

# Chloride Pollutant Minimization Plan for the Village of New Lenox

November 11, 2022

Prepared by the Village of New Lenox



**The Village of New Lenox** 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 New Lenox Public Works Department to reduce the environmental impacts from the organization's chloride related operations. The Village of New Lenox 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 New Lenox		
Facility Name: STP#1, STP #2, STP #3		Permit Number: ILG103025
Facility Address: 1 Veterans Pkwy		
City: New Lenox	State: Illinois	Zip Code: 60451

The Village of New Lenox is a southwest suburb of Chicago that is experiencing continuous growth. The Village of New Lenox currently maintains 131.5 road-miles (equivalent to 327-miles of 12-foot lanes) of roadway, two commuter parking lots, and parking lots and driveways for the Village Hall, Police Station, and a variety of other Village-owned locations.

## **2.2 Chloride Sources**

Snow and Ice prevention and removal are the main source of chlorides for the Village of New Lenox. The pretreatment of “main and secondary roads,” plowing all roads and parking lots, and applying deicers after plowing are all part of snow and ice prevention and removal in the Village of New Lenox.

Rock salt purchased by the Village of New Lenox is stored inside a salt dome with an asphalt floor.

No known industrial processes are in place within the Village are a chloride source. The Village’s potable water supply comes from Lake Michigan, which very few households or businesses treat with water softeners. There are approximately sixty (60) households that utilize our wastewater collection system that also use their own wells for potable water, so it is expected that these households use residential water softener equipment.

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

The Village of New Lenox’s goal is to make our roadways as safe as possible throughout a snow/ice event, and obtain bare pavement as quickly as possible after the event concludes. Pretreatment (anti-icing) on main roads before snowfalls is conducted when appropriate, plows off snow and applies deicers during snow storms, and provides a final clean-up with the goal of bare pavement curb-to-curb immediately after the storm concludes.

## **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.

Chlorides and specific conductivity are also measured monthly as part of the permit for location STP1 (permit number IL0020559). This testing is done as a monthly grab to monitor chloride levels in effluent from the 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 New Lenox are included in the snow and ice plan, which is included as Appendices 1 and 2. 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 New Lenox has been a member of the Lower Des Plaines Watershed Group since 2017. The Village's Wastewater Reclamation Superintendent attends monthly meetings as Board member (Treasurer). The Village's Street Superintendent is a member of the Chloride Reduction Committee which meets quarterly.

### 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		The Village of New Lenox stores all bulk rock salt in the salt dome at the Public Works facility. This dome has an asphalt bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013.
Cover salt piles at all times except when in active use, unless stored indoors.	X		The Village of New Lenox stores all bulk rock salt in the salt shed at the Public Works facility. This shed has an asphalt bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013.
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 Village of New Lenox stores all bulk rock salt in the salt dome at the Public Works facility and salt is loaded immediately outside of the dome's entrance. The dome sits higher than the rest of the yard and all snowmelt and stormwater drains away from the work area. This salt dome and work area were first used in 2013.
<b>MS4/CSO Only</b> - Use deicing material storage structures for all communities covered under	X		The Village of New Lenox stores all bulk rock salt in the salt shed at the Public Works facility. This shed has an asphalt

General Permit ILR40 for MS4 communities.			bottom, concrete block walls, and asphalt shingle roof with gutters to channel stormwater away from the shed. This salt dome was first used in 2013.
<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>	X		<p>Per the Village of New Lenox's Pollution Prevention Plan (created in 2019):</p> <p>The following BMP's are in place for delivery, storage, and loading activities:</p> <ul style="list-style-type: none"> <li>• Delivery trucks must be tarped while in route delivering road salt;</li> <li>• Delivery trucks will dump directly into salt dome whenever possible;</li> <li>• Road salt is stored in a salt dome with asphalt floor and shingled roof that can contain over 100% of annual salt order;</li> <li>• Salt dome is inspected annually for leaks and signs of leaching salt;</li> <li>• Salt dome is used exclusively for salt storage and is kept free of debris, trash, and equipment not related to snow and ice control;</li> <li>• Delivery and loading areas are cleaned with skid steer bucket to remove spilled or excess salt on pavement after each delivery and loading; and</li> <li>• All trucks containing road salt are emptied and scraped into salt dome prior to washing.</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		The vendor (Force America) performs the calibration on twenty-one (21) trucks equipped with pre-wetting and computer controls each year.
Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading		May 2024	

equipment as the salt is deposited on the road.			
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	X		Starting in 2018, the Supervisor’s vehicle is equipped with pavement thermometer and sets the application rate prior to crews starting work. Since that time, ten (10) plow trucks have been equipped with pavement thermometers for pavement readings throughout the Village.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	X		Salt application rates based on pavement temperatures have been implemented. The chart displaying temperature and corresponding rates can be found in our “Snow & Ice Plan Addendum.” Implementation of this BMP began in 2014.
Track and record salt quantity used and storm conditions from each call-out.	X		Each driver/operator completes a “plow ticket” tracking miles driven and salt quantity used. This is verified with AVL/GPS reporting on computer-controlled equipment. This practice began prior to the year 2000.
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 of New Lenox has been performing anti-icing to some degree since 2011. Anti-icing criteria and priorities are detailed in the Snow Plan Addendum on pages 7-8.
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		Twenty-five (25) staff members attended the “Public Roads Deicing Workshop” on October 12, 2022. This workshop was presented by Bolton Menk, Inc and was suggested as a training source by the Lower Des Plaines Watershed Group.
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.		Fall 2023	
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		

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.		<b>May 2024</b>	
<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.	<b>X</b>		Starting in 2018, the Supervisor’s vehicle is equipped with pavement thermometer and sets the application rate prior to crews starting work. Since that time, ten (10) plow trucks have been equipped with pavement thermometers for pavement readings throughout the Village. Any vehicles missing pavement thermometers will be outfitted with them prior to the reevaluation.
<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.		<b>May 2023</b>	

**Additional BMPs Identified for Agency/Facility**

<b>BMP</b>	<b>Currently Implementing</b>	<b>Agency Description of Current Implementation</b>
Site Specific Forecasting Service	<b>X</b>	The Village of New Lenox uses a forecasting service that utilizes certified meteorologists for a daily 6-day forecast and snow/ice warnings immediately prior to the event.

## 5.0 Plan to Implement BMPs

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

**BMP:** 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.

**Plan to Implement BMP:** Twenty-one (21) of twenty-four (24) trucks that spread salt are equipped with on-board prewet equipment, which is used each event. The three (3) remaining trucks are next on the equipment replacement plan to be replaced, and replacement equipment will include on-board prewet equipment. Due to supply chain issues, staying on this schedule may be outside of the Village's control.

**Schedule for Implementation:** one replacement vehicle to arrive prior to May 2023. The remaining two vehicle replacements to arrive prior to May 2024.

**BMP:** Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are property trained and comply with all applicable BMPs.

**Plan to Implement BMP:** Our current contract with a snow removal company does not contain applicable BMP's. This contract is set to expire after the winter of 2022/2023 and future contracts will include the applicable BMP's.

**Schedule for Implementation:** work will go out to bid in summer or fall of 2023.

**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:** Twenty-one (21) of twenty-four (24) trucks that spread salt are equipped with on-board prewet equipment, which is used each event. The three (3) remaining trucks are next on the equipment replacement plan to be replaced, and replacement equipment will include on-board prewet equipment. Due to supply chain issues, staying on this schedule may be outside of the Village's control.

**Schedule for Implementation:** one replacement vehicle to arrive prior to May 2023. The remaining two vehicle replacements to arrive prior to May 2024.

**BMP:** 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:** End-of-season meetings are typically held in the spring following a significant warm-up. Prior to this meeting, a post-winter review template will be created and used for the end-of-season review.

**Schedule for Implementation:** template containing the above subjects will be created and used on Spring of 2023 meeting.



## 6.0 Other Chloride TLWQS Required Milestones

The Village of New Lenox 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.	Completion date 11/11/2022.	Each driver/operator completes a "plow ticket" tracking miles driven and salt quantity used. This is verified with AVL/GPS reporting on computer-controlled equipment. Driver salt-usage is added up each storm, and each storm added up for a seasonal total. This practice began prior to the year 2000.
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 New Lenox submits 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 of year 3, the workgroups will submit a Status Report to the 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 November 12, 2026 the workgroups will submit a re-evaluation to the IEPA and IPCB.	

**Appendix 1 – Snow and Ice Removal Policy**

**Appendix 2 – Snow and Ice Removal Policy – Addendum**

**Appendix 3 – Pollution Prevention Plan**



# NEW LENOX

PUBLIC WORKS

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## Snow & Ice Removal Policy

October 27<sup>th</sup>, 2014

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The Village of New Lenox Public Works— 2401 Ellis Rd

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**The Plan's Objective:**

The Village of New Lenox Public Works Department has and continues to take pride in the removal of snow and ice from Village roads. It has been said many times by residents, motorists traveling through town, and neighboring municipalities that New Lenox has both the quickest response to snow events, often completing operations prior to residents' morning commutes, and the safest, most drivable roads during longer winter storm events.

The Public Works' objective when performing Snow and Ice Removal Operations is to minimize the adverse effects winter-weather has on driving conditions. By conducting these operations in a safe, efficient, and timely manner, the people who live, work, and conduct business in the Village can proceed with their affairs unimpeded.

The Public Works strive for bare pavement from one edge of road to the other after all snow events. Although there are factors that can at times prevent or delay this goal, this can often be achieved in as little as two hours after a smaller snow event, within five hours after a moderate snowfall, and eight hours after a major snow storm.

**Notification and Response:**

The Village of New Lenox will be utilizing the services of an outside company to notify staff of forecasted winter weather. The contracted company will employ Certified Consulting Meteorologists to provide site-specific forecasting, and will notify staff two hours prior to winter weather impacting the Village.

Once notified, the Street Department Superintendent (or his or her representative) will assess conditions and determine the best operations to efficiently minimize hazards winter weather creates for motorists.

When an after-hours response is required, the Street Department Superintendent (or his or her representative) will begin the notification process using a phone tree. The Superintendent will contact Crew Leaders, and these three will notify all staff and contractors that snow/ice removal operations are required.

**Snow Removal Operations:**

The Snow and Ice Plan recognizes that no two winter-storm events are identical; each storm's intensity, duration, temperature and wind speed are different. Therefore, all of these factors will be assessed when deciding which course of action to use when addressing road conditions.

For each winter storm, the Public Works will utilize all available staff and equipment to perform snow and ice removal operations. This ensures the quickest, most wide-spread response throughout the Village to provide safe roads for residents and motorists.

In order to provide safe service and abide by State Laws, all snow plow operators will obey the rules of the road while performing snow and ice removal operations. Drivers will obey speed limits and come to complete stops at STOP signs, and the practice of "reverse-plowing" is strictly prohibited.

## Snow Removal Operations (cont.):

For Snow and Ice Removal operations, all drivers/operators are assigned a predetermined route for which they are responsible to maintain. Operators assign priorities to roads in their route, designating main roads, secondary roads, side-streets, dead-ends and cul-de-sacs, and perform operations accordingly. Main roads will be cleared first, secondary roads next, and so on. This means streets with greater volumes of traffic and higher speed limits will be treated first, reducing the hazards on roads that are likely to be driven by more residents and motorists.

Table 1 lists a variety of snowfalls and typical responses. While not all snowfalls will perfectly fit into one of these categories, this table will illustrate typical responses to given conditions.

Table 1: Snowfalls and Typical Responses

<b>Storm Category</b>	<b>Storm Description</b>	<b>Typical Response</b>
Snowfall 1	Coating to 1 inch snow accumulation	Staff applies salt to all routes
Snowfall 2	1 to 6 inches snow accumulation	Staff plows driving lanes during storm; plows curb-to-curb upon storm's end and drops salt on cleaned roads
Snowfall 3	6+ inches of snow accumulation over an extended period of time (24+ hours)	Implement Split Shifts; once storm has passed, entire team reports in to clear all streets edge of road to edge of road and drop salt
Drifting 1	Winds blow loose snow into Village roadways without an actual snowfall	Staff will check entire town for drifting roadways; snowplow operators will drive in tandem to open up roadways and remove drifts; de-icing materials will not be applied

### Location Spot-Treatment:

Under certain conditions, there are times when staff will spot treat areas in town; one example of this is slow snow accumulation occurring overnight. These areas have been identified as “trouble-spots” which are difficult to drive under normal road conditions, or areas where safety is of a higher concern (such as around schools). With the right conditions, a two-man team will treat these areas in lieu of a larger, more extensive response to “hold over” these areas until the storm is complete and a town-wide response is activated.

### Ice Prevention and Removal Operations:

Freezing rain or sleet can create very hazardous conditions while driving on roadways. Snow on roads reduces traction but can still be traveled when care is taken. Roads that freeze over with a layer of ice often have no traction, therefore becoming extremely hazardous to drivers.

