Annual Report for Year 2 (2023-2024) of the Time Limited Water Quality Standard for Chloride

5/1/24

Prepared by Village of Wilmette

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

1.0 Introduction to Chloride Issue in CAWS/LDPR

This Annual Report has been prepared by the Village of Wilmette to report on progress in meeting the requirements for the Time Limited Water Quality Standard for Chloride. The Village of Wilmette 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 Annual Report has been prepared to meet the requirements laid out in the Time Limited Water Quality Standard (TLWQS) for Chloride.

Chloride 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, Facility Information

Agency Name: Village of Wilmette		
Facility Name: Wilmette Engineering & Public Works		Permit Number: NPDES ILG103006
Facility Address: 711 Laramie Avenue		
City: Wilmette	State: Illinois	Zip Code: 60091

The Village of Wilmette is a Cook County community serving a population of 27,114. The Village extends approximately five miles west from Lake Michigan and is approximately one mile wide. Wilmette is a home rule community with a Village President and Board of Trustees elected at large and a Village Manager who runs the day-to-day operations of the Village. Wilmette was incorporated as a municipal corporation in 1872. The Village has a full-service Engineering and Public Works Department (EPW) with 47 full-time employees that perform infrastructure maintenance, including snow and ice control for the 82 lane miles tributary to the CAWS.

The Village of Wilmette performs winter maintenance on the following infrastructure assets:

- 55 miles of arterial streets (any winter salting event, 0+ inches snow accumulation)
- 12 miles sidewalks, business commuter (any winter salting event, 0+ inches snow)
- 111 miles of side streets (2-inches snow accumulation)
- 133 cul-de-sac side streets (2-inches snow accumulation)
- 24 miles sidewalks, school walking (2-inches snow accumulation)
- 19 parking lots (2-inches snow accumulation)
- 18 miles of alleys (2-inches snow accumulation)
- 130 miles sidewalks, residential (4-inches snow accumulation)

The average snowfall and plow events are provided in the table denoted below. To provide safe driving conditions during the winter months, road salts are used to help melt snow and ice. Sodium Chloride (road salt) is the most cost-effective material for removing snow and ice from the road surface when the temperature is above 20 degrees Fahrenheit. Below 20° Fahrenheit, salt is treated with Beet-Heet/Mag Chemical to remain effective for temperatures below 20°.

Winter Season	No. of Plow Activities	Snow (inches)
2023-2024	2	11
2022-2023	5	14
2021-2022	7	38
2020-2021	9	55
2019-2020	6	14
2018-2019	8	41
Average	**6**	**29**

The policy of EPW is to salt main arterial streets, streets adjacent to schools, streets with curves or steep grades. These streets are referred to as the Tier 1 Priority Routes. Salting is a proactive approach used to minimize the bonding of ice to pavement, and to halt the further buildup of ice and snow on roadways and sidewalks. Salting of the arterial streets and intersections will occur if conditions are favorable for snow build-up or icing which could lead to hazardous vehicular travel. The amount of salt dispersed depends on the conditions but will typically vary from 200-600 lbs./lane mile. Salting operations

continue until the icing conditions are brought under control (wet pavement is maintained) or until salting is no longer effective and plowing commences.

Pre-wetting salt (applying a liquid deicer) greatly enhances the ice melting performance of rock salt at lower temperatures, helps the salt to stick better where applied and helps reduce the corrosiveness of rock salt. Salt brine is used in temperatures at 15° or above. Pre-wetting salt is used every time salting occurs. Bulk rock salt is treated (or pre-wetted) at a rate of 20-25 gallons per ton of salt dispersed.

Under normal conditions, only side street intersections will be salted. Salt will be applied to the 100-ft length of roadway approaching and exiting each intersection. If low sub-freezing temperatures are expected after a storm event, salt may be applied to the entire street to prevent wide spreading ice formation.

Business/Commuter Sidewalk Routes are the first sidewalks salted and plowed. These routes are serviced at the same time as the arterial streets. Cul-de-sacs, alleys, and parking lots are plowed using a contractor. Salting is performed by in-house staff only when conditions warrant.

In 2019, the Village purchased a salt brine machine capable of producing 12,000 gallons of salt brine per shift and storing 18,000 gallons at a time. The machine can also blend salt brine with other chemicals to lower the effective melting temperature of the brine.

The Village has two covered storage facilities dedicated to salt storage, including a salt dome with 600-ton capacity and a fabric-covered structure with 400-ton capacity.

2.1 Level of Service for Winter Maintenance Activities

The Village of Wilmette has typically provided a high level of service when delivering winter maintenance services. Roadways are generally cleared from curb-to-curb, and arterials are treated until pavement is free from snow and ice. In conjunction with this chloride minimization plan, however, an effort was made to educate the public on the importance of salt conservation and to reframe the public's expectations of bare pavement during snow events.

3.0 Best Management Practices

Details regarding Village of Wilmette's implementation of the best management practices (BMPs) identified as part of the TLWQS for Chloride are included below.

Workgroup BMP

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	Wilmette has been a member of the Chicago Area Waterways Chloride Workgroup since its inception in 2021. Staff participates in all meetings, training sessions and special events.

