Street Foreman with the request so we may handle it properly.

CONTACT INFORMATION:

Superintendent, Jeff Barrett:
815-955-8963 (Work cell), 815-274-6403 (Cell)

Street Foreman, Curtis Kratochvil:
815-276-3840 (Work Cell), 779-279-6439 (Cell)

Street Foreman, Scott Choate:
815-955-8809 (Work Cell), 815-545-1342 (Cell)