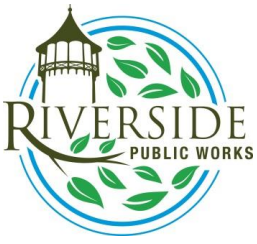
Chloride Pollutant Minimization Plan

Village of Riverside

2022



1.0 Introduction to Chloride Issue in CAWS/LDPR

This Pollutant Minimization Plan (PMP) has been prepared by the Village of Riverside to reduce the environmental impacts from the organization's chloride related operations. The Village of Riverside 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 Plaines River watersheds. The TLWQS for Chloride watersheds are defined in the Opinion and Order as the Des Plaines River watershed from the Kankakee River to the Will County Line (except for the DuPage River watershed) and the CAWS watershed (except the North Branch Chicago River watershed upstream of the North Shore Channel and those portions of the watershed located in Indiana). This is a watershed-based approach to reduce the chloride concentrations in the CAWS and Lower Des Plaines River. The TLWQS for Chloride requires all dischargers covered under the TLWQS for Chloride to create PMPs and implement specific best management practices based on their operations to reduce their chloride discharges.

2.0 Organization Info, Facilities' Specific Info

2.1 Facility overviews/descriptions

Agency Name: Village of Riverside		
Facility Name: Village of Riverside Public Works		Permit Number: ILM580015
Facility Address: 3860 Columbus Blvd		
City: Riverside	State: IL	Zip Code: 60546

The Village of Riverside is located in Cook County approximately 10 miles west of Chicago. The Village has a population of 9,283 and maintains a network of roads (68 lane miles), sidewalks, and parking lots within the Village limits. In addition, the Village also has maintenance agreements with the State to maintain portions of Des Plaines Ave, 31st St, and Harlem Ave (IL Route 43).

The Village has a covered salt storage building located at the Public Works facility, with a capacity of 750 tons. The building is designed for salt storage and includes an impermeable asphalt floor. The loading of the salt is done on an impermeable concrete apron and all remnants of salt are swept and placed in the storage building. Salt is not stored outside of the building. Liquid deicer is kept in a 4500 gallon storage tank adjacent to the salt storage building.

2.2 Chloride Sources

The Village's main chloride source is from road, train platform, and sidewalk maintenance. The Village provides winter maintenance on 68 lane miles of roadway throughout the Village limits including sections of IDOT roadway included in the Village's maintenance agreement. The Village includes a train station and is responsible for providing winter maintenance on the platforms. The Village primarily salts only sidewalk in its Central Business District. All Village vehicles and equipment are washed down in a designated wash bay that drains to a sanitary sewer. The Village does not use any other salt other than what has been described above.

2.3 Level of Service for Winter Maintenance Activities

The Village provides winter maintenance operations on roadways, sidewalks, alleys, train platforms, and areas adjacent to Village owned facilities. The Public Works Department operates three plow trucks with each being responsible for approximately one third of all Village roadways including the IDOT roads that are part of the maintenance agreement. The Village also operates two pieces of sidewalk cleaning equipment which divide sidewalks within the Village's Central Business District and high traffic areas typically adjacent to schools. All parking lots and alleys are cleared of snow through the use of a pickup truck mounted plow containing a rubber blade to minimize damage to the Village's green infrastructure. In addition to roadways, sidewalks, and alleys, the Village provides winter operations on the platforms of the train station.

The Village contracts with Weather by Request to provide the most up to date weather information throughout the winter season. The on staff meteorologist will call staff directly to discuss storm events that may require chloride applications. The information provided allows staff to determine the most efficient use of chlorides for the maintenance of the aforementioned responsibilities.

3.0 Chloride Monitoring Data

Chloride monitoring data will be collected for the CAWS and Lower Des Plaines River watersheds per the IPCB order. The data will be maintained by the workgroups. Chloride data for the CAWS will be collected by MWRD for the CAWS watershed and provided to the workgroups as part of the annual reporting as required by the IPCB order. The Lower Des Plaines Watershed Group also maintains a USGS monitoring station in the Des Plaines River at Channahon, IL that collects continuous conductivity data to estimate chloride concentrations.

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

4.0 Chloride Reduction BMPs

As part of the Chloride TLWQS, specific BMPs were identified for POTWs, MS4s, CSOs, Industrial Sources, and IDOT/Tollway to reduce the chloride impact on the watershed. These BMPs will be implemented over the 15-year term and additional BMPs evaluated at 5-year intervals during the 15-year term. Further details about winter maintenance practices currently being implemented by the Village of Riverside are included in the snow and ice plan, which is currently being revised (updated Snow and Ice Control Plan will be submitted as an addendum). 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 Riverside has been a member of the Lower Des Plaines Watershed Group since 2021. Staff regularly attends membership meetings.

Salt Storage and Handling BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
Store all salt on an impermeable pad that must be constructed to ensure that minimal stormwater is coming into contact with salt unless the salt is stored in a container that ensures stormwater does not come into contact with the salt.	**X**		All salt stored by the Village is stored in a covered, dedicated, permanent structure on an asphalt, impermeable pad.

Cover salt piles at all times except when in active use, unless stored indoors.	**X**		Salt is stored in a permanent storage building.
For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.	**X**		All salt is stored in a permanent storage building with an impervious floor that is pitched away from the opening of the building. The exterior of the building is pitched away from the opening to drain away snow or rain. Delivered salt is loaded and any remnants are swept and placed in the storage building.
MS4/CSO Only - Use deicing material storage structures for all communities covered under General Permit ILR40 for MS4 communities.	**X**		All salt stored by the Village is stored in a covered, dedicated, permanent structure on an asphalt, impermeable pad.
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; • 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;	**X**		• Salt is cleaned up at the end of each event or delivery. • The Village does not transport bulk chlorides. • The Village maintains the impermeable pad and equipment. • All operators are properly trained how to load chlorides. • Vehicles are washed in a designated wash bay that drains to a sanitary sewer. • The Village is including an inspection procedure in the snow and ice plan that is currently being revised. • The Village does not store material outside of the designated salt storage building. • All equipment is inspected and repaired prior to the winter maintenance season.

• evaluate the opportunity to reduce or reuse the wash water.			• The Village will evaluate the opportunity to reuse wash water as possible brine solution.

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.		**2023**	The Village is currently revising its Snow and Ice Control Plan along with calibration documents.
Pre-wet road salt before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading equipment as the salt is deposited on the road.	**X**		The Village has the ability to utilize the on board pre wetting system to apply a brine solution. This is available on one road truck. The other road trucks will have the ability as they are replaced.
Use equipment to measure the pavement temperature unless such equipment has already been installed on road salt spreading vehicles.	**X**		The Village utilizes one truck mounted pavement monitoring sensor, a hand held monitoring sensor, and data provided by contractual services.
Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions.	**X**		The staff in charge of the winter maintenance operations will consult the Minnesota Snow and Ice Control Application Rate Guidelines
Track and record salt quantity used and storm conditions from each call-out.	**X**		The Village maintains a spreadsheet of all chlorides used on roadways, platforms, and sidewalks
Develop a written plan for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products) beginning with critical locations such as bridges over streams.	**X**		The Village has the capability of anti-icing and performs this operation on its main roads leading up to qualifying events. Further implementation will be noted in the Village's revised snow and ice control plan.
Provide employees involved in winter maintenance operations with annual training before November 30th on best management practices in the use	**X**		Winter maintenance training is provided to all staff through either deicing webinars or local on-site workshops.

of road salt in operations, including the practice of plowing first and applying salt only after snow has been cleared.			
Be responsible for complying with all applicable BMPs even when deicing practices are contracted out and ensure that contractors are property trained and comply with all applicable BMPs.	**X**		The Village does not contract out any winter maintenance operations.
Complete an annual report, as required by paragraph 3(B) of this order, which is standardized in an electronic format and submitted to the IEPA's website and to the watershed group.		**July 1st, 2023**	The annual report will be submitted by July 1st, 2023.
Obtain and put into place equipment necessary to implement all salt spreading/deicing measure specified in this BMP, such as any new or retrofitted salt spreading equipment necessary to allow for pre- wetting and proper rates of application.	**X**		The Village currently has all the necessary equipment and updates technologies as equipment is replaced.
MS4/CSO/IDOT/TOLLWAY Only - Install equipment to measure the pavement temperature on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels. Develop and complete a plan to equip the winter maintenance fleet before the first re-evaluation.	**X**		The Village currently has one vehicle mounted sensor and utilizes a handheld sensor in conjunction with contractual services. New vehicles used for the application of chlorides will be outfitted with the appropriate sensors as they are replaced.
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,		**2023**	The Village's revised Snow and Ice Control Plan will incorporate feedback loops for all aspects of winter maintenance operations.

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.			

5.0 Chloride Reduction BMPs for Salt Storage Facilities

As part of the Chloride TLWQS, specific BMPs were identified for Salt Storage Facilities to reduce the chloride impact on the watershed. Implementing these BMPs over 15-year term and evaluating additional BMPs at 5-year intervals, will lead to reduced chloride concentrations in the watersheds. The BMPs identified are outlined below:

Workgroup BMP

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
The permittee must participate in a Chlorides workgroup for the CAWS or LDPR, depending on the watershed within which the facility's discharge is located.	**X**		The Village of Riverside has been a member of the Lower Des Plaines Watershed Group since 2021. Staff regularly attends membership meetings.