When icy conditions are predicted, treatment before roads become hazardous is imperative. Pretreatment can be done by either application of the beet-juice/brine mix (if warning time and conditions allow) or through application of rock-salt immediately prior to the event.

## Ice Prevention and Removal Operations (cont.):

Table 2 lists a few scenarios concerning icy roads and appropriate responses. Once again, not every ice storm will fall into one of these categories, but this table will illustrate typical responses to ice-storm events.

Table 2: Ice-Storms and Typical Responses

Storm Category	Storm Description	Typical Response
Ice 1	Light Rain, Freezing Rain, or Sleet	Pre-treat roads immediately prior to event with rock salt.
Ice 2	Ice (not preceded by rain, sleet or freezing rain)	Pre-treat roads with liquid beet juice/brine mix if possible. Post-treat roads with rock salt if necessary.
Ice 3	Heavy, continuous freezing rain	Pre-treat roads immediately prior to event with rock salt; continuously monitor road conditions until precipitation ends. Pre-wet salt with calcium-chloride if temperatures are below 20°F.

### Salt Usage:

At times, conditions may be present that will prevent the staff from applying de-icing materials (brine mix and rock salt) to Village roads. The most common reasons for this are high winds (which cause drifting), near-zero temperatures, and salt shortages.

When wind speeds increase and exceed fifteen miles-per-hour (15 mph), the chance of loose snow blowing into Village roads increases dramatically. This is especially true in open areas, such as roads along farm fields. When de-icing materials are applied to these roads, snow collects rapidly in the roadway. This is because the snow sticks to the de-icing materials and it accumulates faster than it can be melted; the snow then quickly builds up and makes the roadway impassable. On the other hand, when these roads are left untreated, snow can continue to blow and hopefully exit the roadway. The Public Works has a limited amount of snow fence which can be installed prior to winter to help reduce drifting onto roadways. Placement of snow fence is made at the discretion of the Street Department Superintendent.

Extreme cold may also prevent the use of de-icing materials. When the temperature decreases, so does the effectiveness of de-icing materials. Salt rapidly loses its effectiveness to melt snow and ice below twenty degrees Fahrenheit (20°F) and becomes impractical to use at fifteen degrees Fahrenheit (15°F); however, sunlight may warm pavement to this temperature even when temperatures are below fifteen degrees, and straight salt may be used under these conditions. Calcium-chloride can be added to the rock salt in order to melt snow in colder conditions. With the addition of this material, rock salt may be used for de-icing down to five degrees Fahrenheit (5°F). Below this temperature, the Public Works staff will not spread de-icing materials due to their ineffectiveness at such low temperatures.

**Salt Usage (cont.):**

During winters with many snow events, the limited salt supply is a cause for concern. Aside from the budgetary issues caused from purchasing additional salt incurs, the availability of rock salt becomes an issue as well. Bad winters impact everyone, and supplies may be exhausted or delivery could be unavailable for extended periods of time. When this occurs, actions must be taken to conserve our salt supply. This may be done by applying salt only to roads with higher speed limits, applying less salt on all roads, or even spot salting intersections, especially if temperatures are expected to rise above freezing within twenty-four hours of a winter-event's end.

**Liquid Deicers and Performance Enhancers:**

New methods for ice prevention and snow removal utilize liquid deicers and performance enhancers. While there are many different liquids available and many ways to mix them, the Village uses liquid deicers in two ways: road pretreating and salt prewetting.

The Village currently purchases bulk amounts of calcium-chloride and beet-juice. Calcium-chloride is a liquid deicer, as it has a significant ice melting capacity when used alone. It is often used to make salt more effective at temperatures below 15°F. Beet juice, on the other hand, is a performance enhancer. While it does not have a significant melting capacity on its own, it helps salt adhere to the roadway. Beet juice also has a dark color, absorbing more light on sunny days and it can aid in melting snow and ice by helping warm deicing materials.

***Road Pretreating:***

Road pretreating is when a liquid deicer is applied directly to the roadway before a storm and it is intended to prevent snow or ice from bonding directly to the roadway. If this bond is prevented, it is hoped that roads will require less rock salt to melt residual snow after roads have been plowed. It can also melt smaller snow falls if conditions allow and time is given.

Pretreatment does require a number of conditions to be favorable in order to be applied. For example, pavement must be above 15°F and relative humidity should be below 70%; this allows the water in the pretreatment solution to evaporate from the roadway before the winter storm arrives. Otherwise, the water will freeze and a layer of thin ice will be present before the event even occurs.

***Salt Prewetting:***

Prewetting is the process of applying a liquid deicer to rock salt before spreading the salt on the roadway. Rock salt that has been through the prewet process tends to bounce less, keeping more salt on the roadway. Also, prewet salt activates quicker, providing safer roads in a shorter amount of time.



### **Snow in the Parkway and Driveway Aprons:**

During and/or after winter events with snow accumulating over one inch, snow and ice removal operations will include the using plows to remove snow from Village streets. During plowing operations, snow from the plow's blade is deposited along the road's edge, including parkways and driveway aprons. This is even more evident on street corners and inside cul-de-sacs, as there is more snow to push off the roads and relocated snow is piled higher.

### **Parkway Damage:**

Over the course of the winter, snowplow operators may inadvertently damage the parkway. This may happen when a plow damages a lawn or removes shoulder-stone on roads without curbs. In either instance, the Public Works Department will restore the affected area.

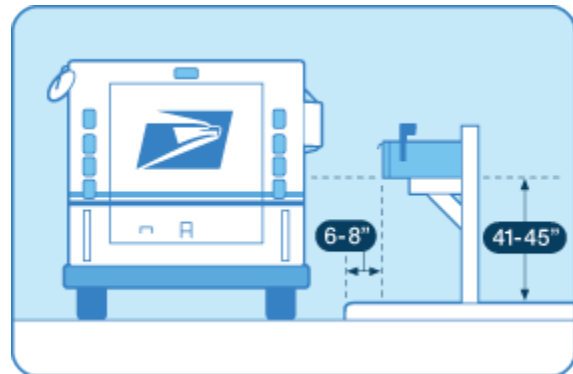
Parkway areas that have been scrapped with the plow edge will be restored with pulverized dirt and premium grass-seed mix. Misplaced shoulder-stone will be raked out of lawns and additional stone placed on the roadside if necessary.

### **Mailbox Damage:**

An area of concern for homeowners and the Village is the damaging of mailboxes present in the parkway during snow removal operations. This can be very frustrating for both parties, as residents expect to be able to receive mail daily and snowplow drivers often cannot avoid damaging mailboxes because they are improperly placed or are already in poor condition.

Mailboxes are private property and they must meet very specific guidelines when installed<sup>1</sup>. According to United States Postal Service:

- The mailbox is required to be 6-8 inches behind curb and 41-45 inches off the ground;
- The post should be constructed from a wooden "4x4" post or a two-inch diameter standard steel or aluminum pipe; and
- Mailbox-posts cannot be constructed of potentially dangerous supports, such as heavy metal pipe or concrete posts.



**Figure 1: Proper Mailbox Placement**

Before the winter season arrives, Public Works staff will evaluate the mailboxes on Village roads. By using this proactive approach, Village staff will assess the condition of mailboxes and create a list of mailboxes that have deficiencies which should be addressed prior to the winter season.

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<sup>1</sup> Guidelines and graphic found on USPS Website - <https://www.usps.com/manage/know-mailbox-guidelines.htm>

**Mailbox Damage (cont.):**

When a mailbox is damaged, residents should notify Public Works and have a work order created. Public Works will make temporary repairs, or provide a temporary mailbox, to all reports of damage; it is Public Works' intent that all Village residents continue to receive postal service.

***Reimbursement Criteria:***

When the snow-removal season ends, permanent repairs can be made and replacements can be installed. The Village will reimburse residents for materials used in repair of their mailbox. In order to qualify for reimbursement, a damaged mailbox must meet the following criteria:

1. The mailbox must meet the USPS guidelines as previously stated;
2. The post, supports, and box must be determined to be in good shape prior to being damaged (rotted or rusted posts, supports, and boxes will not be replaced); and
3. Residents requesting reimbursement must have previously entered a work order with Public Works at the time of damage.

When these criteria are met, the Village of New Lenox will reimburse residents up to \$125<sup>2</sup> for repair or replacement materials for mailboxes. All claims for reimbursement with receipt must be received by the Village by May 1<sup>st</sup>. Mailboxes that do not meet these criteria are not eligible for reimbursement.

**Assistance to Private Property:**

When a Public Works employee notices a stuck or stranded vehicle in a driveway, roadway, parkway, or parking lot, the employee will treat the hazardous area to the best of their ability, providing it is in a Village maintained roadway or parking lot. The Street Department Superintendent should then be immediately notified in order to alert the Police Department of any remaining hazard and the need for motorist's assistance.

**Snow Ordinances:**

There are two Village ordinances that affect snow and ice removal operations: one regarding parking during snow storms and the other concerns deposits of snow from driveways and sidewalks. The purposes of these ordinances are to help ensure the safety of motorists using the roadway, make snow and ice removal procedures more efficient, and reduce the need for additional cleanup after a winter storm. The ordinances are stated as such:

**Sec. 90-159. General parking restriction during snow removal operations.**

- (a) Any provision of this chapter to the contrary notwithstanding, it shall be unlawful to park any motor vehicle on any street in the village when snow shall have accumulated to the depth of two inches or more as measured at the intersection of Maple Street and Cedar Road in the village. This parking restriction shall continue until the snow removal operation is complete.

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<sup>2</sup> This figure will be reevaluated in five-year intervals.

**Snow Ordinances (cont.):****Sec. 74-1. Deposit of injurious materials, snow, or other substances on street, right-of way or sidewalk**

- (b) *Deposit of injurious materials; deposit of ice or snow.*
- (2) No person shall throw, blow, shovel, or plow ice or snow onto any street or public way or onto any sidewalk or property of another person, or onto any other place which would create a hazard to vehicular traffic or danger to pedestrians.

Plows and salt spreaders have to work around parked cars, and large ice-patches are created by deposited snow after the roads have already been cleaned. By not adhering to these ordinances, residents ensure additional snow and ice removal operations will be performed by the Public Works staff, increasing the cost of snow and ice removal and endangering motorists until these operations are repeated. Residents in violation with these ordinances should be warned and given an opportunity to remove the hazard, while repeat offenders risk being fined.

**Departure from Policy:**

The Village recognizes that conditions may be so unusual or unexpected that a departure from these general polices should be authorized. Therefore, when conditions warrant, the Street Department Superintendent, in consultation with the Public Works Superintendent and/or the Village Administrator, may order a departure from there general guidelines when conditions require such action. This policy may be affected in total or in part, as result of equipment breakdown, weather conditions, inadequacy of equipment, state or federal regulations, shortage of personnel, and any other unforeseen, uncontrolled, or unanticipated event. No additional rights shall be granted to any individual or entity simply by the adoptions and enforcement of this policy.

**No Duty or Right Created:**

The purpose of this policy is to establish the goals and guidelines for operations for the Village of New Lenox's staff regarding snow and ice removal. It is not to be construed to create any duty to any individual, person, or entity. This policy does not provide any special protection or service to any particular individual or groups of individuals.

**Policy Priority:**

This policy, dated October 27<sup>th</sup>, 2014, supersedes all others and, to the extent that any previous rule, regulation, policy or past practice, written or unwritten, is in conflict with provisions of this policy, such is hereby withdrawn, voided, and all personnel should conduct themselves in conformity with this policy.



# NEW LENOX

PUBLIC WORKS

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## Snow & Ice Removal Policy

Addendum: Updated November 10, 2022

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## Snow and Ice Materials

In order to combat the hazardous effects of winter weather, a variety of materials are obtained by the Public Works Department for a range of uses. Table 1 below lists the types of materials obtained, who is responsible for obtaining them, and where they are stored.

Table 1: Snow and Ice Removal Materials

Material Type:	Responsibility of:	Stored in:	Procured by:
Rock/Road Salt	Public Works Director	Salt shed at PW Facility	State Bid
Brine	Street Superintendent	Tanks outside Brine Building	Made in house
Calcium Chloride	Street Superintendent	Tank outside of Brine Building	Order of 4,300 gallons
Carbohydrate/Organic Liquid	Street Superintendent	Tank outside of Brine Building	Order of 4,300 gallons
Bagged Ice Melt	Building & Grounds Supervisor	PW Building, Lean-To, inside garages	Order by the pallet

Rock salt, brine, and other liquid additives are used on Village roadways and parking lots in anti-icing and deicing operations. Bagged ice melt is used on walkways at various facilities.

One class of materials used by some agencies use in winter operations is abrasives (sand, cinders, etc.). The Public Works Department will not use abrasives of any kind unless all other options are exhausted and at the direction of the Village Administrator.