Salt Storage and Handling BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
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.	Salt used by Wilmette is stored in two facilities: a permanent salt dome (550-ton capacity) and covered fabric structure (400-ton capacity). Both sit on concrete pads to prevent contact with stormwater. Both structures are located at the Public Works Yard, 711 Laramie Avenue.
Cover salt piles at all times except when in active use, unless stored indoors.	Salt piles are always covered.
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.	The Village currently practices good housekeeping to reduce chloride runoff to the storm sewer system. Areas in the Village Yard used to load and clean trucks are swept with a rotary broom on a bobcat after every use to ensure salt is not allowed to accumulate on the pavement surface. When cleaning trucks, all solids are removed prior to washing to ensure any runoff from washing the trucks is highly diluted. A smaller bucket was purchased for the loaders so that there is less spillage when loading trucks.
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.	Deicing materials are stored in various holding tanks.
Good housekeeping practices must be implemented at the site, including: • cleanup of salt at the end of each day or conclusion of a storm event; • tarping of trucks for transportation of bulk chloride; • maintaining the pad and equipment; • good practices during loading and unloading;	The Village is in compliance with some of the listed good housekeeping practices and others are programmed as future improvements. The Village currently practices good housekeeping to reduce chloride runoff to the storm sewer system. Areas in the Village Yard used to load trucks are swept with a rotary broom on a bobcat after every use to ensure salt is not allowed to accumulate on the surface. At the end of an event, trucks are washed in the manual side of the Village's car wash station. The water runoff during this process is collected in a basin, pumped out and repurposed.

• cleanup of loading and spreading equipment after each snow/ice event; • a written inspection program for storage facility, structures and work area; • removing surplus materials from the site when winter activity finished where applicable; • annual inspection and repairs completed when practical; • evaluate the opportunity to reduce or reuse the wash water.	The 2025 Capital Improvement Program includes a request for salt dome repairs and coverings over the open sides of the fabric structure and salt dome structure. Annual inspections of the Village's salt facilities, including pads and structures are conducted annually in conjunction with development of the ten-year capital improvement program.

Winter Maintenance Operations BMPs

BMP	Agency Description of Current Implementation or Status Update to the Plan to Implement the BMP
Calibrate all salt spreading equipment at least annually before November 30th. Records of the calibration results must be maintained for each piece of spreading equipment.	Wilmette's fleet services staff calibrate all salt spreaders and liquid applications prior to November 30 each year. The data is collected and stored in a spreadsheet. Method of calibration includes dispensing and weighing the salt to verify the proper weight is dropped and dispensing and measuring the liquid to verify the correct amount is applied. Making sure all the equipment is properly maintained to guarantee consistency throughout the season. Periodically recalibrating equipment during the season if we find an anomaly in the data collected after each salting event.
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.	Wilmette's snow equipment is equipped with liquid salt pre-wetting systems to wet the salt prior to leaving the truck. This technique facilitates faster chemical snow melt and reduces the "bounce and scatter" effect to make more productive use of the salt.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	All large snowplow trucks and supervisor vehicles have working pavement temperature sensors.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	The Village snow team uses a snow and ice condition matrix to determine the proper strategy when responding to an event. This matrix is included in the Village's snow plan.

Track and record salt quantity used and storm conditions from each call-out.	This information is currently tracked on each vehicle. Every event tracks the liquid and salt amounts used. This information is downloaded and inputted into a master spreadsheet. Master tracking sheet is included in the Village's snow plan.
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.	The Village's anti-icing plan is included in the Snow Plan.
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.	All Engineering and Public Works staff that are involved in the winter maintenance program participated in the 4 -hour training hosted by the CAWS and Lower Des Plaines River watershed workgroups.
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.	Contractors do not use salt.
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.	To be completed.
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.	Critical snow fighting equipment is already equipped with anti - icing and salt spreading/deicing measures. All new and retrofitted salt spreading equipment is equipped with pre - wetting technology that has been calibrated to ensure proper rates of application.
MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on the winter maintenance fleet for	All large snowplow trucks and supervisor vehicles have working pavement temperature sensors.

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.	
MS4/CSO/IDOT/TOLLWAY Only - Before the first re-evaluation, develop a method for conducting a post-winter review to identify areas of success and areas in need of improvement. Items to be completed as part of the review must include, but are not limited to, an evaluation of each salt spreader's application rate, variations in application rates, and discussion of the variation compared to the recommended rates. Once developed, the review should occur annually in the spring/early summer following each winter season.	Quality control is completed during each storm and adjusted as necessary. In addition to the formal training by outsourced experts, each year our snow and ice supervisors conduct departmentwide training before and after the snow season. The purpose of this training is to ensure the team has an opportunity to ask questions and provide feedback and suggestions for improving the operation. This includes discussion of the performance of the applicable equipment.

Additional BMPs Identified for Agency/Facility

BMP	Agency Description of Current Implementation
Public Education	The Village uses social media and E-news (electronic newsletter) to inform the public of proper use of salt and salt mitigation strategies. We also use this as an opportunity to inform the public about level of service changes related to using less salt when performing snow and ice control.