Salt Storage and Handling BMPs

Variance BMP	Currently Implementing	Will Implement (Target Year)	Agency Description of Current Implementation
All salt will be stored on an impermeable pad constructed to ensure that minimal stormwater comes into contact with salt.	**X**		All salt stored by the Village is stored in a covered, dedicated, permanent structure on an asphalt, impermeable pad.
Pads will be constructed to direct stormwater away from the salt pile. The permittee must consider directing any drainage that enters the pad to a collection point where feasible.	**X**		All salt is stored in a permanent storage building with an impervious floor that is pitched away from the opening of the building. The exterior of the building is pitched away from the opening to drain away snow or rain. Delivered salt is loaded and any remnants are swept and placed in the storage building.
Outdoor salt piles not stored under permanent cover must be covered by well-secured tarps at all times except when in active use. While working on the pile,			Salt is ordered and delivered during periods of dry weather. Salt is immediately moved from the impermeable concrete pad into the covered salt storage building containing

fixed or mobile berms must be incorporated around non-working face to minimize stormwater contact. The permittee must stage tarp when starting final lift and tarp over the edge of the berm/pad where possible.	**X**		an impermeable asphalt floor. No salt is stored outside.
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; • 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.	**X**		• Salt is cleaned up at the end of each event or delivery. • The Village does not transport bulk chlorides. • The Village maintains the impermeable pad and equipment. • All operators are properly trained how to load chlorides. • Vehicles are washed in a designated wash bay that drains to a sanitary sewer. • The Village is including an inspection procedure in the snow and ice plan that is currently being revised. • The Village does not store material outside of the designated salt storage building. • All equipment is inspected and repaired prior to the winter maintenance season. • The Village will evaluate the opportunity to reuse wash water as possible brine solution.
Annual training must be conducted for employees responsible for loading/unloading/handling at docks and trucks at the facility.	**X**		All members responsible for the loading of chlorides have been trained on the appropriate methods of loading/unloading/and handling at the Public Works facility.
An Annual Report must be completed as required by paragraph 3(B) of this order. The report must be standardized in excel, and		**July 1st, 2023**	The annual report will be submitted by July 1st, 2023.

must be submitted to the IEPA and to the watershed group.			
For working areas, provide berms and or sufficient slope to allow snow melt and stormwater to drain away from the area. If snow melt and stormwater cannot be drained away from the working area, channeling water to a collection point such as a sump, holding tank or lined basin for collection, discharge at a later time, use for prewetting, and use for make-up water for brine must be considered.	**X**		All salt is stored in a permanent storage building with an impervious floor that is pitched away from the opening of the building. The exterior of the building is pitched away from the opening to drain away snow or rain. Delivered salt is loaded and any remnants are swept and placed in the storage building.
The Permittee must make use of fixed and mobile berms where appropriate to redirect flow and tarp over the edge of the pad where possible to minimize stormwater contact.	**X**		The salt storage building is designed with an impervious floor that is pitched away from the opening of the building. The exterior of the building is pitched away from the opening to drain away snow or rain.
The Permittee must consider retaining stormwater which contacts the salt from a 25-year/24- hour storm event where feasible. Such retention could be either within the berm or in a separate basin, or the impacted stormwater could be stored and used as pre-wetting brine.	**X**		Storm water does not come in contact with the salt. Located in a covered storage building.

6.0 Plan to Implement BMPs

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

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.

Plan to Implement BMP: The Village is currently revising its Snow and Ice Control Plan along with calibration documents.

Schedule for Implementation: The Village will complete its revise Snow and Ice Control Plan prior to the 2023-2024 winter season.

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: The Village's revised Snow and Ice Control Plan will incorporate feedback loops for all aspects of winter maintenance operations.

Schedule for Implementation: The Village will complete its revise Snow and Ice Control Plan prior to the 2023-2024 winter season.

7.0 Other Chloride TLWQS Required Milestones

The Village of Riverside will implement these specific milestones (not included in the above BMPs) as outlined by the Chloride TLWQS.

Milestone	Agency Completion Date	Agency Completion Details
6 MONTHS AFTER EFFECTIVE DATE: Petitioner establishes a mechanism for tracking of de-icing salt usage for each facility.	Completed, Fall 2022	The Village currently tracks the salt used by each truck and amounts applied to sidewalks and platforms.
July 1st OF EVERY YEAR (BEGINNING WITH YEAR 2): Discharger must submit an Annual Report for the previous year beginning on May 1 and ending on April 30 of the following year to the Agency and the chlorides workgroup on. The report shall be on salt usage for deicing and steps taken to minimize salt use and makes the report publicly available.	By July 1 of each year, beginning in Year 2 2023	The Village of Riverside will submit an annual report to the workgroup and IEPA.
July 1st of YEAR 3, YEAR 8 and YEAR 13: The chlorides workgroup submits a Status Report to the IEPA which includes an analysis on the following: chlorides monitoring data; report on the chloride workgroup's outreach strategy, which includes outreach efforts to expand coverage of the TLWQS, and outreach and training for nonpoint sources; identification of any new BMPs, treatment technology or salt alternatives;	By July 1 of year 3 2024, the workgroups will submit a Status Report to the IEPA.	

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.		
July 1st OF YEAR 4 ½: Chlorides workgroup submits to the Board its first proposed re-evaluation pleading consistent with the Board's order granting the TLWQS.	By July 1 of year 4 ½ 2025, the workgroups will submit a re-evaluation to the IEPA and IPCB.	

Appendix 1 – Riverside Snow and Ice Control Plan

VILLAGE OF RIVERSIDE
SNOW AND ICE CONTROL PLAN

Revised 11/14/23

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MISSION STATEMENT

The Village of Riverside Department of Public Works is responsible for providing reasonable road conditions for traffic flow throughout the winter driving season. The removal of snow and ice from the public right of way and other public properties are tasks that involve the entire department and is considered emergency work. Employee and public safety, along with conservation of public resources, are top priorities of this policy.

INTRODUCTION

The Snow and Ice Control Plan is based upon available manpower and other resources.

- The presence of snow and ice on Village streets creates an emergency situation and its removal takes precedence over other work. Should other emergencies occur simultaneously, such as a water main break or river flooding, it will be at the discretion of the person in charge of Snow Command (typically the Superintendent) as to the order in which the work shall proceed.
- Removal of snow and ice from Village streets will be done on an emergency basis until all streets are cleared and salting operations are completed.
- Due to the resource limitations placed on the Department of Public Works, all snow and ice removal operations are generally conducted by a single group. It will be at the discretion of Snow Command if the shifts are to be split in an effort to facilitate operations.
- The specific plan outlining the order of response for Village roadways and the Central Business District (CBD) are subject to change based on weather or other circumstances.

STANDARD OPERATING PROCEDURES – SNOW & ICE CONTROL

1.0 Purpose

1.1 Designate responsibility and authority pertaining to the call back of employees for snow and ice control operations.

2.0 Scope

2.1 The Snow and Ice Control Plan extends to all employees of the Department of Public Works.

3.0 Employee Duties and Responsibilities

3.1 Each employee of the Department of Public Works shall be subject to overtime activities, as assigned by the Superintendent of Public Works. It is the responsibility of each employee to make themselves available for overtime. This responsibility extends to ensuring that their Village provided cell phone is charged, has a cleared voicemail box, and is within proper distance to provide timely notification. All employees issued a Village provided cell phone are expected to carry and answer it during normal and off duty hours. Once contacted, the employee will have 30 minutes to respond to the Public Works facility. Arrangements should be made prior to any snow and ice event to ensure a 30-minute response time.

3.2 When snow and ice control is anticipated to extend beyond normal business hours, all employees are expected to participate on an overtime basis. Proper notification to the

Superintendent of Public Works is required should an employee be unable to stay and assist with winter operations.

3.3 Should insufficient personnel be available, the Director of Public Works, or their designee, reserves the right to utilize part time staff, contractual services, equipment rentals, or go outside of the department to staff snow and ice removal operations from another Village department.

3.4 The Director of Public Works, or their designee, shall reserve the right to deny vacation or comp time requests between the months of December 1st and April 1st based on staffing required to provide adequate snow and ice control. Time off requests, during this period of time, are based on time of receipt, followed by seniority, should requests be received simultaneously. Once time off has been approved, a more senior staff member will not be allowed to "bump" a less senior staff member out of their approved time off.

4.0 Operator Responsibilities

4.1 Operators of equipment shall be responsible for the following:

- Report to work promptly when called
- Check vehicle completely before and after your shift
- Report to Snow Command the amount of salt or brine used during the event
- Observe and obey all traffic laws, use safe driving techniques, and exercise proper precautions for your safety and the safety of the public
- Double check all clearances when backing up
- Keep your windshield free of ice and snow build up
- Treat the public with courtesy
- Call in accidents and disabled motorists to WC3 dispatch center at 708-447-9191.
- Report any downed signs or sod damage to Snow Command
- Report any damaged equipment to Snow Command
- If repairs are needed to the vehicle or plow report to Snow Command so arrangements can be made for the repairs
- Employees have the right and are required to notify Snow Command if another employee is physically unable to function at a level that ensures the health and safety of the employee or the general public
- The Village does not expect or will not require an employee to continue in the snow removal work if the employee is falling asleep, or having difficulty focusing on work due to exhaustion, illness or general fatigue
- Employees will be disciplined, up to and including discharge, for operating any equipment under the influence of drugs, alcohol or medication that may affect your driving ability

4.0 Pre-Season Planning

4.1 The Director of Public Works, or their designee, will be responsible for ensuring that all personnel utilized for snow and ice control operations have been properly trained and received

instruction on the safe use of equipment, operational practices, and procedures. All snow and ice control equipment will be thoroughly checked and confirmed in working order prior to October 31st of each year. Included in the check will be all routine maintenance of the vehicles, plows, and salt spreaders. Calibration of all vehicles, utilizing chlorides for snow and ice control, will occur by November 30th of each year.