## New Employee Training

Training of new employees is an essential step to deliver quality snow and ice removal to our residents. New employees may have no experience with these operations, or they may come in with experience but their previous employer may have had a different level of service than the Village of New Lenox.

The first step of any new-hire training is an introduction to the Snow & Ice Removal Policy and Addendum with the Street Department Superintendent. This step will lay the ground work of expectations for call-outs, responses, materials and methods, and level of service provided by Public Works for snow and ice removal.

Then, the new hire is assigned a truck and route. The new hire is taken to their truck for an overview of the equipment and training on how to operate the plow and salt spreading equipment, as well as the equipment on (wipers, defrosters, etc.) and in (fire extinguisher, rubber gloves, etc.) the truck. This step can be performed by the Street Superintendent, Equipment Services Manager, Crew Leader, or Equipment Operator.

Next, the new hire is taken on the road in their assigned route for a “dry run.” In addition to receiving a map of their route, the new hire will view their entire route and drop their plow on the ground to familiarize themselves with their position on the road to where they are actually plowing. Again, this

step can be performed with the Street Superintendent, Equipment Services Manager, Crew Leader, or Equipment Operator. Also, the new hire will be given the names of other staff members who have previously been assigned to their route; he/she will be encouraged and given opportunity to discuss with those staff members how they ran their route and given tips at that time.

The final step involves training during live snow and ice removal operations. This following process is used:

1. The new hire sits passenger in the truck of another staff member to witness procedures;
2. The new hire operates their truck in their route during a live snow and ice removal event with another experienced plow driver sitting passenger for input and direction; and
3. The new hire operates their truck in their route during a live snow and ice removal event with the Street Superintendent following or routinely reviewing the work of new employee.

The Street Department Superintendent may determine at any time if any of the above steps need to be repeated and makes the final determination when a new hire has completed their training.

### **Annual Training and Review**

An annual meeting will be held to discuss: any changes in truck and route assignments; new equipment, materials, and/or methods for snow and ice prevention and removal; successes and opportunities for improvement from the previous winter season; and review the Snow and Ice Removal Policy and Addendum. Retraining of staff in loading procedures, snow/ice removal, and spreading of snow/ice materials is completed at this meeting.

### **Winter Equipment Pre-Check**

Prior to the onset of winter, a preseason check is performed to reduce breakdowns and issues with snow and ice prevention/removal equipment. In addition to a regular vehicle service, plow cylinders, chains, hoses, blades/bolts, and controls are checked, along with the salt spreader, auger, and spinner and the pre-wet system's pump, screen, and check valve.

Pre-checks and service are performed by the Equipment Services Department; their work is logged in their CPA software.

Calibrating the spreading equipment is also done immediately prior to the start of each season. Even though the recommended interval of calibration by equipment manufacturer, Force America, is every-other year, we have this service performed annually.

### **Notification and Response**

Once notified, staff members have thirty (30) minutes to clock-in at the Public Works Facility. This time can be extended to sixty (60) minutes at the discretion of the Street Department Superintendent. This is because the staff will have to drive on roads that have been impacted by winter weather in order to begin snow and ice removal operations and arriving safely at work is a priority over arriving within a time limit.

Ultimately, it is the responsibility of the Street Department Superintendent to contact the proper employees and contractor for Snow & Ice Removal operations. This can be done by phone call or text at the discretion of the Street Superintendent. If a text is sent, an acknowledgement text should be made by the receiver to confirm contact. If no such text is received by the Street Superintendent, a phone call should then be placed to make another attempt of contacting the employee/contractor.

## **Loading Procedures**

### *Rock Salt*

Properly loading trucks with snow and ice removal materials keeps trucks from being overloaded and prevents spills while on the roadway of rock salt. Trucks shall be loaded to the center of the bed to keep weight evenly distributed. When loaded from empty, the following

- 6-Wheel (Tandem) Trucks → Three (3) full loader-buckets of rock salt
- 2.5-Ton Dump Trucks → Two (2) full loader-buckets of rock salt
- 1-ton Dump Trucks → One (1) full loader-bucket of rock salt

### *Anti-Ice and Pre-wetting Liquids*

The proper use of liquids for anti-icing and pre-wetting applications reduces the use of rock salt and the total amount of chlorides entering our receiving waters, while also providing safer roadways impacted by snow and ice precipitation.

The Public Works Department utilizes a Cargill AccuBrine system with blending and truck loading features. To load a truck/tank with liquid deicer, the following steps are taken:

1. Park the vehicle near the brine building with tank loading point near the control center;
2. Connect the off-loading hose and open valves on truck and supply line;
3. Press F1, enter truck number (truck code), and press enter;
4. Press F2, enter mix number (Product code), and press enter;
5. Press F3, enter the desired number of gallons, and press enter;
6. Press F4 to start loading. If entered gallons will overfill tank, press F8 to stop loading cycle; and
7. After loading cycle is complete, close valves on truck and supply line, disconnect hose, and pull away from brine building.

Figures 1 and 2 on the following page show the control panel for loading and pre-programmed mixtures.





Figure 1: Control Panel for Liquid Loading

Mix #	Brine	Beet	CaCl	Mix #	Brine	Beet	CaCl
1	100	-	-	11	60	20	20
2	85	15	-	12	50	25	25
3	70	30	-	13	40	30	30
4	60	40	-	14	20	40	40
5	50	50	-	15	-	50	50
6	85	-	15	16			
7	75	-	25	17			
8	60	-	40	18			
9	50	-	50	19	-	100	-
10	70	15	15	20	-	-	100

Figure 2: Pre-Programmed Mixtures

## Snow Removal Operations

The Facilities and Grounds Department is responsible for snow removal operations at the Laraway Rd. Metra Station, Village Hall, Police Station, and Village Commons. Details about routes and equipment used are found in **Appendix F**.

### *Plowing*

In every practical circumstance, accumulated snow, slush, and ice shall be plowed or cleared from the roadway surface before deicing materials are applied to the roadway. In general, snow/ice is pushed to the passenger side of the truck, moving the snow/ice towards and onto the parkway. No snow/ice shall be stockpiled in the middle of a roadway or cul-de-sac.

The Public Works Department currently has two different plow set-ups: nose-plow only and nose/wing-plow combination. Trucks with nose-plows only need to make two passes in each direction of travel (four plowing passes total) on residential streets to clear the road curb-to-curb. Wing-plows are located on the passenger-side of the truck and are set-up to clear from the center of the road to the curb in a single pass on residential roads (two plowing passes total) when used in combination with the nose-plow. On wider roads, sufficient passes should be made to remove snow and ice from curb to curb.

Figure 3 below shows a typical plow control set-up.



**Figure 3: Plow Controls**

For plow operation:

- Lever 1 raises and lowers dump body (see material spreading section on next page);
- Lever 2 moves the nose-plow up and down, and turns it from side to side;
- Lever 3 moves the toe of the wing-plow up and down;
- Lever 4 moves the heel of the wing-plow up and down; and
- Lever 5 moves the heel of the wing-plow in or out from the truck (front-mount wing only).

### *Material Spreading*

As the plow-pass on the curb-line (or edge of road) is being made, deicing materials shall be spread and applied to the roadway. The spinners that “throw” the salt shall be set to have salt reach the centerline of the roadway. Road segments that contain turn-lanes or are wider than residential streets will likely need additional salt passes to compensate for the additional width of the road.

### *Finishing Operations*

Once operations are complete in their assigned area, staff will make a call on the radio to see if other staff members need assistance in completing their routes; preference in assistance will be given to those most in need of assistance and neighboring areas. If no drivers require assistance, the driver will contact the Street Department Superintendent, or whoever is coordinating operations in his or her absence, to see if any parking lots, sewer treatment facilities, or water distribution facilities need to be plowed and/or treated. If no driver asks for assistance and all facilities are cleared, drivers are then allowed to return to the Public Works facility for dismissal.

Details about the routes and the equipment used are found in **Appendix A** and **B** respectively.

## **Location Spot-Treatment**

A list of these areas can be found in **Appendix C**.

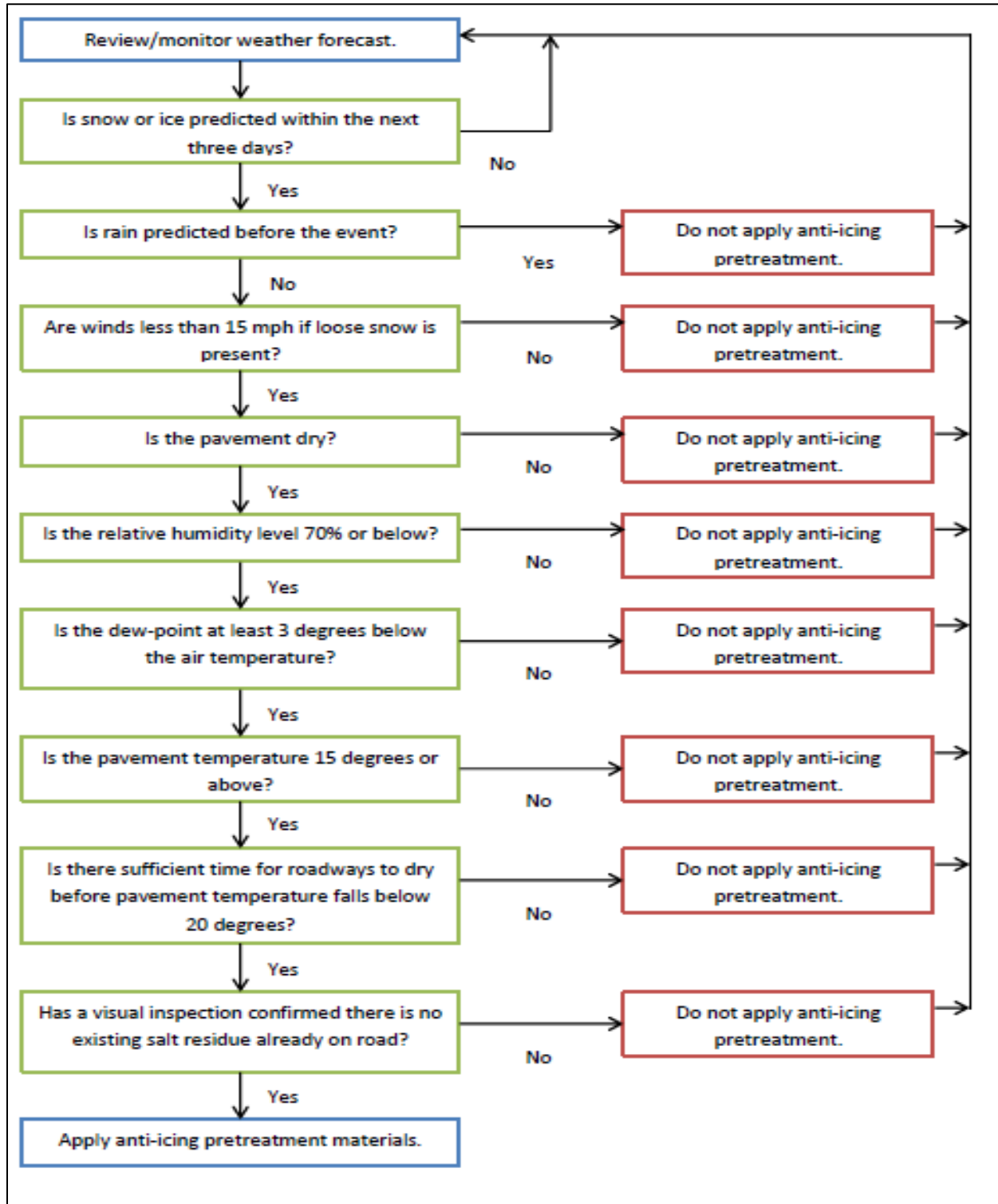
## **Liquid Deicers**

### *Anit-Icing*

Figure 4 on the following page is a flowchart which will be consulted to determine whether or not pretreatment operations will be performed. Anti-icing liquid is performed at 50-gallons per lane mile and consists of 85% brine and 15% Carbohydrate/Organic additive (mix #2 in Figure 2).

Anti-icing is performed on roads designated as “emergency routes and main roads” first, then on secondary roads. Since these roads are more heavily traveled in the Village, pre-treatment will prevent packing of snow into the pavement. Roadways with these designations are found in Appendix E of this addendum.