3.1 Analysis of BMPs Implemented

Overall, the 2023-24 winter season was very mild with above normal temperatures and lower snow accumulation. Therefore, the number of snow events and chloride usage were significantly lower than normal. Regardless, staff made a concerted effort to uphold good housekeeping practices and keep salt loading areas clean by being diligent with the collection of loose salt debris on the ground with the skid steer rotary broom and returning all salt material to their covered (dry) storage facilities. This practice was implemented throughout the duration of each event. Due to the limited number of snow events, milder temperatures and recurring pattern of rain turning to snow, opportunities for anti-icing operations were also limited. All salt was pre-wetted at an average rate

of 23.33 gals per ton at the salt spinner with positive results. Anti-icing operations utilized an application rate of 42.00 gals per lane mile, consistent with prior winter seasons.

3.2 Analysis of Alternative Treatments or New Technology

For the 2023-2024 winter season, staff implemented a pilot project of deicing roadways with liquid salt brine at application rates between 40-68 gallons per lane miles utilizing T-18 (1,000 gallons spray unit). The pilot project occurred over four events (range of 29-34 degrees F pavement temperature and varying snow intensities) with inconclusive results. Staff will continue the pilot program for an additional year (i.e., 2024-2025 winter season) providing an opportunity for further assessment.

In advance of the 2023-2024 winter season, the Village purchased a new sidewalk machine (Prinoth C-20, track based) with straight and v-blade front plows and a dry salt hopper. Final delivery occurred in November 2023. This machine services the Village's residential sidewalks at four (4) inches and above snow accumulation. The residential sidewalks are not salted, but the machine assists with the school walking routes at deeper snow accumulations and has salting capabilities for treating crossing guard locations on an as-needed basis.

Likewise, the Village replaced one of its 12 large dump trucks (T-17) with final delivery occurring in March 2023. The new dump truck specification included a 10' width poly front plow, 10' underbody scraper, pavement temperature sensor, Force America spreader controls, five (5) cubic yard v-box spreader with liquid tanks (250-gal capacity) and pre-wetting system. This truck is also the only one configured with a 4X4 drive train to facilitate plowing of the alleys with the v-plow at deeper snow accumulations or blizzard events.

As part of the Village's capital budget planning, staff has programed the next four large dump trucks (2024, 2025, 2027 and 2028) to utilize roll-off body platforms with two or three additional roll-off spray units (1,000-gallon capacity) to further expand anti-icing capacity and capabilities. The additional units will translate to more efficient and expedient anti-icing operations.

Staff have also researched solar-powered camera and pavement temperature sensor systems (light pole mounts) for providing remote monitoring (real time) of winter weather pavement conditions within the community. Staff are in the process of finalizing a purchase/lease contract with Frost Solutions for implementation of a pilot program ahead of the 2024-2025 winter season. This project will assist with the timing of callouts for snow and ice control. The pilot project will also provide an opportunity to conduct a thorough cost/benefit analysis for consideration of long-term implementation.

4.0 Deicing/Anti-Icing Agents Used

Materials used by the Village of Wilmette for the 2023-2024 winter season are included as Appendix 1.

4.1 Application Rates

The application rates used by the Village of Wilmette for the 2023-2024 winter season are included as Appendix 2.

4.1.1 Application Rate Analysis

Over this past winter season, the salt application rate ranged from 300 to 500 lbs. per lane mile with an average pre-wetting application rate of 23.33 gals per ton. All rock salt material is pre-wetted at the spinner. The average anti-icing application rate was 42.00 gallons per lane mile. These rates fall within parameters outlined in the Village's salt application rate guide. Rates were slightly above the previous winter season (22.50 gallons per ton - pre-wetting, 36 gallons per lane mile - anti-icing) and produced favorable results for snow and ice control. However, staff continues to explore alternate methods and strategies to maintain effective snow and ice control while lowering its chloride footprint.

4.2 Application Practices

Village of Wilmette uses the following practices to apply deicing and anti-icing materials:

1. Deicing (apply chemical directly to snow/ice covered road surface), utilize v-box salt spreaders with pre-wetting capabilities and liquid spray units.
2. Anti-icing (apply chemical directly to dry road surface in advance of precipitation),
3. Pre-wetting (apply liquid to dry material at salt spinner before it hits road surface).
4. NEW – Deicing (apply liquid directly to snow/ice covered road surface), utilizing 1,000 gallons roll-off spray unit on T-18

Bulk Rock Salt

The primary (dry) material used for snow and ice control is bulk rock salt which is sodium chloride and conforms with the American Association of State Highway Transportation Officials (AASHTO) Specification M143, sodium chloride, type 1, grade 1. This material is applied directly onto roadways with V-box salt spreaders at rates of 200-500 lbs. per lane mile for melting snow and ice (or deicing). This material is purchased through joint purchase agreements through the State of Illinois (Central Management Services) and Lake County, Illinois (Department of Transportation).