5.0 Weather Notification

5.1 The Public Works Director, or their designee, will provide notification of upcoming winter weather through the use of email, phone calls, or text messages. It is the responsibility of each employee to read all forms of communication pertaining to such information. These notifications are not all encompassing and unanticipated call outs are still possible.

5.2 The Village utilizes a winter weather service to provide daily updates. These updates will be forwarded to each employee as they become available.

6.0 Snow Command

6.1 Snow Command will be based at the Public Works facility located at 3860 Columbus Blvd. Snow Command shall be under the guidance of the Superintendent of Public Works, or their designee. All personnel shall be under the direction and supervision of Snow Command, which shall determine specific snow and ice control priorities, assignment of personnel and equipment, and task responsibilities. All personnel and equipment shall be available for task assignments as determined by Snow Command.

6.2 Snow Command shall exist until all streets are cleared and all public parking lots are open. For the majority of snow events, snow operations will continue throughout the day and night time hours regardless of the day of week or holiday. Snow Command may suspend certain snow and ice control activities depending on the storm duration and weather conditions.

6.3 During snow and ice control operations, some or all of the regular department obligations may be curtailed or suspended for the duration of the snow and ice event.

VILLAGE PLOW ROUTES

The Village roadways are divided into three Plow Routes. See **Appendix A, B, C & D**

The Village Public Sidewalks. See **Appendix E & F**

The Village Parking Lots and Parking Spots. See **Appendix G & G.1**

The Village Alleys. See **Appendix H**

PRIORITY OF SNOW AND ICE OPERATIONS

Snow and Ice clearing operations shall be conducted in the following order of priority. If staffing levels allow, multiple operations may occur simultaneously.

Road Operations

- Main Roads
- Secondary Roads Adjacent to Schools (during the week prior to drop off and prior to pick up)
- Remainder of Secondary Roads

Parking Lot and Alleys

- Municipal Parking Lots
- Commuter Parking Lots
- CBD Parking Lots
- Residential Parking Lots
- Alleys

Sidewalks

- Train Platform
- CBD Sidewalks
- Sidewalks Adjacent to Schools
- Sidewalks in Triangles and Parks

SALTING OPERATIONS

The Village has a bare pavement policy on all roadways. Various melting agents will be utilized to achieve this bare pavement objective. Salt Brine, when appropriate and directed by the Superintendent of Public Works, shall be used to anti ice the roadways prior to a snow and ice event.

During a salting operation, the three main plow trucks will be utilized to spread sodium chloride, also known as “rock salt.” On main roads, salt will be spread in both directions of travel focusing on placement near the crown of the road to take advantage of the melting process across the remaining width of the lane. Particular attention should be paid to limiting the amount of scatter, through the use of slower spinner settings, into the gutter of the roadway or onto the parkway. On secondary roads, salt will be spread in one direction of travel focusing on placing the majority of the salt on the crown of the roadway to maximize melt across the lanes. The salt application rate will be decided by Snow Command. Snow Command will assess the effectiveness of the application rate throughout the event and will modify as needed.

The salting process is intended to reduce slippery conditions and prevent the bonding of snow to the roadway. If the salting process is no longer having a melting effect on the roadway, due to the rate at which the snow is falling, plows should be installed on the trucks and the salting operation shall pivot to a plowing operation. If the salting process is no longer having a melting effect on the roadway due to temperatures, Snow Command will advise how to proceed. This may include pre wetting of the salt or using a salt additive such as calcium chloride when feasible.

PLOWING OPERATIONS

The Department of Public Works will commence plowing operations on all roadways when the salt is no longer providing an effective melt and the snow has accumulated to one inch. For plowing operations, three large plows trucks will be used. If the storm conditions dictate, additional employees and equipment will be added.

When all three plow trucks are in service and snow plows are attached, the trucks will clear the mains roads utilizing the "tandem" method where all three trucks travel one behind the other with the lead truck traveling near the crown of the street, followed by the next truck clearing the residual push of the lead truck and the trailing truck pushing along the curbs.

Once the main roads have been completed, the plow trucks will disperse to assigned routes. See **Appendix A, B, C, & D**. After the routes have been cleared, each truck will address their secondary responsibility as listed below:

Route 1 Salt all public alleys once the snow has been cleared

Route 2 Salt all village parking lots once the snow has been cleared

Route 3 Plow and salt Riverside Lawn

When only two trucks are in service, the Village will be divided into two routes. Route one will be all streets south of Longcommon Road. Route two will be all streets north of Longcommon Road.

When plow trucks are being utilized for salting only, each truck will cover the routes and mains solo. Solo main routes include:

Route 1 Longcommon Road (from Burling Road to Harlem Avenue), Harlem Avenue from 26th Street south to the BNSF tracks, and East Burlington Street.

Route 2 Woodside Road, Des Plaines Road, Forest Avenue, Barrypoint Road, and Burling Road.

Route 3 Riverside Road, Miller Road, Delaplaine Road, Harlem Avenue from the BNSF tracks south to Ogden Avenue, East Quincy Street, and Riverside Lawn.

CENTRAL BUSINESS DISTRICT SNOW REMOVAL

If the snowstorm dictates, Snow Command will determine whether or not snow needs to be removed from the central business district. The following procedure will commence once removal has been determined necessary:

- Snow will be piled by the plow trucks into predetermined locations awaiting removal.
- The skid steer will remove snow from the sidewalks and create piles in the roadways. Shoveling may be required for areas too small for the skid steer to access.
- The front end loader will load dump trucks for transport to the Indian Gardens parking lot where it will be stacked in the southernmost end of the lot and allowed to melt.
- Snow removal operations will typically take place during the early morning hours, or as assigned by the Superintendent of Public Works.
- To the extent possible, it is the department's goal to remove all snow piles by 7:00 am to avoid rush hour traffic. Longer duration operations are acceptable on the weekends.

TRAIN DEPOT PLATFORM

The train depot platform must be kept clear of accumulated snow and ice. All department employees must maintain a current BNSF Contractor Orientation certification which is required of anyone who works within 25

feet of the center of the nearest railroad tracks. A spotter will be utilized, and constant radio communication will be required, whenever the skid steer is being used to clear snow on the platform. The spotter can assist in shoveling steps leading to the platform and salting of the platform while the skid steer operator finishes clearing areas more than 25 feet from the center of the nearest railroad tracks.

PERMEABLE PAVEMENTS

Permeable pavers have been installed in various alleys and parking lots throughout the Village. Only plows with non-metallic cutting edges shall be utilized to clear snow from permeable pavements. Minimal amounts of salt will be applied to the drive aisles only in an effort to prevent blockage of the permeable joints.

PLAN OF ACTION

If snow falls outside the normal business hours of 7:30 am - 4:00 p.m. crews will be called in as needed by the Superintendent of Public Works. If snow falls during normal business hours, crews will be called in as needed from their previously assigned tasks and be given assignments by the Superintendent of Public Works.

RADIO AND CELL PHONE USE

During snow and ice control operations the use of the Public Works radio (channel 18) and the Village provided cellphones are required for communication between vehicles and Snow Command. The vehicle mounted radios are required to be turned on and at a volume level that can be easily heard. If a vehicle does not have a truck mounted radio a portable radio is to be utilized. Cell phones are also required to be charged and at a volume that can easily be heard. When either placing or receiving a call utilizing a cell phone it is required to pull the vehicle over prior to answering or placing a call. Operators are expected to respond when called on the radio or cell phone. Once a designated route has been completed, it is the driver's responsibility to check in with Snow Command to see if assistance is needed elsewhere.