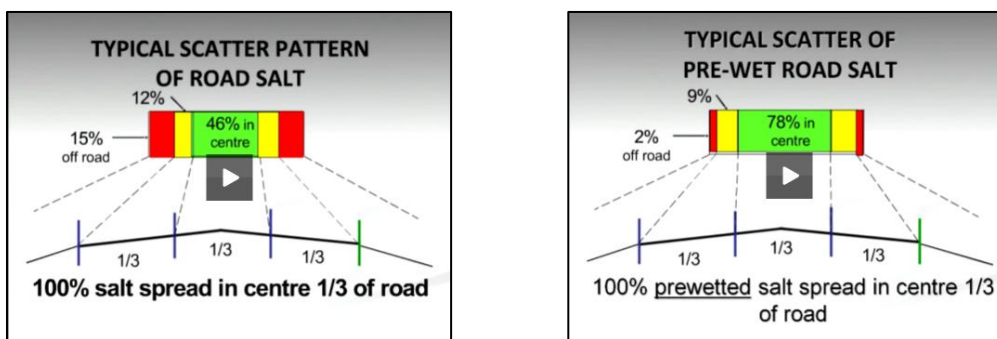
**Figure 4: Pre-Treatment Decision Flowchart**



**Salt Prewetting:**

Prewet-salt that is spread on the roadway is less likely to bounce and scatter. The APWA reports that up to thirty percent (30%) of distributed salt bounces off the roadway, but when rock salt is prewet, the loss due to scatter is down to four percent (4%). This can be seen in Figures 4 and 5 below. Prewetting allows snow plow operators to distribute less salt and still apply the target amount of salt to the road. Also, prewet salt works faster. Aside from adding liquid deicer to the road, salt requires some moisture to start melting snow and ice. But since almost all moisture on the road will be frozen when being used, salt often requires a period of time to begin working. Prewetting salt eliminates this time and allows the salt to begin working immediately.

**Figure 5 and Figure 6: Salt Scatter with Dry Salt and Prewet Salt**



Since these two benefits work at the same time, salt use can be reduced at least 20-30% per event when compared to applying dry rock salt. When beet juice is used in the prewet solution, the added effect of a dark color helps melt snow and ice, and beet juice helps residual salt to adhere to the roadway, potentially eliminating the need for road pretreatment for the next snow event.

At this time, the Village owns twenty-one (21) trucks with prewetting technology and all trucks purchased from this time forward will have this system installed.

Table 2 on the following page is a chart which will be used during each storm. This table will be a guide as to which kind of prewetting material will be used at certain temperatures and weather or road conditions, as well determine the pre-wetting rate (gallons per ton) and road-salt application rate (pounds per lane mile).

Table 2: Deicing Guide

Pavement Temp and Trend	Winter Condition	Maintenance Actions	Salt Rate Lbs/Lane-mile	PreWet Rate Gallons/Ton	PreWet Blend
≥30°F↑	Snow	Plow and apply treatment	100	15	#1 100% Brine
	Freezing Rain	Apply treatment	150	none	N/A
30°F↓	Snow	Plow and apply treatment	150	15	#2 85% Brine 15% Carbohydrate
	Freezing Rain	Apply treatment	200	none	N/A
25-30°F↑	Snow	Plow and apply treatment	200	15	#2 85% Brine 15% Carbohydrate
	Freezing Rain	Apply treatment	250	none	N/A
25-30°F↓	Snow	Plow and apply treatment	250	15	#3 70% Brine 30% Carbohydrate
	Freezing Rain	Apply treatment	300	none	N/A
20-25°F↑	Snow	Plow and apply treatment	300	20	#3 70% Brine 30% Carbohydrate
	Freezing Rain	Apply treatment	350	none	N/A
20-25°F↓	Snow	Plow and apply treatment	350	20	#4 60% Brine 40% Carbohydrate
	Freezing Rain	Apply treatment	400	none	N/A
15-20°F↑	Snow	Plow and apply treatment	400	20	#4 60% Brine 40% Carbohydrate
	Freezing Rain		450	none	N/A
15-20°F↓	Snow	Plow and apply treatment	400	20	#5 50% Brine 50% Carbohydrate
	Freezing Rain		500	none	N/A
0-15°F↑↓	Snow	Plow and apply treatment	400	20	#12 50% Brine 25% CaCl 25% Carbohydrate
≤0°F	Snow	Plow and apply treatment	400	20	#25 50% CaCl 50% Carbohydrate

CaCl is calcium-chloride; current carbohydrate is BeetHeet product.

## **Parkway Damage**

When parkway sod is damaged, Public works will attempt to roll back the sod in such a way that it may be reused. If part or all of the sod is damaged beyond reuse, the area will be restored once weather is appropriate to encourage grass growth and the materials are available. The restoration will be made using pulverized dirt and premium grass-seed mix, per the policy approved by the Mayor and the Village Board of Trustees.

Shoulder-stone (gravel that is on the edge of the road) that is pushed away from the road will be replaced in the spring time when plows are no longer in use for the season. When applicable, Public Works Staff will rake misplaced gravel out of the parkways of yards and private property.

## **Mailbox Damage**

Prior to the snow removal season, Public Works will use two teams to inspect mailbox conditions throughout the town. Teams will look for mailboxes that show obvious signs of incorrect placement, poor condition, and improper construction materials.

When a mailbox is found to be deficient, the owner will be notified of the specific condition which needs to be addressed via a door hanger. When a homeowner rectifies the defective condition, Public Works Staff will reevaluate the mailbox and determine if it can be removed from the list of defective mailboxes.

## **Vehicular and Other Private Property Damage**

Damage to vehicles or other private property caused by snow plow operations or vehicular accidents, will be reported to the Street Superintendent, or his/her representative, immediately. After the report, the Public Works "Accident and Injury Reporting Claims" procedure will be followed.

If the staff member involved in the accident will be absent from their route for an extended period of time, or if their vehicle is no longer in operating condition, a radio call will go out to notify other staff that aid will be needed immediately in that route.

## **Assistance to Private Property**

Under normal circumstances, the Public Works Staff will not use Village-owned equipment to remove snow or ice from private property, including driveway aprons. Exceptions will be made at the discretion of the Public Works Director in consultation of the Village Administrator.

## **Split-Shift Procedure**

A split-shift plan has been created for use during severe snow storms of long durations and high intensities. The intent of this plan is to focus snow removal on emergency routes, major roads, and secondary roads, in order to keep them open and drivable. Minimal effort will be used to repeatedly clear side streets and cul-de-sacs. Although the number of drivers and equipment in use at any given time is reduced, the Public Works staff will be able to work around the clock to keep vital roadways

open. This will also keep operators well-rested during the storm, reducing the likelihood of accidents and injury. A list of roads that fall into these categories is found in **Appendix E** of this policy.

*Shift Assignment:*

Shift assignments will be based on seniority with the Village, with more senior members receiving their preferred assignments. However, because members of the Engineering, Sewer, Water, and Equipment Maintenance Departments participate in snow and ice removal procedures, assignments must be made so that these personnel are split between shifts. For example, all four members of the sewer department who participate in snow and ice removal will not work the same shift, but rather two will work the day shift and two the night shift. This will help ensure if another emergency arises (sewer back-up, water-main break, equipment breakdown, etc.), the proper personnel will be available to remedy the situation.

*Operations:*

Based on weather forecast and/or conditions, the Street Department Superintendent, in consultation with the Public Works Director and/or the Village Administrator, will notify the staff of the intent to implement the split-shift procedure. This attempt will be made with at least a twelve-hour notice when circumstances allow.

Shift changes will occur at 7:00 AM and 7:00 PM. During this twelve-hour shift, employees will take two short breaks to eat, use the restroom, and refuel and inspect their vehicle. This should be done at the four- and eight-hour marks into each shift.

*Early Dismissal:*

When a severe winter storm is predicted to strike in the evening, it is recommended that the staff assigned to the night-shift be sent home at 10:00 AM or as close to that time as possible the day of the storm. This will allow these employees an opportunity to rest prior to working an overnight shift. The decision to send employees home early will be at the discretion of the Village Administrator. All staff members will be given the opportunity to work at least an eight-hour day in the event of early dismissal during normal working hours.

*Return to Normal Operations:*

When the severe winter-storm eventually ends, staff may resume normal procedures to clean all Village roads. This may either be done by recalling dismissed shift workers at an earlier time than previously scheduled, or by keeping a shift later than scheduled. If a shift is kept later, it will be policy to keep them no longer than four hours past the original dismissal time. At no point should any staff member operate a snowplow for more than sixteen hours in a shift.



Appendix A

## Snow and Ice Removal Route Details

Route #	DRIVER	VEHICLE	ROUTE
1	Gerry Shanahan	ST-1	Silver Cross Blvd., Cedar Crossings Dr., Gougar Rd., Prairie Ridge, Coventry Heights, Spring Creek, Old Homestead
2	Jake Nelson	ST-2	Country Creek, Country Creek Manor, Nelson Rd. (Laraway to Illinois Hwy.)
3	Ryan O'Meara	ST-3	Cherry Hill, Wildflower, Ferro Industrial Park, Ellis Rd
4	Jeremy Paul	ST-4	Schoolhouse Rd. (Harvey Dr. to Laraway Rd), Heather Glen, Leigh Creek, Sky Harbor
5	Tom Gagan	ST-5	Laraway Ridge, Horizon Meadows, Windermere Lakes, Taylor Glen
6	Dave Meskill	ST-6	Joliet Hwy (Schoolhouse Rd to Rt. 30), Bluestone Bay, Crystal Springs, Vancina Ln
7	Karl Magda	ST-7	Liberty Square, Chadwick, Illinois Hwy. (Gougar to Cedar), Wildwood Dr (Illinois Hwy to Haven Ave)
8	Nick Schumacher	ST-8	Nelson Rd. (Laraway to Delaney), Delaney Rd. (Malibu to end of Taylor Glen), Palmer Ranch, Hidden Valley
9	Doug Petrik	ST-9	Spencer Rd (Illinois Hwy to Joliet Hwy), Joliet Hwy (Spencer Rd to Schoolhouse Rd), Hibernia, Eagle Estates, Schoolhouse Manor
10	Rob Meadors	ST10	Northside west of Cedar, Northside east of Cedar
11	Ray Standard	ST-32	Cedar Rd. (Illinois Hwy to Batson Ct), Illinois Hwy (Cedar Rd to Spencer Rd), Windemere West
12	Josh Meilicke	ST-33	Cedar Rd. (Metra tracks to Barbara), Walkers North, Walkers South
13	Jeremy Turrisi	ST34	Countryview, Royal Meadows, Jacob's Field, Beren's Dr
14	Mike Madigan	ST-35	Joliet Hwy (Northgate to Spencer Rd), Windemere East, Windemere East 1st Addition, Laurel Meadows

Appendix A

## Snow and Ice Removal Route Details (cont.)

Route #	DRIVER	VEHICLE	ROUTE
15	Brett Nolan	ST-37	Haven Ave (Gear Dr to eastern dead-end), Commons Area (Haven Ave to Rt 30), Vine St (Haven Ave to VFW), Livingston Dr, Livingston Ct, Manor Dr, Manor Ct, Warren Woods
16	Chris Skiniotes	ST-40	Fieldstone, Grand Prairie, Haven Manor, Haven Ave. (Western Limit @ Michael's to Gear Dr), Nelson Rd. (Route 30 to Illinois Hwy), Degroate Rd.
17	Neil Kobylarczyk	ST-41	Wildwood, Aerohaven, Gear Dr. (Illinois Hwy. to Haven), Joliet Hwy. (Wisconsin to Nelson Rd.),
18	Nick Perez	ST-42	Marley Rd (Spencer Rd. to Hickory Creek Bridge), Spencer Rd (Joliet Hwy to Rt 30), Sanctuary Pointe, Steeple Run, Crystal Cove
19	Jim Saluski	ST-43	Metra Entrance Road, Water Chase, Calistoga Lakes, Bristol Park, Rachel Ridge
20	Grant Troike	ST-50	Rt 30 to Haven from Oak to Prairie, Haven to Joliet Hwy from Oxford east to Northgate Deerfield, Flanigans Flats
21	Dale Erickson	ST-51	Schoolhouse Rd. (Route 30 to Talon Dr.), Wellington, Old Plank Center Business Park
22	Bisping Construction		Route 30 Commuter Lot
23	Parking Low Crew	ST-27	Village Hall Parking Lots, Police Station Parking Lots, Laraway Commuter Lot

Appendix B

Snow Removal Equipment List

2.5 Ton Dump Trucks\*

1. ST-1\*\*
2. ST-2\*\*
3. ST-3\*\*
4. ST-4\*\*
5. ST-5
6. ST-6\*\*
7. ST-8
8. ST-9
9. ST-10\*\*
10. ST-32
11. ST-33
12. ST-34
13. ST-35
14. ST-40
15. ST-41
16. ST-42
17. ST-50
18. ST-51

6-Wheel Dump Trucks\*

1. ST-7
2. ST-43

1-Ton Dump Trucks

1. ST-26
2. ST-27
3. ST-36\*
4. ST-37

Pick-up Trucks with Plows

1. S-10
2. ST-38
3. ST-44
4. ST-45
5. ST-47
6. ST-48
7. W-11
8. W-12

Auxiliary Equipment

1. Unit 55 – Case front-end loader with plow blade or bucket
2. Unit 58 – Case front-end loader with plow blade, hydraulic plow, or bucket
3. Unit 48 – Case skid-steer with 8-foot push-box
4. Unit 56 – Case skid-steer with plow or 10-foot push-box
5. Unit 60 – Track loader with bucket

\* - All 2.5-Ton and 6-Wheel Trucks are equipped with prewetting technology.