Liquid Salt Brine

Salt brine is a 22-23% liquid solution comprised of sodium chloride and water, produced, and stored onsite at the Public Works Facility. The 2019-20 winter season marked the first year of operation for the Village's salt brine machine, and since inception, crews have produced 167,880 gals, resulting in a savings of $50,364 (or $0.30 per gal) as compared to sourcing from an outside vendor. Liquid salt brine is applied directly to roadways (35-40 gals per lane mile) ahead of a storm as a proactive measure to reduce the bonding of snow and ice to the pavement. This operation is referred to as anti-icing. This material can be utilized for pre-wetting applications where dry material is sprayed at the spinner to reduce scatter of dry material onto roadways and to improve melting performance of rock salt. Lastly, the liquid can be directly applied to the road surface for snow and ice control, (commonly referred to as 'deicing').

Liquid Deicer

Since bulk rock salt and liquid salt brine losses its effectiveness at lower temperatures (less than 20 degrees Fahrenheit), other chemicals are necessary to achieve desired melting performance for snow and ice. Liquid deicers are typically comprised of other chlorides (magnesium, calcium) having

much lower freeze points and a mixture of organics for environmental benefit and to inhibit corrosive properties of the solution. Liquid deicers assist with pre-wetting, deicing and anti-icing applications and can also be blended with liquid salt brine for custom solutions.

Over the past five winter seasons, the Village selected Beet-Heet liquid deicer product which is primarily a calcium chloride proprietary product with a high concentration of organic beet sugars mixed into the final solution. Crews first started using the product during the 2019-20 winter season. Based on the product's performance, staff recommends continued use for the upcoming winter seasons. The product is also compatible to mix with liquid salt brine for custom blends of deicer solutions (80%/20% and 70%/30% formulations).

4.3 Call Outs

A total of 11.00 inches of snow was reported in the Village of Wilmette for the 2023-2024 winter. The Village of Wilmette had a total of 12 call outs completed during the 2022-2023 winter which included one anti-icing event, three (3) freezing rain/icing events and eight (8) snow events. A log of all call outs completed by Village of Wilmette are included as Appendix 3.

4.4 Use of Liquids

The use of liquids (anti-icing and pre-wetting) was fully implemented throughout the 2023-2024 winter season. The practice of deicing was introduced as part of pilot program (first year). However, due to the mild weather conditions and reduced number of snow events and winter precipitation, total consumption of liquids was much lower than the previous winter season. Staff continued to use higher application rates as permitted by equipment for pre-wetting (23.33 gallons per ton). The anti-icing application rate was 42.00 gallons per lane mile and the deicing application rate varied between 40.00-68.00 gallons per lane mile.

5.0 Training

The Village of Wilmette completed annual training for 32 of employees out of 32 of employees who are part of the winter maintenance operations on 12/13/23 – annual snow meeting. Additional employees attended snowplow driver training at NIPSTA and the salt smart collaborative webinar. A list of annual training topics by type of employee is included in Appendix 4.

6.0 Deicing and Snow Removal Equipment and Maintenance

The Village of Wilmette uses equipment listed in Appendix 5 during winter maintenance activities.

6.1 Description of Equipment Washing and Wash Water Collection

The Village continues to practice good housekeeping to reduce chloride runoff to the storm sewer system. Areas in the Village Yard used to load trucks are swept with a rotary broom on a bobcat after every use to ensure salt is not allowed to accumulate on the surface. At the end of an event, trucks are washed in the manual side of the Village's car wash station. The water runoff during this process is collected in a basin, pumped out and repurposed for snow and ice control.

7.0 Material Storage

The Village of Wilmette maintains three storage area(s). This includes two dry salt areas and one area for liquid storage tanks. Information regarding the storage area(s) is included in Appendix 6.

8.0 Capital Purchases

Identified capital purchases from the Village of Wilmette's PMP to implement the BMPs and reduce chlorides in our operations over the first 5-year term of the Chloride TLWQS are included as Appendix 7.

8.1 Explanation of Capital Purchases Unable to Be Made According to the Reported Plan

The final delivery of the large dump trucks T-33 and T-40 was pushed out to December 2024, due to disruptions in supply chain and scheduling with equipment outfitter. These trucks primary use is within the Water/Sewer Division of Public Works, however, they are equipped with a 10' snowplow and support snow plowing operations during the winter season.

The purchase of truck chassis for T-05 & T-06 was advanced to 2024 while equipment outfitting for both units will occur in 2025 – the revised schedule is in response to disruptions in the supply chain and availability with the equipment outfitters. Final delivery of the truck chassis is expected in December 2024 whereas equipment outfitted will be completed by July 2025.

9.0 Environmental Monitoring Data

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

Chloride monitoring data reports are posted to https://www.cawswatershed.org/reports/ and https://ldpwatersheds.org/about-us/lower-des-plaines-watershed-group/our-work/chloride-tlwqs/.

10.0 Program Evaluation

The Village's program evaluation utilizes a multifaceted approach with quality control and program assessment conducted by supervisory staff with each snow event. Supervisory staff actively engage with equipment operators to assess performance of snow and ice control strategies, treatments, roadway conditions while upholding chloride minimization. Staff utilize the Winter Maintenance Event Log Form for each snow event to denote general call out information, weather conditions, products and amounts used, application rates and methods, and comment/feedback on the effectiveness of prescribed treatments. Staff will continue to stay up to date with training opportunities to learn new and improve upon existing best management practices. In addition to the formal training by outsourced experts, each year our snow and ice supervisors conduct department wide training before and after the snow season.