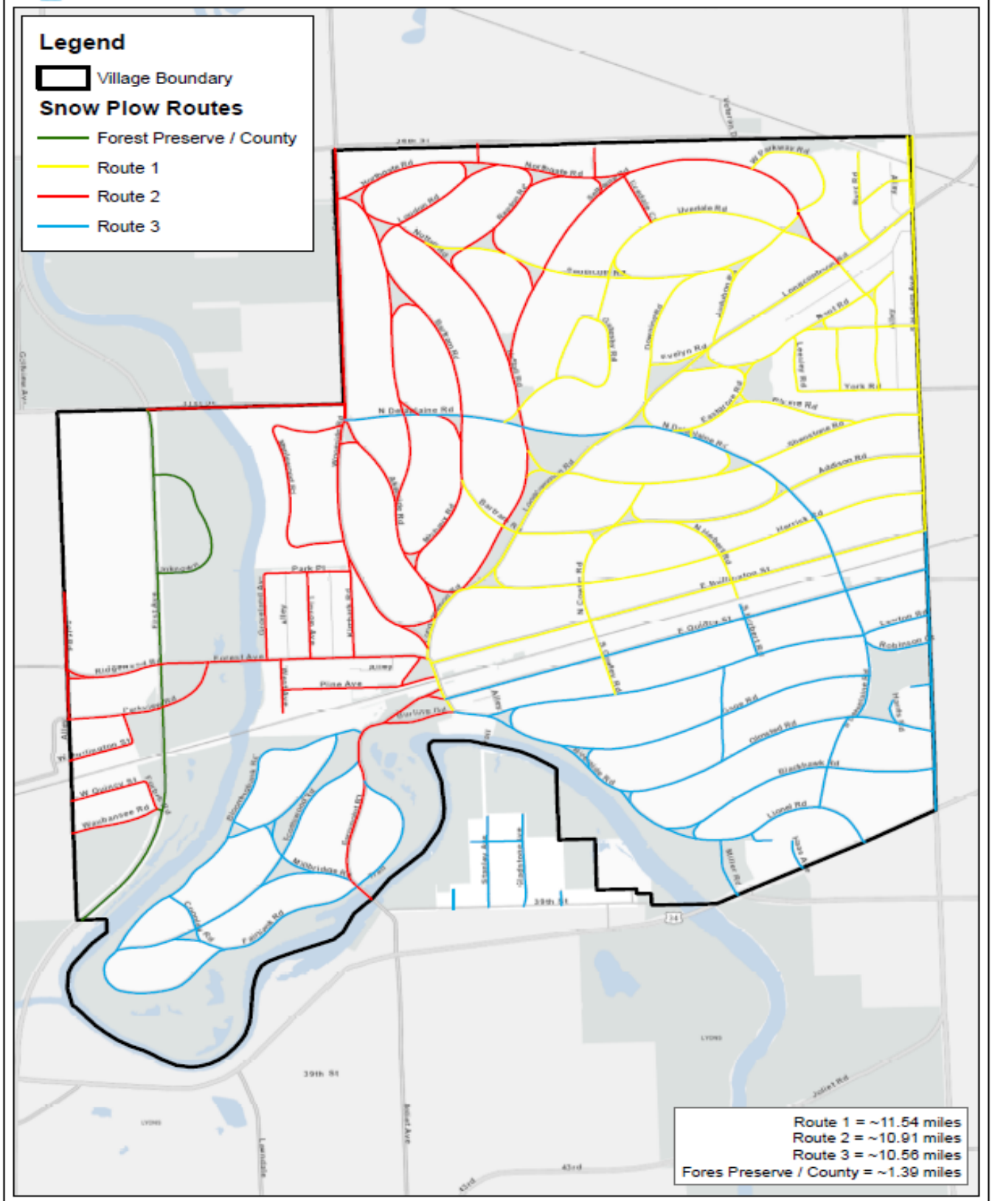
POST OPERATION PROCEDURES

Once the snowfall or storm has ended and all cleanup operations have been completed in assigned areas, operators will return to the Public Works facility and are expected to complete the following:

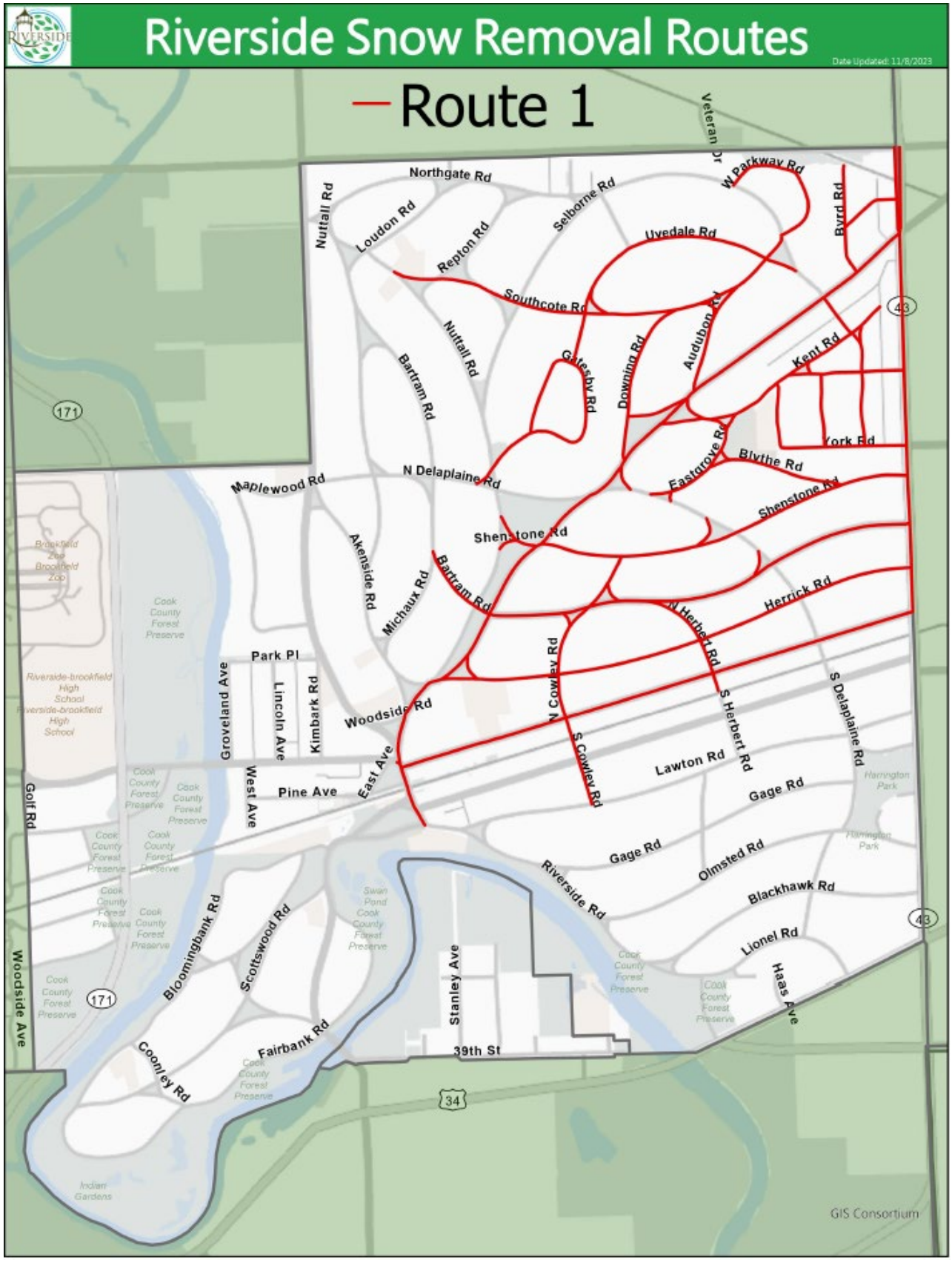
- Dump any remaining salt from the truck in the covered salt storage building.
- Fill out the Winter Maintenance Event Logging Form
- Thoroughly wash the truck, plow, spreader, remove any debris from inside of the cab, and spray the vehicle with salt neutralizer.
- Detach the plow if directed to do so.
- Refuel the truck and check all the fluids to ensure the vehicle is ready to go.
- Inspect the truck, plow, and spreader for any damage.
- Report any damage or mechanical problems immediately to the Director of Public Works or their designee.