\*\* - Trucks with a double-asterisk (\*\*) are also equipped with a wing-plow.

*This list will be updated as equipment continues to come in throughout the year.*

## Appendix C

### Snow “Trouble Spots”

- S-curve on Cedar Rd. @ Haven Ave. down to Rt. 30
- S-curve on Gear Dr. @ Mustang
- Gougar Rd. going Southbound uphill to intersection at Rt. 6
- S-curve on Silvercross Blvd.
- Cedar Crossings Dr. from Rt. 6 to hospital entrance (ambulance route)
- Nelson Rd from CN Railroad to Illinois Hwy.
- Nelson Rd “S”-curve at Haven Ave.
- Entrances to Rt. 30 Commuter Lot
- Calistoga Dr @ Laraway Commuter Lot
- Wildwood Dr approaching Haven Ave downhill
- Marley Rd Bridge (north of Rt. 30)
- Streets approaching Rt. 30 downhill:
  - Oak Dr.
  - S. Pine St.
  - Church St.
  - S. Prairie Rd.
- Schools in town:
  - Nelson Ridge Campus
  - Cherry Hill Kindergarten
  - Lincoln-Way West High School
  - Tyler & Bentley Schools
  - Martino Junior High
  - Haines School
  - Oster Oakview Junior High
  - Liberty Junior High
  - St. Jude School

Appendix D

## List of Roads Often Impacted by Drifting

**Southside:**

Delaney Rd.

Nelson Rd.

Northern Lights Way

Stacey Dr.

Grand Mesa

Stonebridge Rd. @ Park

2800 Block of Foxwood Dr.

Calistoga subdivision

Rachel Ridge subdivision

Waterchase subdivision

**Eastside:**

Schoolhouse Rd.

Joliet Hwy. @ Rt. 30

Bluestone Bay Dr.

Westwind Dr.

Teal Dr.

**Westside:**

Haven Ave.

Moss Ln.

Ellis Rd.

Berens Dr.

Grand Prairie Dr. at Windcrest Ct

**Northside:**

Gougar Rd. (North of Rt. 6)

Silver Cross Blvd.

Cedar Crossings Dr.

Prairie Ridge Estates subdivision

Juli St. near pond

Edmonds Dr. North of Lenox St.

Edmonds Dr. @ pipeline easement

**Middle of Town:**

Illinois Hwy (Gougar to Western)

Liberty Square (Otto Dr., Liberty Ln., and Charleston Dr.)

Nelson Rd. Extension

Gear Dr.

Joliet Hwy (Gear Dr. west to dead-end)

The Commons

Appendix E

## List of Main and Secondary Roads

Emergency Routes and Main Roads:

Delaney Rd.	Silver Cross Blvd.
Nelson Rd.	Cedar Crossings Dr.
Schoolhouse Rd.	Marley Rd.
Illinois Hwy.	S. Spencer Rd.
Cedar Rd.	Vine. St
Haven Ave.	Lenox St.
Joliet Hwy.	The Commons (Police Station)
Gougar Rd.	

Secondary Roads:

Gear Dr.	Ellis Rd.
Wildwood Dr.	Berens Dr.
Foxwood Dr. (Delaney through Winter Park Dr.)	Loop through Rachel Ridge subdivision
Cardinal Dr.	Loop through Waterchase subdivision
Horizon Trail	Loop through Calistoga subdivision
Stacey Dr.	Bluestone Bay Dr. to Loop through subdivision
Northern Lights Way	Edmonds Ave. & Hickory Creek Dr.
Taylor Glen Dr.	Sanctuary Dr. Loop
Stonebridge Dr. to Andrea Dr.	Georgia's Way
Ferro Dr.	

Appendix F

**Snow Removal  
Facilities & Grounds**

Areas of Responsibilities (also see attached maps)



Clear and salt the Village Hall Walks



Using the skidder and attachments clear all parking lots and bike path around the village hall, and all parking lots around the Police Station



Clear and salt the walks at the Laraway Metra Station & Police Station. Plow & salt the laraway metra parking lot & salt all facility parking lots



All commons walks need to be cleared and salted after primary areas are completed

**Police Station lower level lots and walks will be salted each time they are cleared. The laraway Metra lot will be salted if there is an incoming train expected. All other walks and parking lots will be salted upon final clearing of the snow event.**

**Laraway Metra Train times**

Monday - Friday	6:10am	7:00am	1:46pm	2:33pm	6:16pm	6:56pm
Saturday	6:23am	11:08am	2:44pm	3:23pm	6:14pm	11:44pm

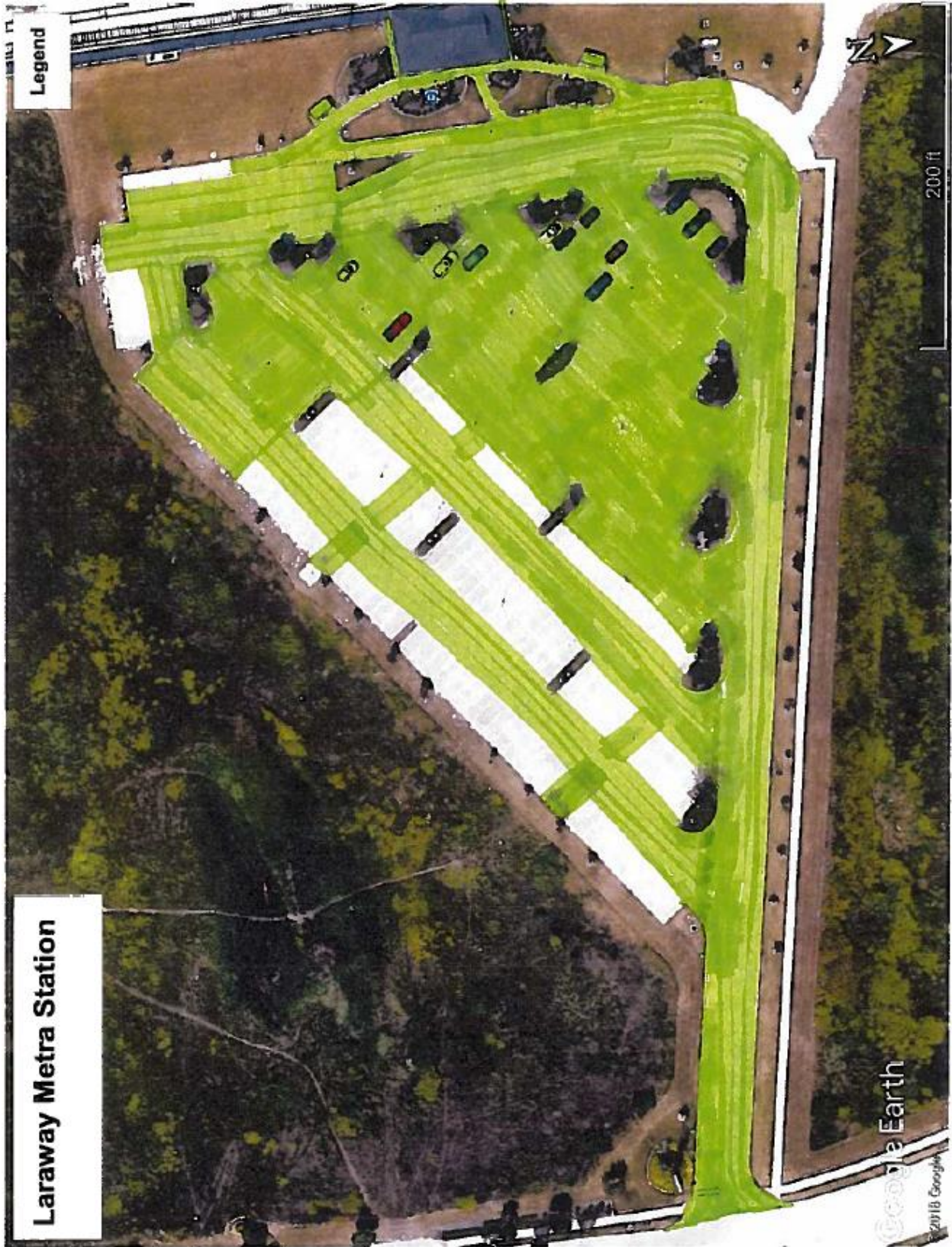
**Snow Removal Equipment List**

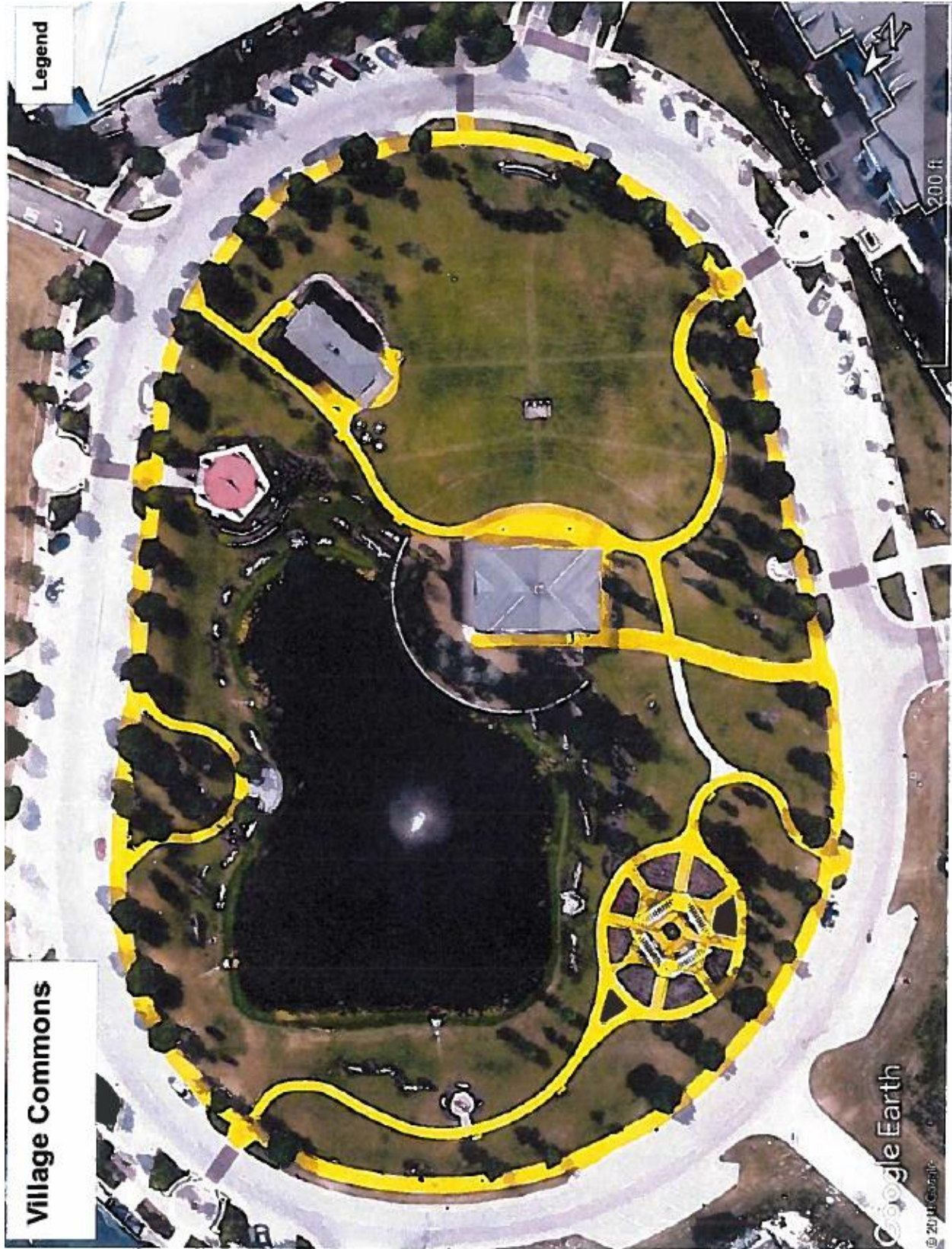
1. Unit 56 – Case skid-steer with plow or 10-foot push-box
2. Toro Grandstand with plow attachment
3. S-10 – Pick-up truck
4. Various hand-held snow shovels
5. Walk behind salt spreaders













# NEW LENOX

PUBLIC WORKS

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## Pollution Prevention Plan

The Village of New Lenox Public Works— 2401 Ellis Rd

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## **The Plan's Objective**

The Department's Stormwater Operations Plan describes the responsibilities and activities performed by the Public Works Department to help ensure the storm sewer system is working as designed and allowing stormwater to flow to receiving waters as expected. The Public Works Department has also developed a Pollution Prevention Plan to reduce the pollutant load carried by stormwater into receiving water.