The purpose of this training is to ensure the team has an opportunity to ask questions and provide feedback and suggestions for improving the operation. This includes discussion of the performance of the applicable equipment and chemicals. Staff will also remain receptive to evaluating new products and technology as they become available. Being flexible, always open to new opportunities is a driving principle.

10.1 Proposed Steps for the Coming Year

1. Active engagement during execution of snow and ice control plan – Supervisors and Crew Leaders are tasked with assessing and enforcing quality control and adherence to treatment plan and adjustments.
2. Open to evaluating new products and take advantage of new technologies as they become available.
    a. For the 2024-2025 winter season, the Village will be looking to install two remote cameras and pavement temperature sensors with cloud software platform to monitor conditions in real time and stage/deploy crews more efficiently. This project was deferred one year to allow more time for finalization of contract/lease agreement for a pilot program.
    b. 2025 Capital budget planning includes replacement of two large dump trucks with a roll off system and the addition of a liquid spray tank for anti-icing and deicing applications.
    c. Continue to evaluate effectiveness of liquid deicing applications for sidewalk machines.
3. Stay up to date with training opportunities to learn and improve upon best management practices.
4. Continue to review and adjust the Village's treatment schedule as new products (chemicals and equipment) and technology offer efficiency gains and contribute towards chloride minimization.
5. Continue to collaborate with the municipal representatives in the CAWS workgroup to share ideas, techniques and operational practices that advance the goal of reducing chlorides.
6. Continue to provide public outreach on Village's snow and ice control plan and efforts for chloride minimization.

11.0 Workgroup Participation

Supervisory staff attend and participate in CAWCW's membership meetings (in person and via Microsoft Teams). Supervisory staff also network with staff from other communities to share ideas on chloride reduction. Staff compiles and submits Annual Report and Pollutant Minimization Plan to the workgroup. The Village also participates in any CAWCW sponsored surveys related to workgroup activities or projects. Supervisory staff and equipment operators attend Winter Deicing Workshops.

Appendix Pages 1-7

Organization Name:

Chloride TLWQS Annual Report
Appendix 1 - Deicing/Anti-Icing Agents Used

Material or Product	Dry, Pre-Wet, Pretreated, or Liquid	Lane Miles Treated with the Product for 2022-2023	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2022-2023	Lane Miles Treated with the Product for 2023-2024	Parking Lot and Sidewalk Area (Sq. Ft.) Treated with the Product for 2023-2024	Total Amount used for 2022-2023 (Year 1) in Tons or Gallons	Total Amount used for 2023-2024 (Year 2) in Tons or Gallons	Total Amount used for 2023-2024 (Year 3) in Tons or Gallons	Total Amount used for 2023-2024 (Year 4) in Tons or Gallons	Total Amount used for 2023-2024 (Year 5) in Tons or Gallons	Total Amount Used Over First 5-Year Term
Rock Salt	Dry	3528	809,415	2032	809,415	900	581				1481
Salt Brine 100%	Pre-Wet	1388	318,443	984	391,961	4,343	5,948				10291
Salt Brine 80%/Beet Heet 20%	Pre-Wet	2140	490,972	1048	417,454	15,947	7,709				23656
Anti-Ice, Salt Brine 100%	Liquids	82	0	101	0	2925	4250				7175
Anti-Ice, Salt Brine 80%, Beet Heet 20%	Liquids	141	0	0	0	5125	0				5125
Deicing, Salt Brine 100%	Liquids	0	0	74	0	0	2944				2944
Deicing, Salt Brine 80%, Beet Heet 20%	Liquids	0	0	121	0	0	7603				7603
											0
											0
											0
											0
Estimates of Relative Material Amounts Applied and Coverage Achieved											

Organization Name:

Chloride TLWQS Annual Report
Appendix 1 - Deicing/Anti-Icing Agents Used

Year	Total Lane Miles Maintained	Total Parking Lot and Sidewalk Area (Sq. Ft.) Maintained	Percent of Total Lane Miles Treated with Dry Materials	Percent of Total Lane Miles Treated with Pre-Wet or Pretreated Materials	Percent of Total Lane Miles Treated with Liquids	Percent of Total Parking Lot and Sidewalk Area Treated with Dry	Percent of Total Parking Lot and Sidewalk Area Treated with Pre-wet or Pretreated Materials	Percent of Total Parking Lot and Sidewalk Area Treated with Liquids			
2022-2023	3751	809,415	94%	94%	6%	100%	100%	0%			
2023-2024	2328	809,415	87%	87%	13%	100%	100%	0%			