Appendix A

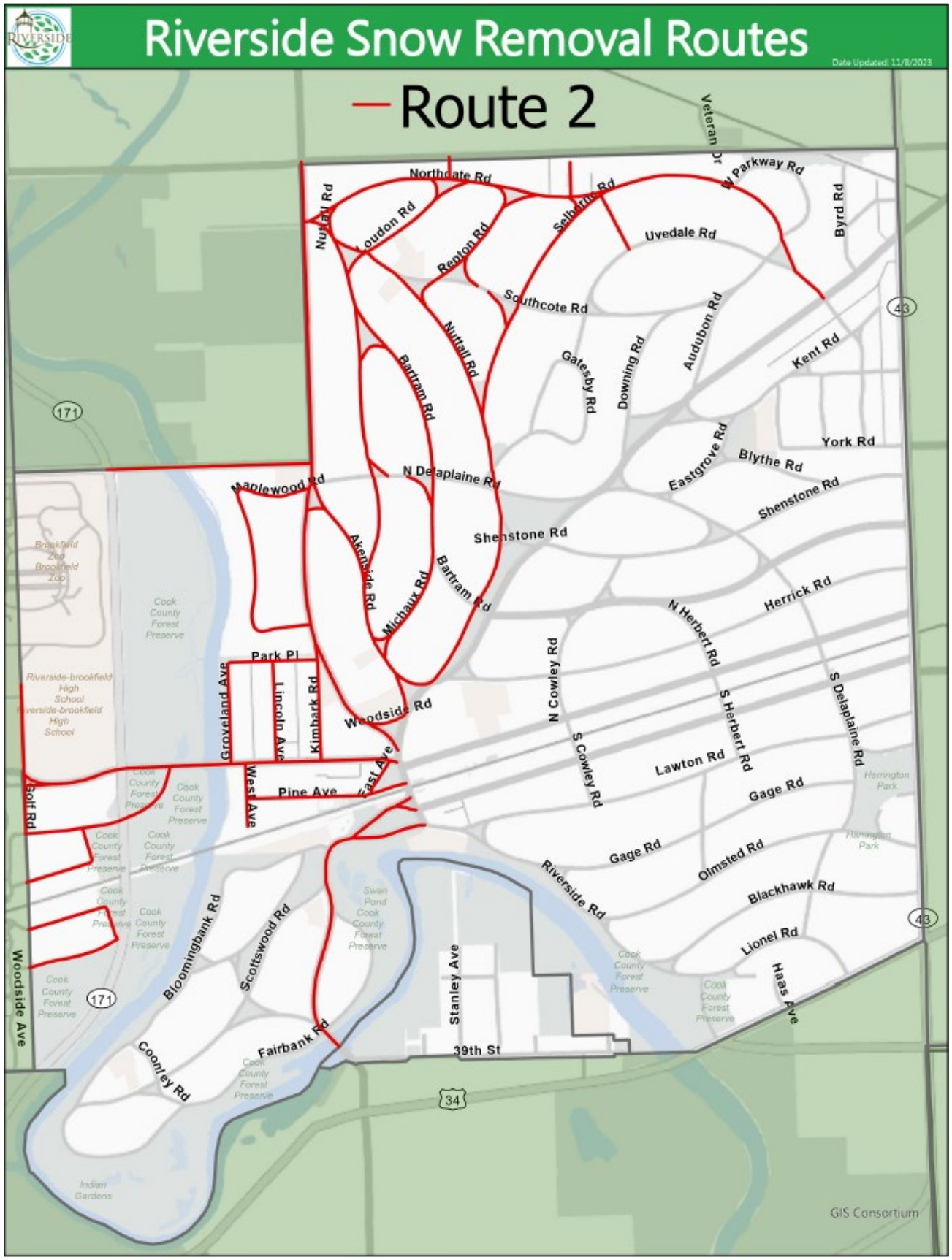
Snow Plow Routes



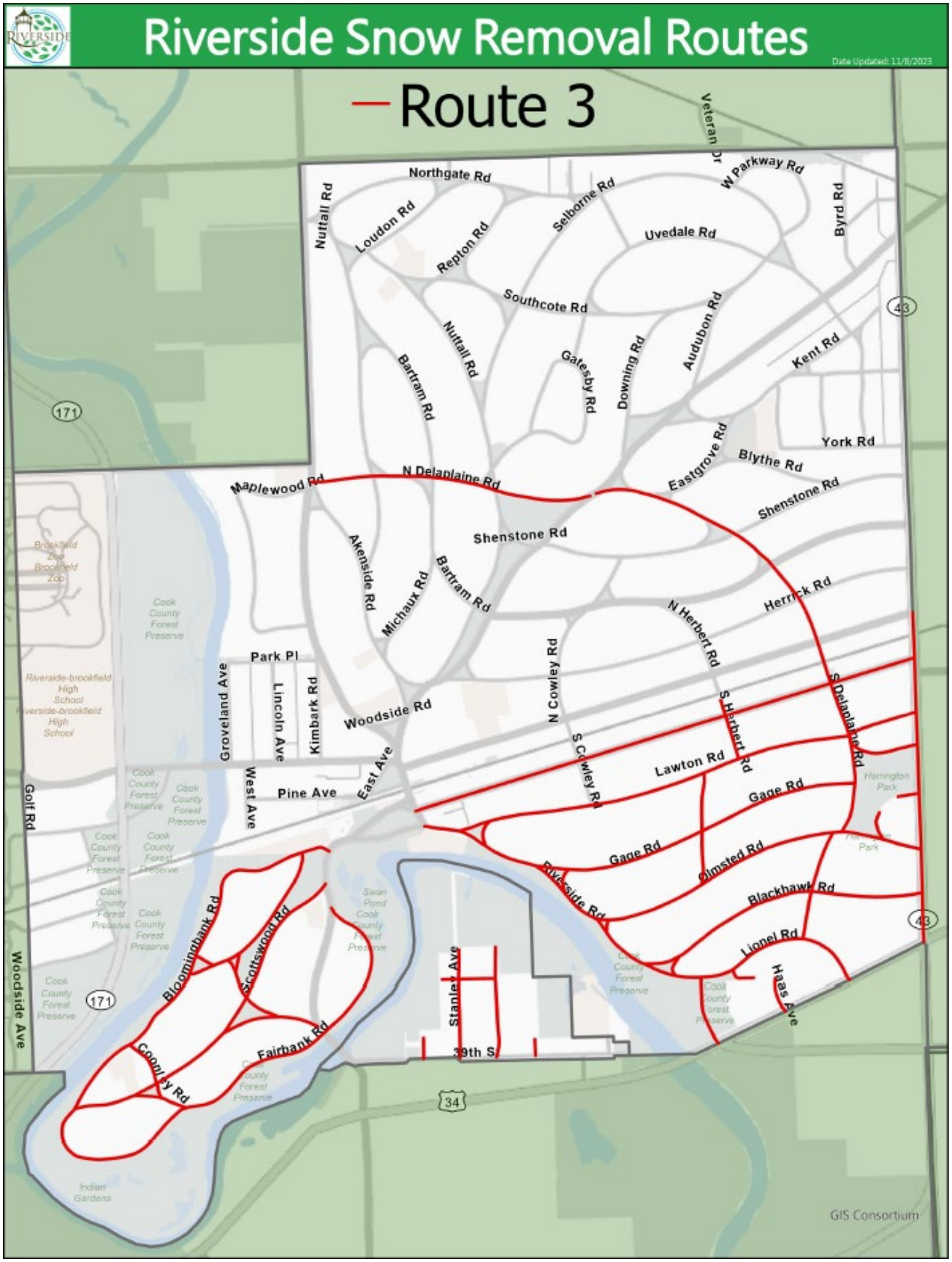
Appendix B


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Route 1
Veteran Dr
W Parkway Rd
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
Byrd Rd
Southcote Rd
Audubon Rd
Kent Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
York Rd
Eastgrove Rd
Blythe Rd
Maplewood Rd
N Delaplaine Rd
Shenstone Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
N Cowley Rd
S Herbert Rd
S Delaplaine Rd
Park Pl
Groveland Ave
Lincoln Ave
Kimbark Rd
Woodside Rd
S Cowley Rd
Lawton Rd
Gage Rd
West Ave
Pine Ave
East Ave
Golf Rd
Olmsted Rd
Riverside Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Bloomingbank Rd
Scottswood Rd
Stanley Ave
Fairbank Rd
Cooney Rd
39th St
Woodside Ave
171
43
34
Brookfield Zoo
Cook County Forest Preserve
Riverside-brookfield High School
Indian Gardens
Swan Pond
Harrington Park
GIS Consortium

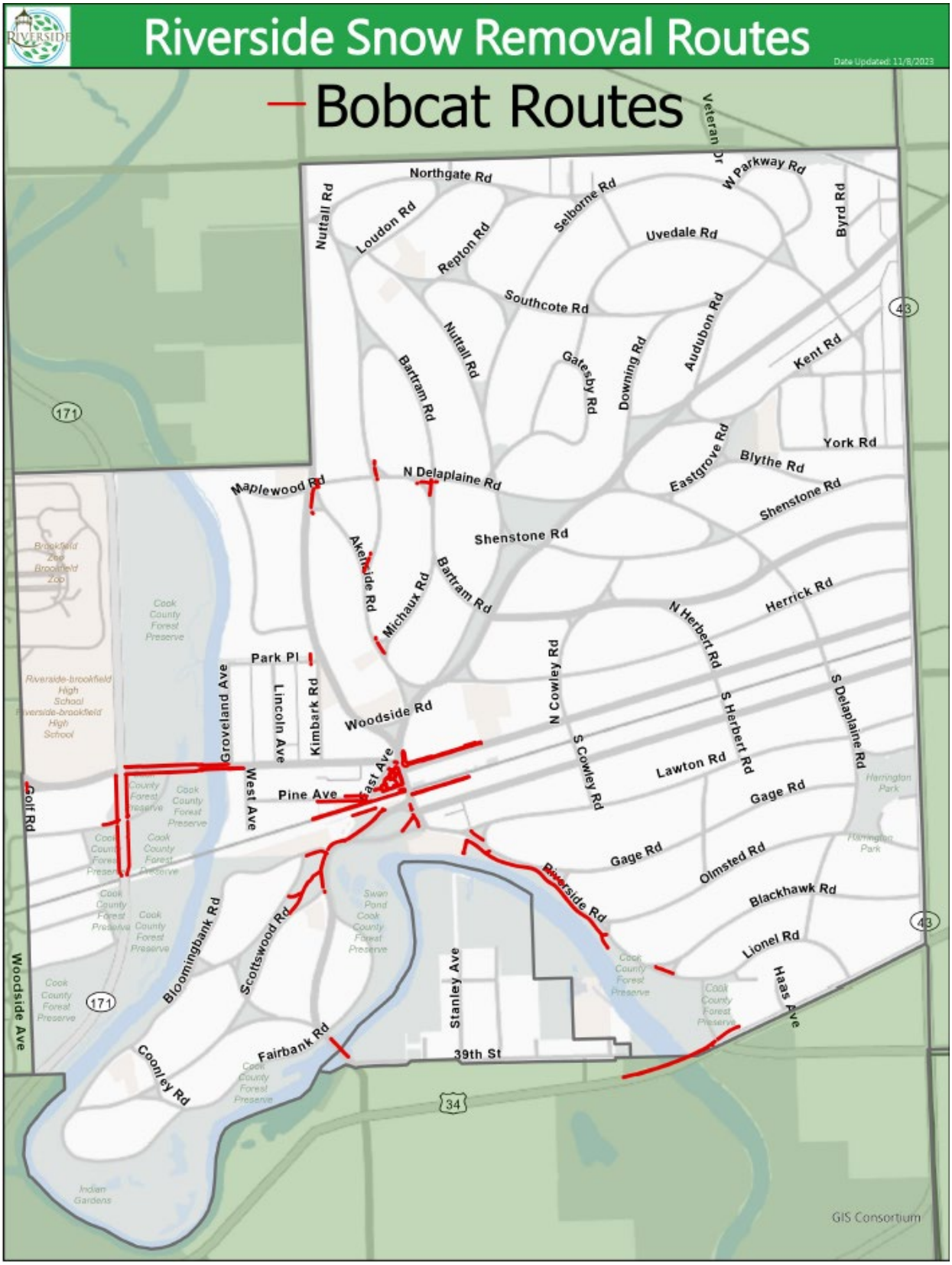
Appendix C


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Route 2
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
Byrd Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
York Rd
Blythe Rd
Eastgrove Rd
Shenstone Rd
Maplewood Rd
N Delaplaine Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
S Herbert Rd
S Delaplaine Rd
N Cowley Rd
S Cowley Rd
Park Pl
Groveland Ave
Lincoln Ave
Kimbark Rd
Woodside Rd
West Ave
East Ave
Pine Ave
Lawton Rd
Gage Rd
Olmsted Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Riverside Rd
Golf Rd
Bloomingbank Rd
Scottswood Rd
Stanley Ave
Fairbank Rd
39th St
Cooley Rd
Woodside Ave
171
43
34
Brookfield Zoo
Riverside-brookfield High School
Cook County Forest Preserve
Swan Pond
Harrington Park
Indian Gardens
GIS Consortium