While the Public Works Department does participate and has several roles in this pollution prevention, these roles are limited due to authority constraints. Many elements and activities common to pollution prevention plans, such as construction site runoff control, illicit discharge investigations, and program monitoring, are performed and administered by the Community Development Department (specifically, the Engineering Division).

The objective of this policy is to clearly define the roles performed and actions taken in the Public Works Department to reduce pollution discharged to our receiving waters and in the Village.

## **Staff Training**

Informing and refreshing staff members of practices that must be maintained, as well as those that must be avoided, is an important step in municipal pollution prevention. Many common sources of pollution can occur from the daily duties of Public Works staff.

To keep staff cognizant of pollution prevention activities, training is performed annually through a series of "Tool Box Talks." The topics of these talks include buildings and grounds maintenance, proper handling and disposal of materials, and illicit discharge identification; training topics correspond to some of the other activities detailed in this plan. Copies of the tool box talks can be found in appendix A on page 9 of this plan.

## **Illicit Discharge**

Recognizing and reports illicit discharges is an important step in pollution prevention. Federal regulations define an illicit discharge as "any discharge into a municipal separate storm sewer system (MS4) that is not composed entirely of stormwater." There are some exceptions to this, such as discharges from fire-fighting activities.

Some common sources of illicit discharges include: cross-connections with sanitary sewers; septic tank effluent; car wash wastewaters; improper oil disposal; radiator flushing disposal; laundry wastewaters; spills from roadway accidents; and improper disposal of automobile and household toxins.

For all Village of New Lenox staff, illicit discharges should be reported to the Village Engineer.

## **Public Outreach**

An informed and knowledgeable community is a key component of preventing pollution; it helps provide community support for future funding initiatives and lends itself to initiatives that may request the aid of volunteers to implement.

This best management practice is administered by the Village's Community Development Department. To aid in this effort, the Public Works staff distributes informational pamphlets provided by the Community Development Department to the public during "touch-a-truck" events throughout the year that Public Works attends. Typically, the Public Works annually attends the Police Department's National Night Out, the Park District's annual Touch-a-Truck event, and Tiny Treasures Daycare Touch-a-Truck event.

Copies of the current handouts can be found in Appendix B starting on page 16 of this plan.

## **Good Housekeeping**

Good housekeeping for municipalities is a key element in pollution prevention; the Public Works Department took steps to examine and alter our actions to help ensure a reduction in the amount and type of pollution that: collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and results from actions such as flood management practices or poor maintenance of storm sewer systems.

This section will state the methods and techniques Public Works staff maintains infrastructure and performs daily operations in a way to help reduce the environmental impact of our systems and work.

### *Street and Parking Lot Sweeping*

Pollutants collect on public roadways and parking lots for Village facilities. Aside from increasing aesthetics of these areas, regular sweeping picks-up accumulated pollutants before they can be washed into the storm sewer system and possibly enter receiving waters.

Target pollutants for street sweeping include: sediment; trash and debris; leaves; organic matter and nutrients; trace metals; and hydrocarbons.

Street sweeping typically takes place March through November of every year, or as weather allows. Debris is collected and stockpiled at the Country Creek Drive facility and is removed by a licensed debris hauler to an offsite dump permitted to receive street sweepings.

### *Spillway Cleaning*

Some detention ponds located in the Village use concrete spillways to help convey stormwater flows through the detention area. As part of the Village's MS4 permit, the Public Works Department performs an annual spillway cleaning and tracks the quantity of debris removed at each location.

Target pollutants for spillway cleaning include: sediment; trash and debris; leaves and grass clippings; organic matter and nutrients; trace metals; and hydrocarbons.

Spillway cleaning occurs annually, typically in the hot and dry months of the summer. Table 1 below displays the current inventory of detention ponds with spillways. This inventory is updated by the Village's Community Development Department.

Table 1: Spillway Inventory

<b>Subdivision Name</b>	<b>Street Name</b>	<b>Subdivision Name</b>	<b>Street Name</b>
Aerohaven Unit 1	Gear Drive	Schoolhouse Manor	Harvard Lane
Ashley Woods	Ashley Drive	Stonebridge	Andrea Drive
Cedarwood Terrace	Aspen Drive	Walkers North Unit 1	Edmonds Avenue
Chadwick Unit 2	Gear Dr & Illinois Hwy	Wellington	Finborough Circle
Cherryhill Unit 1	Sharon Drive	Wildwood	Gear Dr & Joliet Hwy
Deerfield	Deerfield Drive	Wildwood	Central Ave
Dondun	Keithland Ct	Windermere West	Bon Terre Road
Eagle Estates	Talon Drive	Windermere West	Bentley Rd and Lake St
Fieldstone Unit 4 & 5	Grand Prairie Drive	Windermere West	Southgate Road
Grand Prairie	Bayhill Drive	Windermere West	Northgate Road
Old Homestead	Creekside Court	Windermere East	Circlegate Road
Royal Meadows	Daniel Lewis Drive		

Since the materials are very similar to the spoils created from street sweepings, the removed materials are placed in the street sweepings stockpiled to be disposed of in the same manner.

### *Storm Sewer Cleaning*

To comply with another of the permit requirements for the Village's MS4 permit, the Public Works Department cleans storm sewer inlets, structures, and catch basins throughout the Village. The permit mandates that the storm sewer manholes and catch basins are cleaned in a minimum of two subdivisions each year. However, when equipment functions without major breakdowns and weather cooperates, Public Works can clear more subdivisions that required each year. From 2013 to 2018, every roadside storm sewer structure was cleaned in all sixty-eight subdivisions within the Village. Storm sewer cleaning also occurs at Village Facilities within this cycle. Applicable facilities are cleaned as neighboring subdivisions are cleaned.

Cleaning consists of vacuuming any accumulated debris at the bottom of the structure or in the sump, as well as using a pressure washer to spray down the interior of the structure to knock debris off the tops of pipes or lips of castings.

Target pollutants for spillway cleaning include: sediment; leaves and grass clippings; organic matter and nutrients; trace metals; and hydrocarbons.

Storm sewer cleaning is typically performed April through October as weather allows. The Public Works Department currently uses a Vactor 2100plus to jet storm sewer lines and vacuum debris from manholes, inlets, and other storm sewer structures. Debris is collected, stockpiled, and eventually hauled away by a waste-hauler to an off-site certified dumping location.



### *Triple Basin Cleaning*

Several Public Works facilities have floor drains that lead to a triple basin (also known as a “triple trap”) before water discharge to the sanitary sewer system. These facilities are: the Public Works Building, the Country Creek Drive Public Works Facility, and Water Resource Recovery Facility #1. Triple basins at these facilities are cleaned annually.

Triple basins are designed to hold and slow the speed of waste water passing through them, which allows time for solids to settle out and oils to float to the top of the basin before the waste water enters the sanitary sewer system. This reduces the various oils that from equipment may leak and the dirt tracked in by equipment that may enter and be treated at the corresponding water resource recovery facility.

Target pollutants for this activity are sediment, hydrocarbons, oils, and chemicals.

### *Curbside Leaf Pick-up*

For two weeks each spring and eight weeks each autumn, Public Works staff performs curbside leaf collection on all Village residential right-of-way’s. During these times, crews continually patrol the Village streets picking up leaf piles placed at the curb by residents using Old Dominion Brush Co. brand leaf vacuums. Each vacuum is a self-contained trailer unit that vacuums the leaves off the ground, mulches them, and stores them in a hopper.

Collected leaves are disposed of in two methods. The preferred method is to unload them at a local farm, where the farmer desires to use the mulch to add nutrients to his soil. While this is option is more financially sustainable (free of charge), there is a limit to what any farmer can practically use. The second method is contracting a truck company to haul the leaves away to various landscape and mulch companies. Each facility uses the leaves in creating compost and mulch for landscape beds.

During the spring session and early in the autumn session, the entire Village is checked multiple times each week. As autumn progresses and the volume of leaves increases, crews maintain the goal to service all residents once per week.

Prior to and during the program, residents are reminded and encouraged to mulch leaves present in their yards to utilize the nutrients they hold in their own yards and preventing them from entering the stormwater system or needing to be picked up.

Target pollutants for this activity are nutrients and organic materials.

### *Other Stockpiles*

The various work performed daily by Public Works staff also creates a host of other materials that are stock piled before disposal. Whenever possible, staff will take spoils directly to the appropriate disposal facility to avoid double-handling and any pollution/runoff that may occur while the stockpile is active.

In addition to the stockpiles previously mentioned, below are additional materials that may be stockpiled or immediately disposed of from Public Works activities. Target pollutants are sediment, sanitary waste, heavy metals, and hydrocarbons.

- Asphalt – excavated asphalt is taken to a local asphalt facility for recycling in grinding as road-base or reused as new hot mix asphalt material;
- Concrete – excavated concrete is disposed of at a local dump certified to accept concrete materials;
- Soil and clay – soil and clay are reused in house whenever possible. Excess material is taken to local dump certified where spoils are tested before acceptance; and
- Sanitary waste – soil and other excavated materials contaminated with sanitary waste are stockpiled at a water resource recovery facility where any contaminated water draining out can drain into the plant for treatment. Once the excavation is completed, arrangements are made for a dumpster delivery or hauling away by a contractor for disposal at a site that accepts sanitary waste.

#### *Landscape Maintenance and Litter Collection*

From April 1st through November 15th, Public Works staff and contractors perform finish mowing at various Village properties, facilities, and right-of-way's. Both groups perform litter pick-up prior to mowing to keep aesthetics in the area and reduce litter in the community. Outside of the times listed, Public Works staff performs litter removal, Public Works staff performs litter removal in place of the contractor as needed and as weather allows. Litter collections typically happen after snow melts.

Litter collected by Public Works staff is bagged and disposed of by the Village's solid waste collector. The contractor(s) perform the same service and collected litter is disposed of at their company's facility by their solid waste collector.

Grass clippings from mowing are mulched and recycled whenever possible. Excess clippings that are collected by Public Works staff are collected and disposed of in the yard waste dumpster at the Public Works facility. Yard waste debris from this dumpster is mulched and recycled by the dumpster owner.

#### *Fertilizers and Herbicides*

Public Works contractors that apply fertilizers and herbicides are licensed operators by the Illinois Department of Agriculture for these practices. All applications are specified to be "low impact" products in case of conditions that may cause drift, runoff, or other forms nontarget impact. At the Village Commons, a "run reducer" is used due to the proximity of the grounds to a retention pond.

#### *Road Salt Usage BMP's*

While allowed in the Village's NPDES permit, the active snow melting ingredient road salt is a target pollutant. Road salt typically also contains other minerals, which is why it usually has a brownish appearance rather than the pure white color of table salt.

Target pollutants for this activity are sediment and chlorides.

While road salt is a large contributor to chloride pollution, sensible salt-use saves lives while reducing the pollutant load sent to our local waterways. In order to maintain public safety during snow and ice events while limiting salt usage as much as possible, the following best management practices are used:

- Roads are plowed prior to salt applications;
- Salt application rates are adjusted based on pavement temperatures;
- Pavement temperature sensors are used by supervisor and are systematically installed into snow removal fleet to aid in appropriate application rate determination;
- Main and secondary roads, as well as areas that drain directly to waterways, are pre-treated with a brine and organic additive to prevent snow/ice bonding to surface prior to winter events when applicable;
- Road-salt is pre-wet, either on with the trucks onboard system or at the Public Works Facility if onboard system is unavailable, at a rate of ten-gallons per ton or greater prior to roadway application;
- Additives are used to increase road salt effectiveness when pavement temperatures fall below 20°F;
- Annual calibration is performed on computer-measured deicing delivery systems;
- Salt and liquid usage is recorded and stored electronically with GPS coordinates; and
- Site specific weather forecasting services are used to more accurately predict forecasted conditions and storm timing.

### *Road Salt Delivery, Storage, and Loading*

Receiving, storing, and loading salt are also operations that must be examined and planned carefully to reduce pollution. Again, target pollutants for this activity are sediment and chlorides.

The following BMP's are in place for delivery, storage, and loading activities:

- Delivery trucks must be tarped while in route delivering road salt;
- Delivery trucks will dump directly into salt dome whenever possible;
- Road salt is stored in a salt dome with asphalt floor and shingled roof that can contain over 100% of annual salt order;
- Salt dome is inspected annually for leaks and signs of leaching salt;
- Salt dome is used exclusively for salt storage and is kept free of debris, trash, and equipment not related to snow and ice control;
- Delivery and loading areas are cleaned with skidsteer bucket<sup>1</sup> to remove spilled or excess salt on pavement after each delivery and loading; and
- All trucks containing road salt are emptied and scraped into salt dome prior to washing.