			Initial Operation		Subsequent Operation (3-hour intervals)	
Snow, Ice or Frost Forecast	**Pavement Temperature Range/Trend**	**Initial Pavement Surface Conditions**	**Maintenance Action**	**Dry Chemical Spread (lbs/lane mile)**	**Maintenance Action**	**Dry Chemical Spread (lbs/lane mile)**
Light Snow less than 1/2 inch per hour	Above 32 F, steady or rising	Dry	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, steady or rising	Wet Slush	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, steady or rising	Light Snow Covering	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, 32 F or below is immient	Dry	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	Above 32 F, 32 F or below is immient	Wet Slush	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	Above 32 F, 32 F or below is immient	Light Snow Covering	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	20 F to 32 F, remaining in range	Dry	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	20 F to 32 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	20 F to 32 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical	100
	15 F to 20 F, remaining in range	Dry	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	15 F to 20 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	15 F to 20 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	Below 15 F, steady or falling	Dry	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Wet Slush	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Light Snow Covering	Plow as needed	NA	Plow as needed	NA
Light Snow with periods of heavier snow	Above 32 F, steady or rising	Dry	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, steady or rising	Wet Slush	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, steady or rising	Light Snow Covering	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, 32 F or below is immient	Dry	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	Above 32 F, 32 F or below is immient	Wet Slush	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	Above 32 F, 32 F or below is immient	Light Snow Covering	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	200
	20 F to 32 F, remaining in range	Dry	Apply pre-wetted solid chemical	100	Plow as needed, Apply pre-wetted solid chemical as needed	200
	20 F to 32 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	100	Plow as needed, Apply pre-wetted solid chemical as needed	200
	20 F to 32 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	100	Plow as needed, Apply pre-wetted solid chemical as needed	200
	15 F to 20 F, remaining in range	Dry	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	250
	15 F to 20 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	250
	15 F to 20 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	200	Plow as needed, Apply pre-wetted solid chemical as needed	250
	Below 15 F, steady or falling	Dry	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Wet Slush	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Light Snow Covering	Plow as needed	NA	Plow as needed	NA
Moderate/Heavy Snow Storm -greater than 1/2 inch per hour	Above 32 F, steady or rising	Dry	Monitor Temps, Spot Treat	NA	NA	NA
	Above 32 F, steady or rising	Wet Slush	Apply pre-wetted solid chemical	100	Plow as needed, Apply pre-wetted solid chemical as needed	100
	Above 32 F, steady or rising	Light Snow Covering	Apply pre-wetted solid chemical	100	Plow as needed, Apply pre-wetted solid chemical as needed	100
	Above 32 F, 32 F or below is immient	Dry	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	Above 32 F, 32 F or below is immient	Wet Slush	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	Above 32 F, 32 F or below is immient	Light Snow Covering	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	30 F to 32 F, remaining in range	Dry	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	30 F to 32 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	30 F to 32 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	100 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	100 (min) to 400 (max)
	25 F to 30 F, remaining in range	Dry	Apply pre-wetted solid chemical	200 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	200 (min) to 400 (max)
	25 F to 30 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	200 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	200 (min) to 400 (max)
	25 F to 30 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	200 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	200 (min) to 400 (max)
	15 F to 25 F, remaining in range	Dry	Apply pre-wetted solid chemical	200 (min) to 500 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	250 (min) to 500 (max)
	15 F to 25 F, remaining in range	Wet Slush	Apply pre-wetted solid chemical	200 (min) to 500 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	250 (min) to 500 (max)
	15 F to 25 F, remaining in range	Light Snow Covering	Apply pre-wetted solid chemical	200 (min) to 500 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	250 (min) to 500 (max)
	Below 15 F, steady or falling	Dry	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Wet Slush	Plow as needed	NA	Plow as needed	NA
	Below 15 F, steady or falling	Light Snow Covering	Plow as needed	NA	Plow as needed	NA
Frost	Above 32 F, steady or rising	Any	Monitor Temps, Pre-Treat	40-75 gallons per lane mile anti-icing (liquid only)	NA	NA
	28 F to 35 F, remaining in range or falling to 32 F or below, and equal to or below dew point	Any	Monitor Temps, apply pre-wetted solid chemical	less than 100	Apply pre-wetted solid chemical as needed	less than 100
	20 F to 28 F, remaining in range, and equal to or below dew point	Any	Apply pre-wetted solid chemical	150 (max)	Apply pre-wetted solid chemical as needed	150 (max)
	15 F to 20 F, remaining in range, and equal to or below dew point	Any	Apply pre-wetted solid chemical	100 (min) to 200 (max)	Apply pre-wetted solid chemical as needed	100 (min) to 200 (max)
	Below 15 F, steady or falling	Any	Apply abrasives	NA	Apply abrasives as needed	NA
Freezing Rain Storm	Above 32 F, steady or rising	Any	Monitor Temps, Spot Treat	100	Monitor Temps, Spot Treat	100
	Above 32 F, 32 F or below is immient	Any	Monitor Temps, apply pre-wetted solid chemical	100	Apply pre-wetted solid chemical as needed	100
	20 F to 32 F, remaining in range	Any	Monitor Temps, apply pre-wetted solid chemical	100 (min) to 250 (max)	Apply pre-wetted solid chemical as needed	100 (min) to 250 (max)
	15 F to 20 F, remaining in range	Any	Monitor Temps, apply pre-wetted solid chemical	250 (min) to 400 (max)	Apply pre-wetted solid chemical as needed	250 (min) to 400 (max)
	Below 15 F, steady or falling	Any	Apply abrasives	NA	Apply abrasives as needed	NA
Sleet Storm	Above 32 F, steady or rising	Any	Monitor Temps, Spot Treat	125	Monitor Temps, Spot Treat	125
	Above 32 F, 32 F or below is immient	Any	Monitor Temps, apply pre-wetted solid chemical	125	Plow as needed, Apply pre-wetted solid chemical as needed	125
	28 F to 32 F, remaining in range	Any	Monitor Temps, apply pre-wetted solid chemical	125 (min) to 325 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	125 (min) to 325 (max)
	15 F to 28 F, remaining in range	Any	Monitor Temps, apply pre-wetted solid chemical	250 (min) to 400 (max)	Plow as needed, Apply pre-wetted solid chemical as needed	250 (min) to 400 (max)
	Below 15 F, steady or falling	Any	Plow as needed	NA	Plow as needed	NA