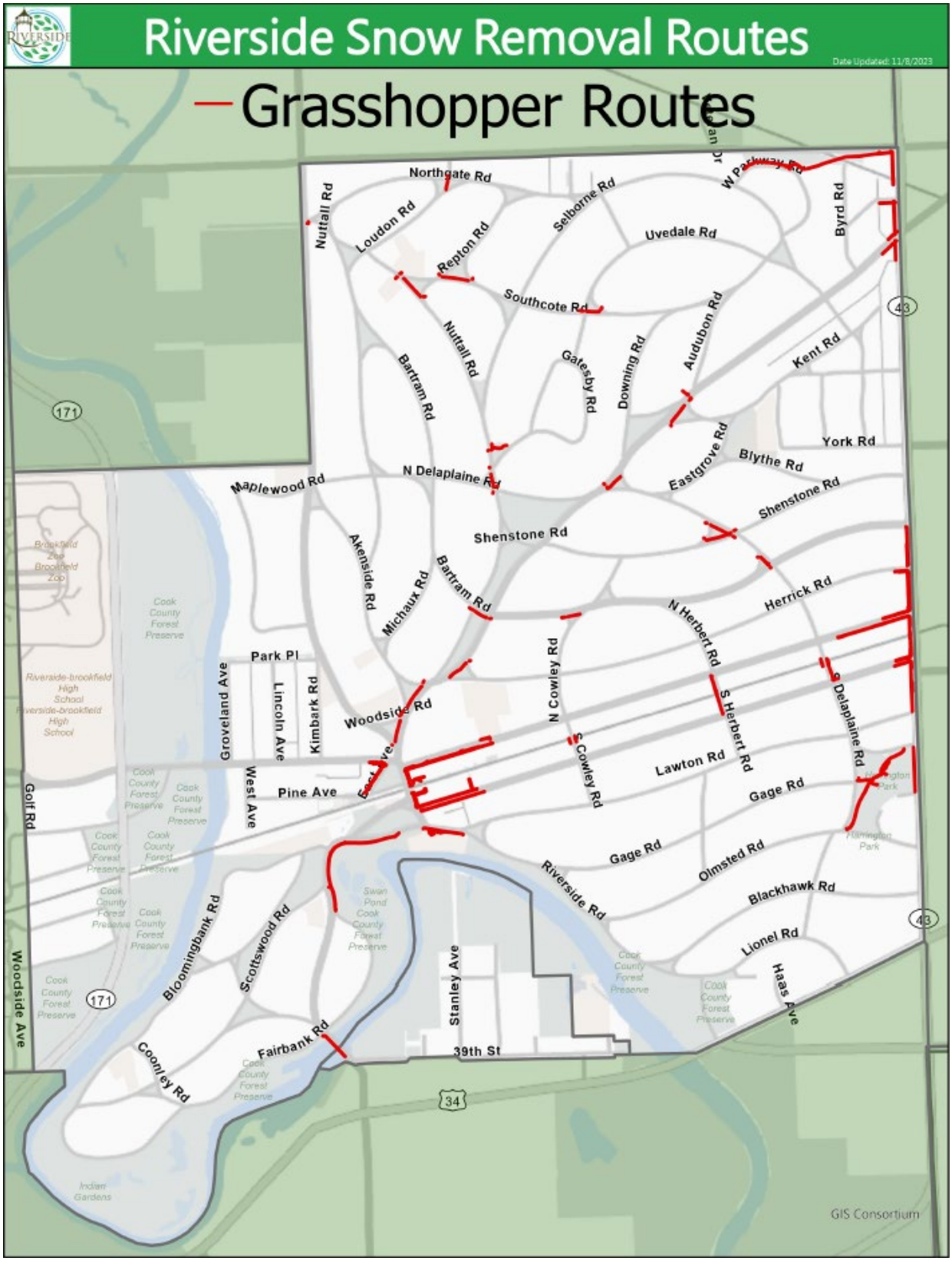
Appendix D


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Route 3
Veteran Dr
W Parkway Rd
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
Byrd Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
York Rd
Blythe Rd
Eastgrove Rd
Maplewood Rd
N Delaplaine Rd
Shenstone Rd
Shenstone Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
Park Pl
Groveland Ave
Lincoln Ave
Kimbark Rd
Woodside Rd
N Cowley Rd
S Herbert Rd
S Delaplaine Rd
S Cowley Rd
Lawton Rd
Gage Rd
Gage Rd
Pine Ave
East Ave
West Ave
Golf Rd
Plimsted Rd
Riverside Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Bloomingbank Rd
Scottswood Rd
Fairbank Rd
Cooney Rd
Stanley Ave
39th St
Woodside Ave
Brookfield Zoo
Riverside-brookfield High School
Harrington Park
Swan Pond
Indian Gardens
Cook County Forest Preserve
171
43
34
GIS Consortium