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<sup>1</sup> A skidsteer power broom has been ordered and purchased in June 2019 and may possibly replace the bucket or used alongside it to clean the delivery/loading area.

### *Fuel Storage*

Public Works maintains a fueling facility for the Village and the New Lenox Fire Protection District. Fuel is stored in two underground tanks (one diesel, one gasoline); both are double-walled fiberglass storage tanks. Leak testing is performed annually; hydrostatic testing is performed every three years. A fifty-gallon spill kit is kept at the fuel island for accidental spilling or equipment failure while pumping fuel into equipment.

Target pollutant for this activity is hydrocarbons.

### *Vehicle Maintenance*

Vehicle maintenance can create a variety of wastes that are harmful to the environment. Through identification and proper disposal, Public Works can maintain the Village's fleet with zero environmental impact to our receiving waters.

Target pollutants for these activities are hydrocarbons, chemicals, and acids.

The following wastes have been identified as harmful and the corresponding steps are in place to reduce or eliminate environmental impact of their disposal:

- Vehicle wash water: all Public Works and Community Development vehicles are washed in the wash bay at the Public Works facility, where floor drains connect to the sanitary sewer system for treatment at a water resource recovery facility. Police Department vehicles are washed at a carwash business in the Village where wash-waters are drained to the sanitary sewer system for treatment;
- Waste oil: stored in double-walled storage tanks in Equipment Services Department fluid room, regularly picked up by Heritage-Crystal Clean, LLC to be recycled into useable lubricants;
- Used antifreeze: stored in double-walled storage tanks in Equipment Services Department fluid room, regularly picked up by Heritage-Crystal Clean, LLC for disposal;
- Batteries: automotive batteries cores are picked up by Master Auto Parts for recycling when a new battery is purchased;
- Tires: tires are stored indoors at the Public Works facility and taken for disposal once a year to Treadstone Tire Recycling, LLC for a variety of recycled uses; and
- Freon: freon is recovered and recycled by in-house automotive air conditioning equipment.

Appendix A  
Pollution Prevention “Tool Box Talks”

**Dispose with Care**



All Village employees dispose of some amount of waste...and disposing with care to prevent urban and environmental pollution will make the Village a cleaner, healthier place to live and work.

Do not put wastes of any kind in storm drains or storm sewers.

Pick up dropped trash. If you go outdoors to smoke, don't toss cigarette butts into the street or gutter - use the doorway receptacle or bring an ashtray with you.

Keep trash dumpster lids closed and don't put liquid or hazardous wastes in them.

Sweep dumpster areas frequently and if your dumpster leaks, get it fixed or get a new one.

Clean up wastes with a broom rather than hosing down with water.

Clean up waste and trash from work areas at the end of each workday.

Collect all used anti-freeze, motor oil, transmission fluid, and hydraulic fluid and store them in separate containers by type.

Never mix different types of fluids.

Recycle used fluids, oil, transmission, and hydraulic filters, and batteries.

Never dispose of used fluids, filters, or batteries in the trash.

Appendix A (continued)  
Pollution Prevention “Tool Box Talks”

**Handle and Store Materials Safely**



**How NOT to store materials**  
Outdoors, in leaking containers



**How to store materials properly**  
In a covered area (preferably indoors)  
in tightly sealed containers

All Village employees who work in warehouses, or store materials in yards or shops can reduce waste and pollution by ensuring none of these materials get spilled or washed into the storm drain system.

**FOLLOW INSTRUCTIONS**

Read and follow handling instructions for all the materials you store.

**STORAGE CONTAINERS**

- Make sure storage containers are spill-proof; inspect for leaks and perform routine maintenance.
- Inspect storage tanks and piping systems for leaks or failures and perform routine maintenance.
- Use safeguards (such as berms or secondary containment basins) against accidental releases of liquids from storage areas.
- Store materials in appropriate containers.
- Make sure storage containers are properly labeled.
- Never mix different types of fluids.

- Collect all used anti-freeze, motor oil, transmission fluid, and hydraulic fluid and store them in separate containers by type, per your department’s procedures.
- Store materials away from high traffic areas to prevent accidents that might cause spills or cause spilled material to be spread by traffic.

**STORE UNDER COVER**

- Protect stored materials from rainwater.
- Store materials indoors and on pallets, if possible.
- Cover materials stored outdoors with sheets of plastic or other types of cover to prevent exposure to rainfall.
- Store hazardous materials according to federal, state, and local requirements.

Appendix A (continued)  
Pollution Prevention "Tool Box Talks"

## Maintain Buildings and Grounds Wisely



Keep grass clippings off of pavement and out of storm sewers as much as possible

Recycle grass clippings by leaving them to mulch on the grass or composting them.

All Village employees can make an enormous difference in whether or not dirt, debris, litter, and chemicals reach our region's streams.

### **BUILDINGS, SIDEWALKS, PLAZAS, PARKING LOTS**

- Clean up without water whenever possible by sweeping or wiping.
- Prevent and clean up spills.
- Clean up debris and litter so they do not get washed into storm drains.
- Avoid using detergents in steam or pressure washing.
- Clean catch basins and storm drains regularly.

### **PROPERTY AND GROUNDS MAINTENANCE**

- Control soil erosion and repair eroded areas.
- Recycle lawn clippings, trimmings from trees and other landscaping.
- Use only the right types and amounts of fertilizer, herbicides, and/or pesticides for your landscaping.
- Handle fertilizers and pesticides carefully to avoid spills.
- Avoid applying fertilizers, pesticides or herbicides during rainy weather.
- Do not overwater (excess water transports pollutants off your property into the storm drain system) and make sure sprinklers are positioned to minimize excess runoff.

Appendix A (continued)  
Pollution Prevention "Tool Box Talks"

**Maintain Equipment Diligently**



All Village employees, particularly those who maintain the Village's cars, trucks, and other vehicles, and those who operate them, can prevent contamination of the storm drain system by good housekeeping and diligent maintenance.

**FUELING:**

- Cover fueling areas to reduce exposure to rainfall.
- Sweep or use other dry methods rather than hosing down the fuel area for cleaning.
- Post signs warning against "topping off".

**INVENTORY:**

- Maintain an organized inventory of materials. Know what you have in the shop or yard.
- Recycle waste materials (e.g., used oil, spent solvents, batteries).

**VEHICLE AND EQUIPMENT MAINTENANCE:**

- Keep your work area clean.
- Inspect for leaks, malfunctions, and staining on or around vehicles and equipment.
- Drain oil filters before disposal or recycling.
- Drain and contain all fluids from wrecked vehicles or equipment that has to be replaced.
- Store cracked batteries in a non leaking secondary container.
- Do not leave full drip pans or other open containers of used liquids lying around.

- Perform vehicle maintenance indoors if at all possible.

**OUTDOOR VEHICLE AND EQUIPMENT STORAGE AND PARKING:**

- Use drip pans for vehicles and equipment waiting for maintenance.
- Park under cover to prevent exposure to rainfall.

**WASHING AREAS:**

- Avoid washing parts or equipment outside.
- Wash equipment or vehicles in designated areas where sumps or drains collect wash water for releasing into the sanitary sewer system.
- Use barriers or absorbent pads to prevent dirty, polluted wash water from entering a storm drain inlet.

**BASIC DO'S AND DON'TS:**

Do use good housekeeping practices and be diligent about following routine maintenance procedures.

Don't allow spills, leaks, wastes or washwater from vehicles or equipment to enter the storm drain.

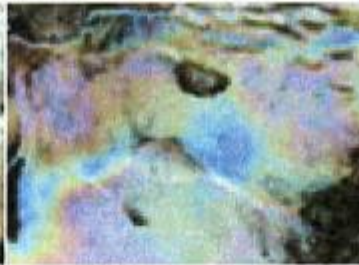


Appendix A (continued)  
Pollution Prevention "Tool Box Talks"

**Watch for and Report Possible Illicit Discharges**



Stains on outfall pipe



Oil sheen on water



Unknown liquid



Polluted pool below outfall



Excessive vegetation below outfall (indicates excessive nutrients in runoff)



Paint

- Be alert for evidence of illicit discharges near inlets, in structures, at outfalls or in streams during regular field maintenance:
  - Evidence of spills such as paints, discoloring, etc.
  - Oil sheen on water surface
  - Suds on water surface
  - Excess trash and debris
  - Unusual odors
  - Colored or cloudy water
  - Dead or dying fish
  - Unusually lush vegetation near outlet
  - Growth of algae or bacteria on or near outfall pipe
  - Poor pool quality below outfall
  - Stains on or around outfall pipe
  - During cold weather, discolored ice in or near the outfall
  - During cold weather, outfall discharges when everything around the outfall is frozen.
- Record locations of possible illicit discharges and immediately notify appropriate personnel for follow-up.
- Take a picture of the discharge or spill if possible.
- Common illicit discharge sources:
  - Cross-connections to the storm sewer from the sanitary sewer
  - Spills that enter the storm drain system through an inlet
  - Dumping at inlets, such as used motor oil dumping
  - Outdoor washing activities, such as car washing, pavement cleaning, and equipment washdown
  - Non-target irrigation from landscaping or lawns (which can carry fertilizers or pesticides)
  - Swimming pool discharges (which are allowed in some storm sewer systems)

Appendix A (continued)  
Pollution Prevention "Tool Box Talks"**Prevent and Clean Up Spills**

Village employees can prevent toxic chemicals, heavy metals, cleaning solutions, and automotive fluids (like oil, grease, antifreeze, and solvents) from entering waterways by preventing spills on the job or cleaning them up immediately when they happen.

*Prevent Spills*

- Take the time to use precautions to prevent spills.
- Sweep and dry mop frequently to reduce the amount of dirt, fluids, and other residues that accumulate where you work, especially outdoors.
- Know and follow the Village's spill prevention plan. Ask your supervisor if you need more information about this plan.

*If Spills Do Happen, Clean Them Up the Right Way*

- Know the Village's spill cleanup plan. Ask your supervisor if you need more information about this plan.
- Locate the source of the spill and take steps to stop further spillage.
- Clean up spills promptly when they do happen.
- Use absorbent materials or mop up small liquid spills. **Do not** hose the spill to a storm drain.
- Keep rags and other absorbents ready at hand for spills.
- Remove the absorbent materials promptly and follow procedures for proper disposal.
- If a liquid spill might enter a storm drain, protect the storm drain.
- Report large spills or spills of hazardous materials to your supervisor or environmental department personnel.

Appendix A (continued)  
Pollution Prevention "Tool Box Talks"**Prevent Pollution During Construction**

All Village employees who work in construction have a crucial responsibility to control erosion and pollutants from building materials at the job site. You can prevent pollution of stormwater and drinking water, wildlife habitat, neighborhoods and recreation areas in the Village.

**GOOD HOUSEKEEPING:**

- Sediments and other pollutants should be retained on-site; they should not wash into streets, gutters or storm drains.
- Toxic materials should be stored properly so they will not contaminate either the soil or surface waters.
- Concrete wastes should be retained on-site and disposed of properly. They should not be washed into the streets, gutters, or storm drains.
- Solid wastes should be placed in covered containers/ dumpsters.
- Slopes should be stabilized.
- Erosion and sediment control measures should be in use and properly maintained. If you see sediment washing off a site or damaged or absent erosion and sediment control measures, contact the Public Works Department.

**HELP TRAIN OTHERS**

- Help residents to understand the importance of preventing stormwater pollution.
- Don't ignore urban pollution. If you see a clogged catch basin, a spill or illegally discarded waste, inform the Public Works Department.

Appendix B  
Public Outreach Handout

# Explore the Hickory Creek Watershed

Hickory Creek and its major tributaries – Spring Creek, Marley Creek and Union Ditch – flow through Tinley Park, Orland Park, Frankfort, Frankfort Square, Mokena, Homer Glen, New Lenox and Joliet on their way to the Des Plaines River, the Mississippi River, and the Gulf of Mexico.

107 square miles of land drains into the 100 miles of streams. The watershed boundaries, shown as the solid grey line, were formed about 12,000 years ago.

**(A)** At Palos Community Hospital on 153rd Street, you can look south far into the watershed. On the north side of the hill, water flows toward Long Run Creek.

**(B)** The slight rise in Oak Park Avenue is also a watershed divide. North of the tracks, water flows to Mintoian Creek at 172nd Street. South of the tracks, water flows to Union Ditch.

**(C)** From the hills near where Cicero Avenue meets Governors Highway, you can look west down the Hickory Creek Watershed toward Joliet. To the east, water falling on Governors State University flows toward Thom Creek.

At [hickorycreekwatershed.org](http://hickorycreekwatershed.org) you can see more photos, learn more, and get directions to each place.