2023-2024 Winter Season - Log of Call-Outs - Village of Wilmette - Appendix 3

EVENT	DATE	POLICE DEPT. CALL OUT	CREW START	CREW END	Snow Accumulation (inches)	PRECIP TYPE (SNOW, ICE, SLEET, DUST)	PRECIP INTENSITY (LIGHT, MODERATE, HEAVY)	AIR TEMPERATURE	PAVEMENT TEMPERATURE	APPLICATION PRACTICE IMPLEMENTED	ANTI-ICE APPLICATION RATE (GALS/LANE MILE)	SALT APPLICATION RATE (LBS./LANE MILE)	PRE-WET APPLICATION RATE (GALS/TON)	DE-ICE APPLICATION RATE (GALS/LANE MILE) T-18	Rock Salt Used (tons)	Salt Brine Used (gal)	BEET-HEET Used (gal)
1	10/31 - 11/01/23	10:00pm	10:45pm	12:30am 11/01	1.00	Snow	LT		31	Pre-Wetting		300	25		11.40		
2	11/26/2023	5:47am	6:30am	11:30am	0.90	Snow	LT		30	Pre-Wetting		400	25		50.01	930.00	
3	1/5/2024		7:30am	2:30pm					28	Anti-Ice	42					4250.00	
4	1/6/2024	2:30am	3:00am	7:00am	2.00	Snow	LT		33	Pre-Wetting		400	25	40	25.96	2107.00	
	1/10/2024		7:30am	11:00am						Salt Brine Production					13.22		
5	1/10-1/11/24	10:15pm	11:00pm 1/10	4:30am 1/11	0.25	Snow	LT		34	Pre-Wetting		300	25	40	15.91	1952.00	
6	1/12-1/13/24	4:30am	5:15am 1/12	3:15pm 1/13	3.50	Snow	HVY		33	Pre-Wetting		400	25	68	105.40	7129.60	1782.40
7	1/14/2024	4:15am	5:30am	3:00pm	0.50	Snow	LT		29	Pre-Wetting		450	25		60.12	1758.48	439.62
8	1/18-19/2024	10:10pm	11:30PM 1/18	4:30pm 1/19	1.50	Snow	M		29	Pre-Wetting		400	25	47	115.29	3361.80	840.00
9	1/22-23/24	10:50pm	11:45pm 1/22	11:00am 1/23	0.10	ICE	M		28	Pre-Wetting		500	25		100.48	2265.00	
10	1/24/2024	5:10am	6am	8am		ICE	LT		28	Pre-Wetting		300	25		12.19	385.00	
	1/24/2024		8am	11am						Salt Brine Production					17.40		
11	2/4/2024		2:28am	5:45am		ICE	LT		31	Pre-Wetting		300	25		15.41	285.00	
12	2/23-24/24	9:15pm	10:00pm 2/23	3:30am 2/24	1.50	Snow	M		30	Pre-Wetting		300	25		38.87	968.00	
	Subtotals				**11.25**										**581.66**	**25391.88**	**3062.02**

Organization Name: **Chloride TLWQS Annual Report**

Appendix 4 - Annual Training

Role in Winter Operations	Training Topics Covered
Maintence Workers (four employees total)	Employees (new hires) attended snow plow driver training held at the Northeastern Illinois Public Safety Training Academy (NIPSTA) on August 23, 2023.
Street Superintendent and Street Crew Leader (two employees total)	Attended webinar: Virtual Deicing Workshop held on September 26, 2023, Salt Smart Collaborative reviewing environmental impacts from salt applications, anti-icing benefits, good housekeeping around salt storage areas, etc.
Director of EPW, Deputy Director of PW, Superintendents, Crew Leaders, and Maintenance Workers (32 employees total)	Conducted Snow Meeting on 12/13/23 with all staff. Reviewed environmental impacts of operations (materials -dry granular and liquids, salting, pre-wetting, anti-icing, etc.), application rates, good housekeeping practices around salt storage areas, proper loading/unloading of trucks and equipment, heavy equipment use such as front end loaders (refresher training sessions made available to employees), salt brine machine use and dispensing system, reviewed levels of service or tiers/priority routes, and problem service areas from previous winter season (reviewed log of service requests).