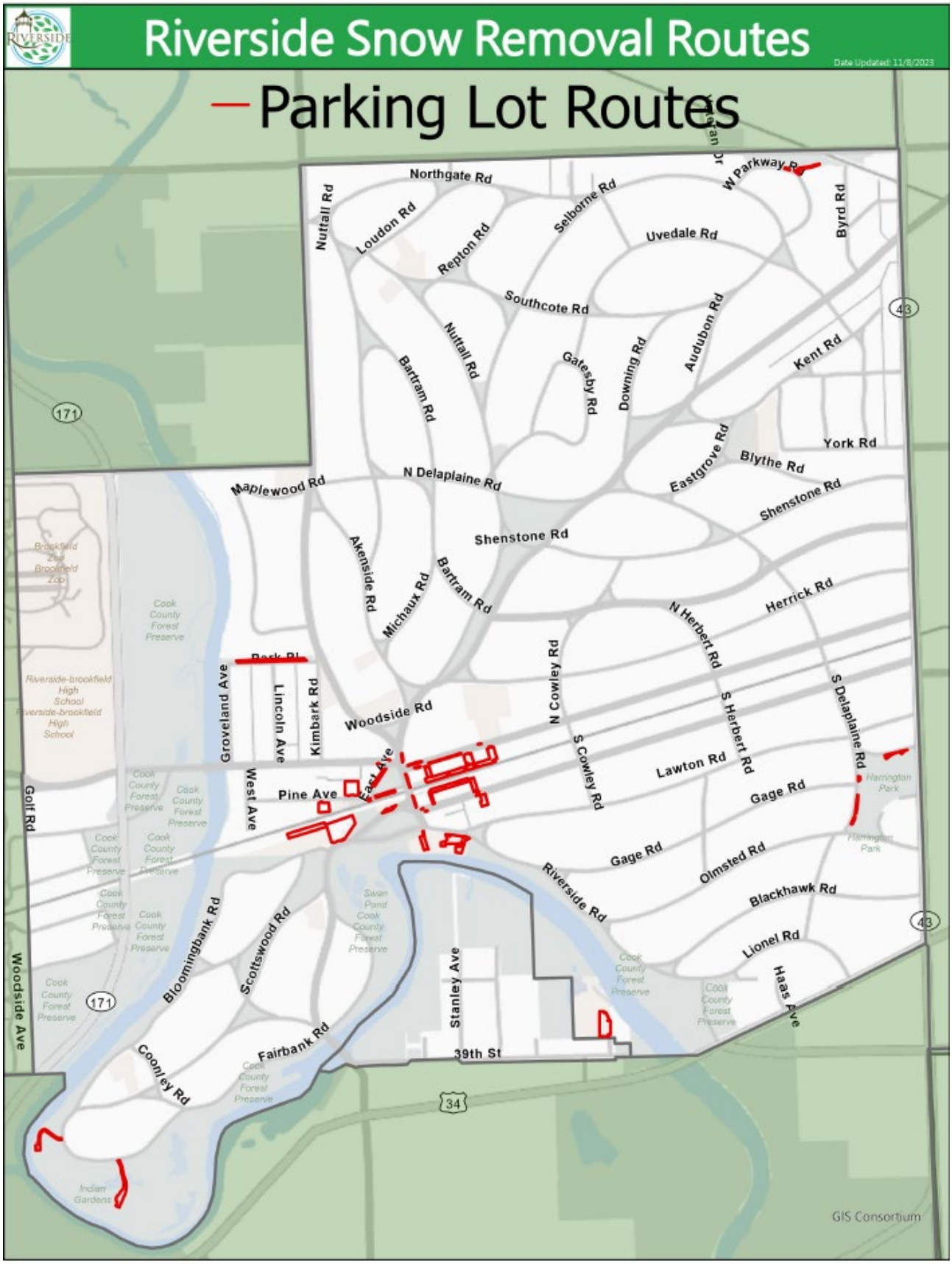
Appendix E


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Bobcat Routes
Veteran Dr
W Parkway Rd
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
Byrd Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
43
171
York Rd
Blythe Rd
Eastgrove Rd
Maplewood Rd
N Delaplaine Rd
Shenstone Rd
Shenstone Rd
Aketside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
Park Pl
Groveland Ave
Lincoln Ave
Kimbark Rd
Woodside Rd
N Cowley Rd
S Herbert Rd
S Delaplaine Rd
Lawton Rd
Gage Rd
Pine Ave
West Ave
East Ave
S Cowley Rd
Golf Rd
Gage Rd
Olmsted Rd
Riverside Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Bloomingbank Rd
Scottswood Rd
Stanley Ave
Woodside Ave
171
Fairbank Rd
39th St
Cooney Rd
34
Brookfield Zoo
Riverside-brookfield High School
Cook County Forest Preserve
Swan Pond
Harrington Park
Indian Gardens
GIS Consortium

Appendix F


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Grasshopper Routes
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
Byrd Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
York Rd
Blythe Rd
Eastgrove Rd
Maplewood Rd
N Delaplaine Rd
Shenstone Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
Park Pl
Groveland Ave
Lincoln Ave
Kimbark Rd
Woodside Rd
N Cowley Rd
S Herbert Rd
Delaplaine Rd
Lawton Rd
Gage Rd
Pine Ave
West Ave
Golf Rd
Riverside Rd
Olmsted Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Bloomingbank Rd
Scottswood Rd
Stanley Ave
Fairbank Rd
39th St
Cooney Rd
Woodside Ave
171
43
34
GIS Consortium

Appendix G


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Parking Lot Routes
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Uvedale Rd
W Parkway Rd
Byrd Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
York Rd
Blythe Rd
Eastgrove Rd
Shenstone Rd
Maplewood Rd
N Delaplaine Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
N Herbert Rd
S Delaplaine Rd
S Herbert Rd
N Cowley Rd
S Cowley Rd
Lawton Rd
Gage Rd
Olmsted Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Riverside Rd
Stanley Ave
39th St
Fairbank Rd
Coonley Rd
Bloomingbank Rd
Scottswood Rd
Woodside Rd
Woodside Ave
Golf Rd
Pine Ave
East Ave
West Ave
Lincoln Ave
Kimbark Rd
Groveland Ave
Park Pl
Harrington Park
Brookfield Zoo
Riverside-Brookfield High School
Cook County Forest Preserve
Swan Pond
Indian Gardens
171
43
34
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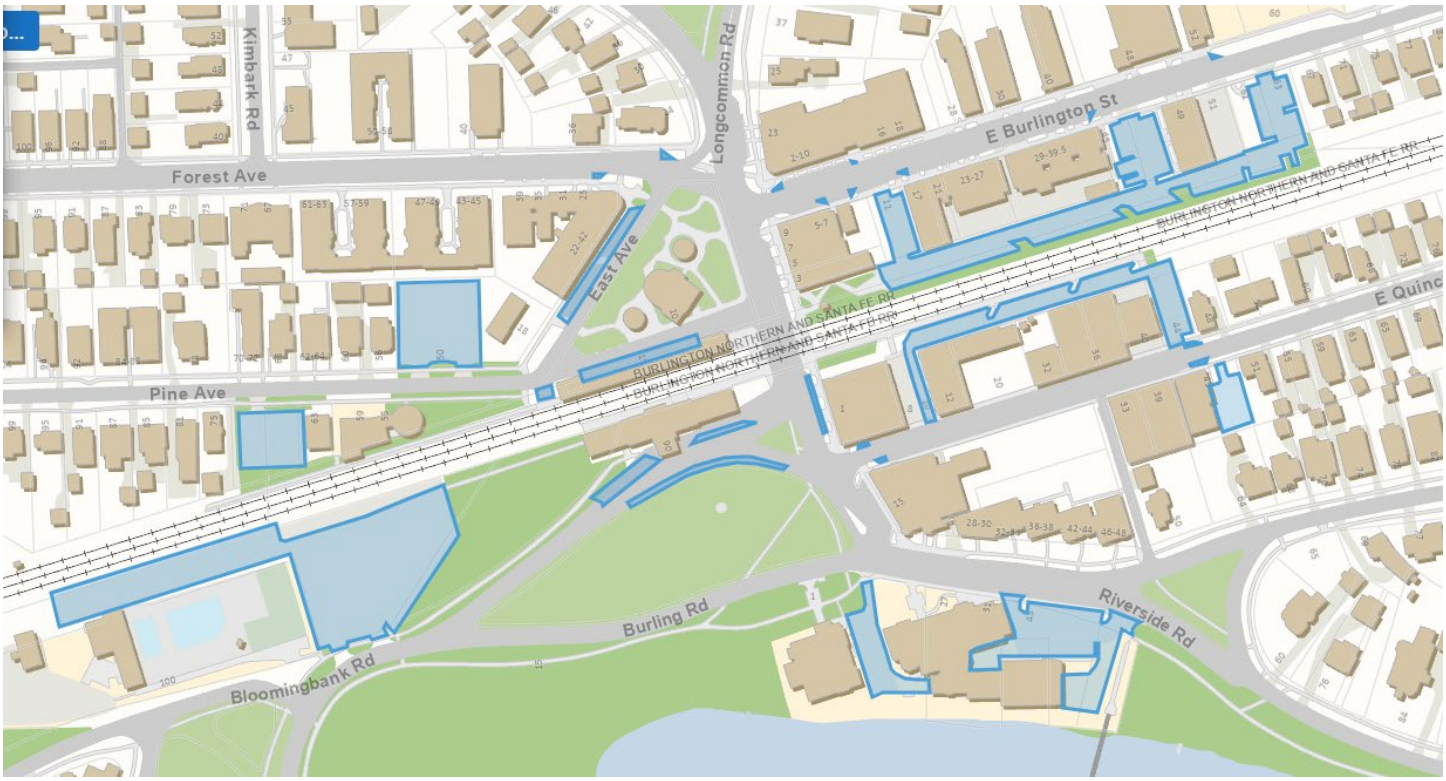
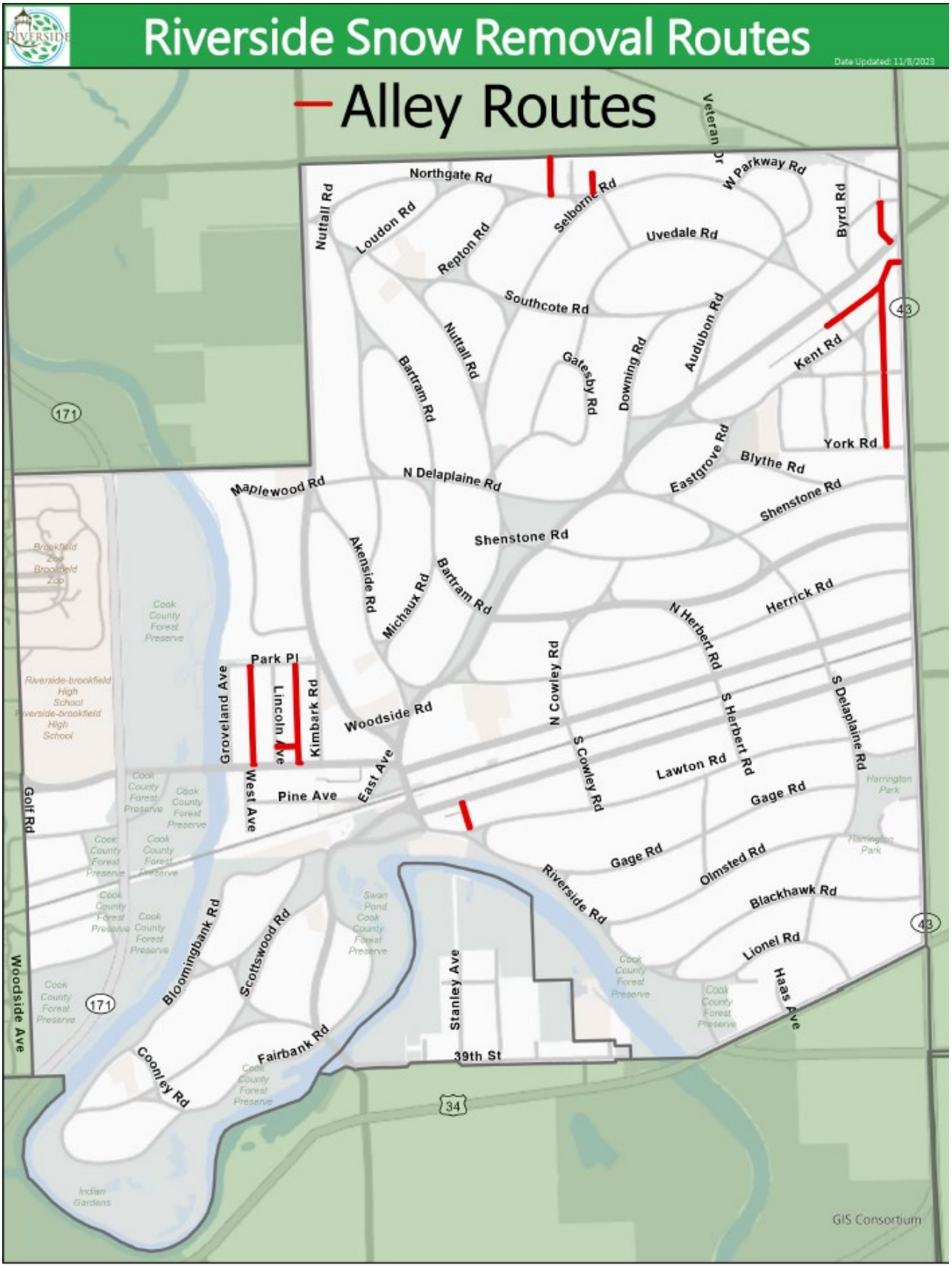
Appendix G.1