## Points of Interest

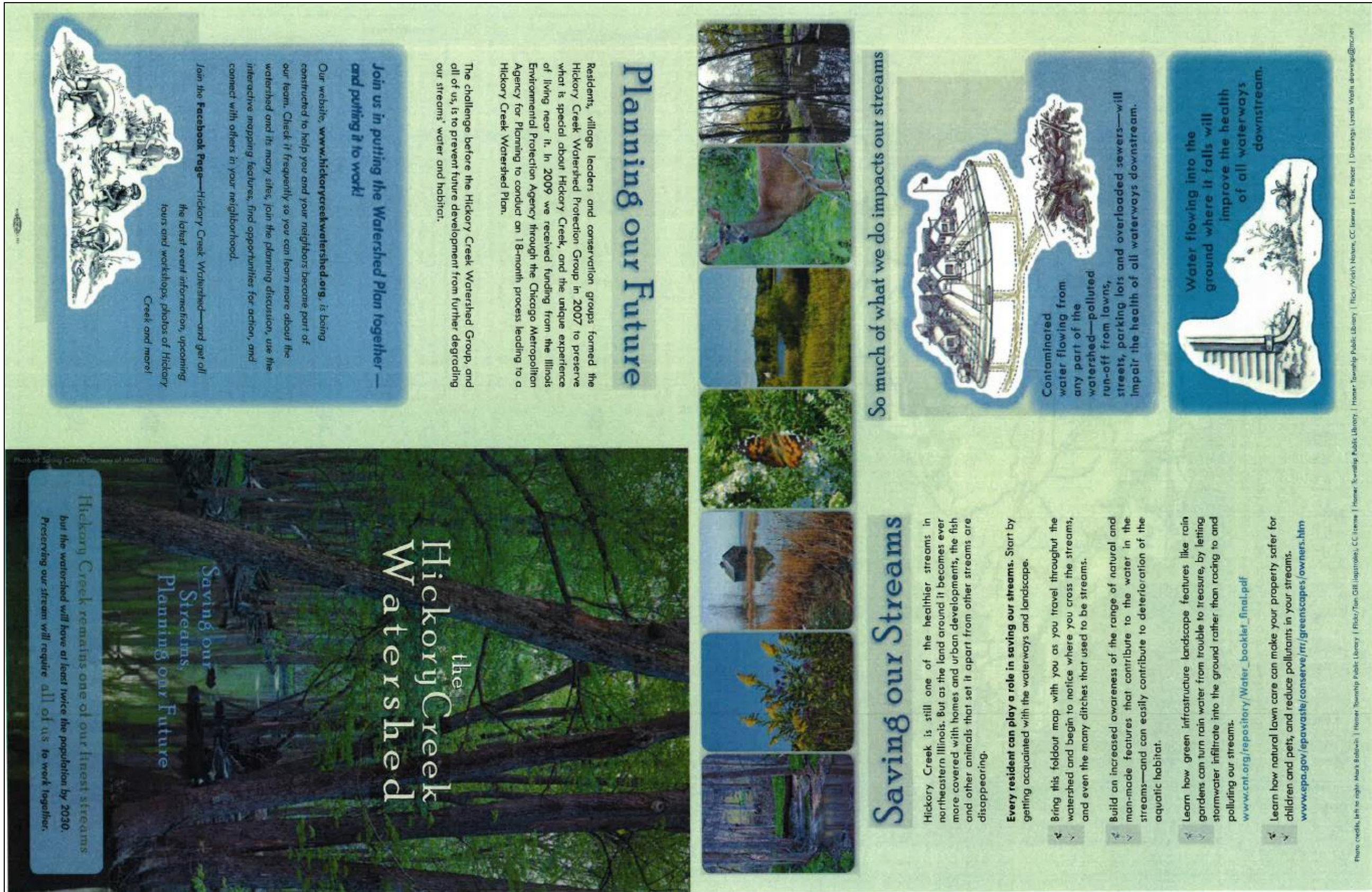
- 1 Pickler Park Nature Center** Over 640 acres of land provide a habitat for wildlife and the perfect environment for outdoor recreation. Bring your family out for hiking, biking or cross country skiing. The Nature Center offers a wide variety of scenic trails, plus a wonderful museum and staff to answer your questions. [www.picklerpark.org](http://www.picklerpark.org)
- 2 Hadley Valley** This broad valley of Spring Creek (easily seen from Route 6 west of Gouger Road) has been preserved, and the stream is being brought back to health. Its man-made channel has been replaced by meanders that replicate natural conditions. Over time, the stream and floodplain habitat will be restored while the groundwater continues to be available for Joliet's water supply. [www.reconnectwithnature.org](http://www.reconnectwithnature.org)
- 3 Messenger Woods Nature Preserve** Messenger Woods is one of Will County's oldest and most unusual forest preserves. Visitors to the preserve can enjoy one of the few remaining forests in northeastern Illinois that have not been altered by grazing, cutting, farming, or development. [www.reconnectwithnature.org](http://www.reconnectwithnature.org)
- 4 Messenger Marsh** Beginning as a 2-acre purchase in 1989, Messenger Marsh Preserve has grown to over 625 acres over the past 20 years. In 2008, the District completed a major renovation to the access area on South Bell Road, and the preserve now offers a number of recreational activities. Trees are being planted to restore open woodland habitat which once dominated a large portion of the marsh. [www.reconnectwithnature.org](http://www.reconnectwithnature.org)
- 5 New Lenox Creek-side Parks** There are two parks in downtown New Lenox that have access to Hickory Creek: RS Carcoran Park/Vets Field (where fishing is permitted) and Haines Wayside Park. [www.newlenoxpark.org](http://www.newlenoxpark.org)
- 6 Hickory Creek Barrens Nature Preserve** Hickory Creek Barrens marks the western boundary of the extensive 1,800-acre Hickory Creek Preserve located in Frankfort, New Lenox and Mokena. It is a nature preserve, providing complete protection for the plants and animals that reside here. This special designation is due to its ecological classification as a "barrens"—an area that shows progression from grasslands, to shrubs, to forests. [www.reconnectwithnature.org](http://www.reconnectwithnature.org)
- 7 Orland Grassland** It's a very special place within our midst. Settled in the 1800s, it was cleared for farming, and traces of old farms are still there. The clearing took its toll and much of the natural plant and animal life became scarce or left completely. A restoration plan is underway that calls for restoring the mix of prairie, wetland, oak savanna and oak woods. 760 acres of ponds, meadows, woods and rolling hills will be improved habitat for the bobolinks, yellow-breasted chats, orchard orioles, and other species that survive there. [www.fpdccc.com/download/187.pdf](http://www.fpdccc.com/download/187.pdf)
- 8 Lake Sedgewick** This 95-acre lake includes a boat ramp, boardwalk, outdoor amphitheater, gazebo, council ring, nature trails, and hiking paths. [www.orland-park.il.us](http://www.orland-park.il.us)
- 9 Sauk Trail Reservoir** This is the only one that was built of three reservoirs planned for Hickory Creek in the 1970s to protect downstream areas from flooding. The 244-acre site is a Will County forest preserve. It can be viewed on the south side of Sauk Trail Road, but it is not accessible to the public because it is designed for a single purpose. A planned new bike trail will connect the reservoir with nearby Commissioner's Park. North of the reservoir, the Old Plank Road Trail crosses Hickory Creek over a historic stone-arch bridge constructed by the former Michigan-Central Railroad. ([www.reconnectwithnature.org](http://www.reconnectwithnature.org))
- 10 A more recent example of sustainable flood hazard reduction is the Hadley Valley stream restoration, which serves a similar flood control purpose but also has greatly increased the habitat quality of Spring Creek and the recreational value of the land.**

The following places are examples of sustainable practices, sometimes called "green infrastructure" that will be important to preserving our streams for the future. They use natural landscapes and the soil/vegetation complex to soak as much stormwater into the soils where it falls as is practical. And they add beautiful, diverse wildlife habitat to our neighborhoods. Go and experience them and see where similar, although smaller, features will fit into your property and your community.

- 11 Annunciation Byzantine Catholic Parish** The vision for this Parish is that of a church in a natural environment—a living land that grows with the people who care for it and love it. In order to accomplish this vision, the parish decided to take a comprehensive look at their entire property. They prepared a Landscape Master Plan to guide the implementation of a sustainable vision for the parish, while serving as an educational demonstration to all who visit or attend the church. If you are interested in sustainable landscaping you should visit this site. It works, it is beautiful, and it has a spiritual aura that is unique. [www.byzantinecatholic.com/nature.htm](http://www.byzantinecatholic.com/nature.htm)
- 12 Frankfort Historic District and Prairie Park** The regional Old Plank Road Trail passes through the Historic District and enters Frankfort's nationally recognized Prairie Park. The 13-acre park integrates active and passive recreation with educational stations and demonstrates several resource management techniques within an environment suitable for all ages. [www.villageoffrankfort.com/play](http://www.villageoffrankfort.com/play)
- 13 Frankfort Public Library and Windy Hill Farm Prairies** These two landscapes, one just south of the library and the other, 1/2 mile to the east, adjoining Hickory Creek, are two of the earliest examples in the Chicago region of restored native prairie landscapes that work to preserve water resources.

Photo credits: Messenger Woods - Mavel Diaz | New Lenox - Hilar/Ferlinhouse, CC license | Lake Sedgewick - Village of Orland Park ([www.orland-park.il.us](http://www.orland-park.il.us)) | Annunciation Byzantine Catholic Church

Appendix B  
Public Outreach Handout



*Hickory Creek remains one of our finest streams but the watershed will have at least twice the population by 2030. Preserving our stream will require all of us to work together.*

*Saving our Streams, Planning our Future*

**Hickory Creek the Watershed**

**Join us in putting the Watershed Plan together — and putting it to work!**


Our website, [www.hickorycreekwatershed.org](http://www.hickorycreekwatershed.org), is being constructed to help you and your neighbors become part of our team. Check it frequently so you can learn more about the watershed and its many sites, join the planning discussion, use the interactive mapping features, find opportunities for action, and connect with others in your neighborhood.

Join the **Facebook Page**—Hickory Creek Watershed—and get all the latest event information, upcoming tours and workshops, photos of Hickory Creek and more!

**Planning our Future**

Residents, village leaders and conservation groups formed the Hickory Creek Watershed Protection Group in 2007 to preserve what is special about Hickory Creek, and the unique experience of living near it. In 2009 we received funding from the Illinois Environmental Protection Agency through the Chicago Metropolitan Agency for Planning to conduct an 18-month process leading to a Hickory Creek Watershed Plan.

The challenge before the Hickory Creek Watershed Group, and all of us, is to prevent future development from further degrading our streams' water and habitat.



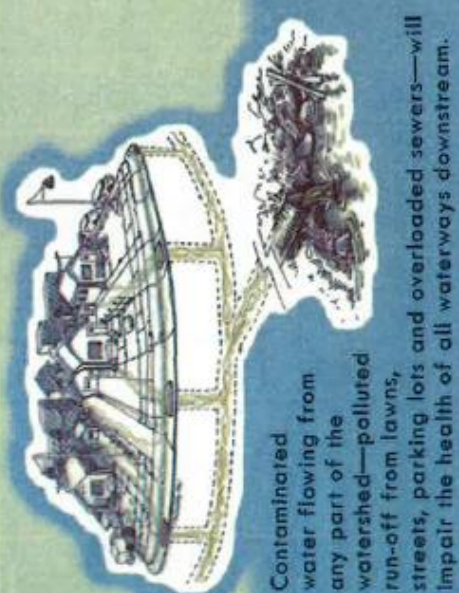
**Saving our Streams**

Hickory Creek is still one of the healthier streams in northeastern Illinois. But as the land around it becomes ever more covered with homes and urban developments, the fish and other animals that set it apart from other streams are disappearing.

**Every resident can play a role in saving our streams.** Start by getting acquainted with the waterways and landscape.

- Bring this foldout map with you as you travel throughout the watershed and begin to notice where you cross the streams, and even the many ditches that used to be streams.
- Build an increased awareness of the range of natural and man-made features that contribute to the water in the streams—and can easily contribute to deterioration of the aquatic habitat.
- Learn how green infrastructure landscape features like rain gardens can turn rain water from trouble to treasure, by letting stormwater infiltrate into the ground rather than racing to and polluting our streams. [www.cnt.org/repository/Water\\_booklet\\_final.pdf](http://www.cnt.org/repository/Water_booklet_final.pdf)
- Learn how natural lawn care can make your property safer for children and pets, and reduce pollutants in your streams. [www.epa.gov/epawaste/conserve/rrr/greenscapes/owners.htm](http://www.epa.gov/epawaste/conserve/rrr/greenscapes/owners.htm)

**So much of what we do impacts our streams**



**Water flowing into the ground where it falls will improve the health of all waterways downstream.**




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