Organization Name:
Village of Wilmette

Chloride TLWQS Annual Report
Appendix 5 - Equipment

Type of Equipment	Equipment/Vehicle Number	Type of Spreader (mechanically controlled, computer controlled, etc.)	Type of Material Used with Equipment (Dry, Pre-Wet, Pretreated, Liquids)	Any Other Important Equipment Information
Lg. Dump	T-03	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-04	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-05	Computer Controlled	Pre-wet	7 cubic yards, 300 gallons capacity
Lg. Dump	T-06	Computer Controlled	Pre-wet	7 cubic yards, 300 gallons capacity
Lg. Dump	T-08	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-09	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-10	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-16	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-17	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-18	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-33	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Lg. Dump	T-40	Computer Controlled	Pre-wet	5 cubic yards, 250 gallons capacity
Sm. Dump	T-11	Computer Controlled	Pre-wet	3 cubic yards, 150 gallons capacity
Sm. Dump	T-23	Computer Controlled	Pre-wet	3 cubic yards, 150 gallons capacity
Jeep	P-19	n/a	n/a	n/a, n/a
Jeep	P-22	n/a	n/a	n/a, n/a
Pick-Up	T-02	n/a	n/a	n/a, n/a
Pick-Up	T-07	n/a	n/a	n/a, n/a
Pick-Up	T-15	n/a	n/a	n/a, n/a
Pick-Up	T-20	n/a	n/a	n/a, n/a
Pick-Up	T-21	n/a	n/a	n/a, n/a
Pick-Up	T-26	n/a	n/a	n/a, n/a
Pick-Up	T-29	n/a	n/a	n/a, n/a
Pick-Up	T-36	n/a	n/a	n/a, n/a
Pick-Up	T-39	n/a	n/a	n/a, n/a
Pick-Up	T-41	n/a	n/a	n/a, n/a
Pick-Up	T-44	n/a	n/a	n/a, n/a
Pick-Up	T-47	n/a	n/a	n/a, n/a
Pick-Up	T-48	n/a	n/a	n/a, n/a

Organization Name:
Village of Wilmette

Chloride TLWQS Annual Report
Appendix 5 - Equipment

Type of Equipment	Equipment/Vehicle Number	Type of Spreader (mechanically controlled, computer controlled, etc.)	Type of Material Used with Equipment (Dry, Pre-Wet, Pretreated, Liquids)	Any Other Important Equipment Information
Sidewalk	C-02	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a
Sidewalk	C-19	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a
Sidewalk	C-25	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a
Sidewalk	C-18	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a
Sidewalk	C-20	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a
Sidewalk	C-24	Mechanical Control	Dry, Pretreated	0.22 cubic yards, n/a

Organization Name:

Chloride TLWQS Annual Report
Appendix 6 - Material Storage

Location of Storage Area	Material Stored (Rock Salt, Salt Brine, etc.)	Amount of Material Stored 2022-2023	Amount of Material Stored 2023-2024	Material stored under permanent cover? (yes/describe other)	Material stored in a fully enclosed structure? (yes/describe other)	Material stored on an impervious pad? (yes/describe other)	Good housekeeping practices followed at storage area? (yes/describe other)
Permanent Salt Dome	Rock Salt	550 (tons)	550 (tons)	Yes	Yes	Yes	Yes
Fabric Salt Dome	Rock Salt	400 (tons)	400 (tons)	Yes	Yes	Yes	Yes
Poly Storage Tank	Salt Brine 100%	10000 (gal)	10000 (gal)	Yes	Yes	Yes	Yes
Poly Storage Tank	Salt Brine 100%	8000 (gal)	8000 (gal)	Yes	Yes	Yes	Yes
Poly Storage Tank	Beet Heet 100%	10000 (gal)	10000 (gal)	Yes	Yes	Yes	Yes
Poly Storage Tank	Blend (Salt Brine and Beet Heet)	10000 (gal)	10000 (gal)	Yes	Yes	Yes	Yes

Organization Name:

Chloride TLWQS Annual Report
Appendix 7 - Capital Purchases

Capital Purchase Description	Plan/Schedule for Purchase
Sidewalk Machine C-20 (Prinoth -Track)	Final Delivery November 2023
Mobile Hopper Unit for Sidewalk Re-Supply	In-Service date November 2024
Large Dump Truck T-33	Final Delivery expected in December 2024
Large Dump Truck T-40	Final Delivery expected in December 2024
Large Dump Truck T-05 (Roll-off body system)	Final Delivery expected in July 2025
Large Dump Truck T-06 (Roll-off body system)	Final Delivery expected in July 2025
Permanent Salt Dome -Refurbish & New Roof	Reprogrammed to 2025
Wash Bay Facility - Chlroide Minimization	New Project submitted in 2023, scheduled for 2027
Large Dump Truck T-18 (Roll-off body system)	Replace in 2027
Sidewalk Machine C-25 (MT-Trackless Wheel)	Replace in 2027
Large Dump Truck T-08 (Roll-off body system)	Replace in 2028