Parking Lots / Parking Spaces Expanded



Appendix H


Riverside Snow Removal Routes
Date Updated: 11/8/2023
Alley Routes
Northgate Rd
Nuttall Rd
Loudon Rd
Repton Rd
Selborne Rd
Veteran Dr
W Parkway Rd
Byrd Rd
Uvedale Rd
Southcote Rd
Nuttall Rd
Bartram Rd
Gatesby Rd
Downing Rd
Audubon Rd
Kent Rd
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York Rd
Blythe Rd
Eastgrove Rd
Maplewood Rd
N Delaplaine Rd
Shenstone Rd
Shenstone Rd
Akenside Rd
Michaux Rd
Bartram Rd
Herrick Rd
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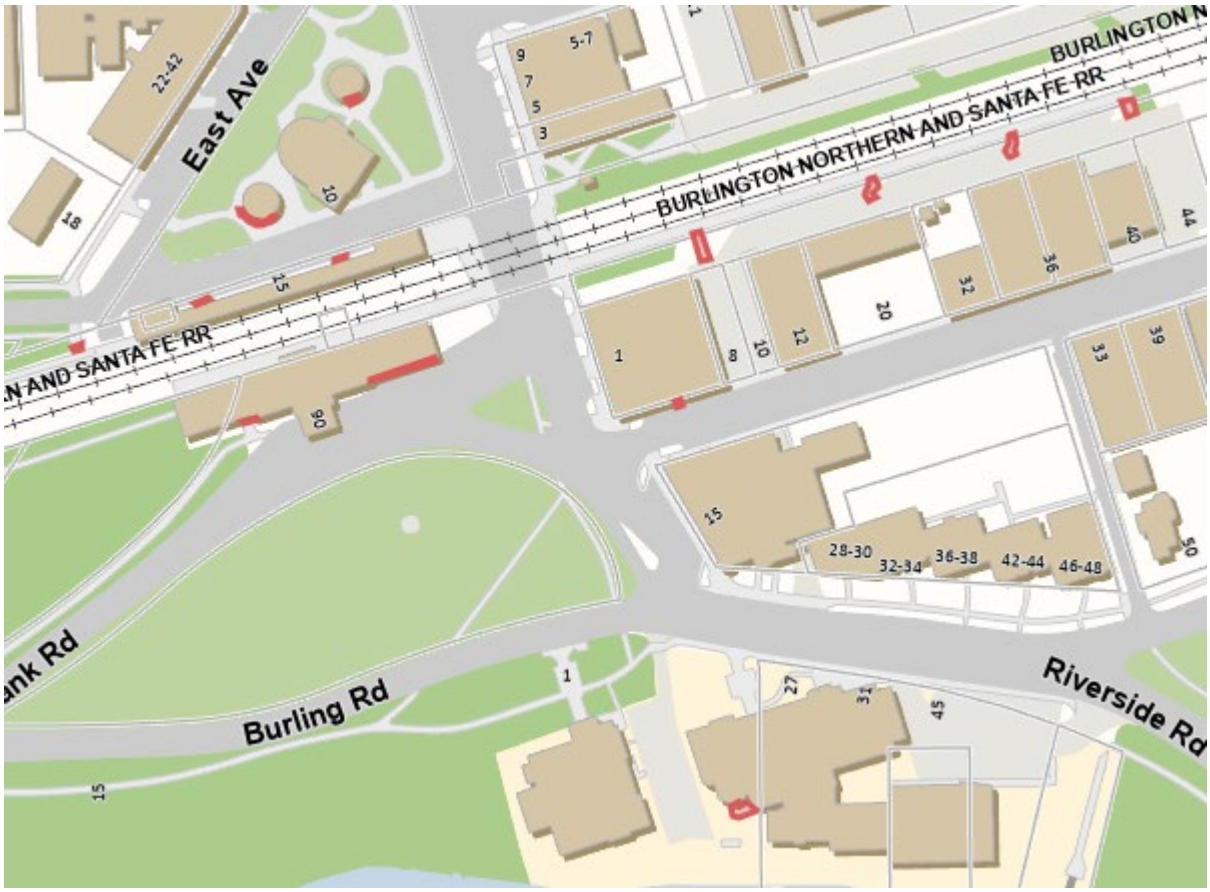
Woodside Rd
N Cowley Rd
S Herbert Rd
S Delaplaine Rd
Golf Rd
West Ave
Pine Ave
East Ave
S Cowley Rd
Lawton Rd
Gage Rd
Harrington Park
Gage Rd
Olmsted Rd
Riverside Rd
Blackhawk Rd
Lionel Rd
Haas Ave
Bloomingbank Rd
Scottswood Rd
Swan Pond Cook County Forest Preserve
Stanley Ave
Woodside Ave
171
Fairbank Rd
Coonley Rd
39th St
34
Indian Gardens
GIS Consortium

Appendix I

Hand Shoveling



Appendix J

Winter Maintenance Event Logging Form

Agency Name:	**THE VILLAGE OF RIVERSIDE**

Employee Name: **Equipment Used:**

General Call Out Info

Call out Date:		Call out Time:	
Completion Date:		Completion Time:	

Weather Conditions

Precipitation Type:		Precipitation Amount:	
Pavement Conditions:		Pavement Temperatures:	
Other Weather Observations:			

Other Weather Observations Examples to Include: were pavement temps rising or falling, air temps, wind or blowing snow, length of storm, light snow, heavy snow, frost, duration of event, etc.

Products and Amounts Used

Materials:	ROAD SALT	BAG SALT			
Dry Solid?					
Pre-Wetted or Pretreated Solid?					
Liquid?					
Amount Used:					
Other Information:					

Fill out the materials across the top, and check the box for if the material was a dry solid, pre-wetted/pretreated solid, or liquid and record the amount used. Include amounts used for both roads and Parking lots/Sidewalks.

Application Rates and Methods Per Lane Mile

Dry Solid Application Rates: Lbs. / Lane Mile	Pre-Wetted or Pretreated Solid Application Rates:	Liquid Application Rates:

List all application rates used in the above boxes. Include units (example: pounds/lane mile or gallons/lane mile)

Type of Application? Deicing / Anti-Icing

How many lane miles and/or square feet of parking lots/sidewalks were treated?	
How many deicer and/or anti-icing application passes were made?	

Other Information

Were mechanical methods (plowing, scraping, sweeping, etc.) used before applying deicer materials? (circle one)	

Notes

Appendix K

Snowplow Inspection Checklist

Vehicle # _____ Date/Time _____/_____ Signed _____

	Pre-Trip / **Post-Trip**			
	Yes	No	Yes	No
Check tire pressure				
Check vehicle ballast - W*eight distribution for traction on smaller snow removal vehicles or implements.*				
Check engine belts for cracks and tightness				
Check for leaks:				
Hoses				
Under vehicle				
Fuel tank				
Check fluid levels: *Are they clean and at recommended levels?*				
Engine oil				
Brake fluid				
Transmission fluid				
Radiator coolant				
Windshield washer fluid				
Full fuel tank				
Check windshield for any cracks				
Check windshield wipers				
Check window defroster				
Check mirrors – *are they adjusted and clean of ice and snow?*				
Check horn/back up alarm				
Check lights: *are they aligned, working, and free of ice and snow?*				
Headlights				
Brake lights				
Hazard lights				
Turn signals				
Strobe light				
Plow lights				
Check blade assembly:				
Snowplow cutting edge and curb guard				
Bolts tight				
Cracked welds				
Mounting brackets secure				
Blade markers				
Hydraulics and controls – *any leaks and proper operation?*				
Check salt/sand spreaders:				
Any loose parts?				
Secured – *anchored, tie downs?*				
Throttle controls – *proper operation?*				
Check emergency equipment:				
Two way radio or phone				
Fire extinguisher				
Reflectors/flares/flashlight				
First aid kit				
Extra winter wear – *as needed*				

Note: Check with equipment manufacturers for recommendations before making any field repair to critical equipment.

Policy Acknowledgement Page

I have read and been informed about the content, requirements, and expectations of the Snow and Ice Control Plan for employees at the Village of Riverside. I have received a copy of the policy and agree to abide by the policy guidelines as a condition of my employment and my continuing employment at the Village of Riverside.

I understand that if I have any questions, at any time, regarding the policy, I will consult with my immediate supervisor.

Employee Signature: _____

Employee Printed Name: _____

Receipt By: _____

Date: _____