



# Winter Operations Manual

## Snow and Ice Removal

# 2022-2023

## **Purpose**

The purpose of this manual is to provide general guidelines and service level expectations with regard to snow and ice removal within the City of Crest Hill, Illinois. This document will outline various procedures involved in plowing, salting, and anti-icing (an activity intended to prevent the bond of snow and ice to a roadway). The manual also provides material application recommendations over various conditions. The reader should note that the procedures outlined herein do not seek to maintain bare pavement conditions during a storm but seek to attain that goal at its conclusion when possible. Several factors, such as pavement temperature, air temperature, sunlight, and traffic volume affect the ability to completely removed bonded snow from a roadway. Staff seeks to meet this goal with an awareness of the detrimental and cumulative effect of chlorides to area waterways and potable drinking water sources.

## **Disclaimer**

Procedures listed in this manual are considered best practices only and are intended to provide general guidelines for ice and snow removal. As weather conditions vary, ice and snow control treatment plans may be implemented that deviate from the specifications listed in this manual.

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## **I. General Procedures**

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## **CITY OF CREST HILL**

### **2022 SNOW AND ICE CONTROL PLAN**

#### **GOALS and OBJECTIVES**

#### **MISSION STATEMENT**

It is the mission of the Department of Public Works to provide safe streets through efficient and timely snow and ice control. This is accomplished by being appropriately equipped with the latest advancements in snow fighting equipment, technology and materials, utilizing a well-trained, professional staff, following best management practices, and being well-organized and prepared for any winter storm event.

#### **INTRODUCTION**

The City of Crest Hill is situated within the moderate snowfall band, receiving an annual average snowfall of approximately 40 inches, although snowfall totals in excess of 90 inches and less than 14 inches per year have occurred. The task of keeping Crest Hill's 83 plus centerline miles of streets safe for vehicular traffic during and following winter storms is the responsibility of the Department of Public Works. The Department takes this charge seriously and has no single program that utilizes all of the resources available as completely as the snow and ice control program does. This plan outlines the procedures and resources utilized to achieve the goal of keeping the streets as safe as possible during snow events.

For the purpose of coverage under the plan, the City is divided into six (6) zones consisting of five (5) residential routes and one (1) arterial route. One plow truck and driver is assigned to each route to maximize familiarity and provide a consistent level of service. An additional truck assists in the arterial route if necessary. These routes are utilized for all plowing and salting applications. Plow trucks will commence plowing operations as necessary. Drivers will shift to full-width plowing at the end of a storm should conditions warrant.

#### **PLANNING THE STORM RESPONSE**

##### **Snow and Ice Events**

The task of monitoring the weather and establishing a response plan for each event falls to the Director of Public Works and Assistant Director of Public Works. The Streets Crew Leader will provide assistance in support of those efforts. It should be noted in the case of a severe snow event, it may be necessary to have more than one supervisor on duty. However, during an average snowfall, one supervisor will direct operations.

Weather forecast information is monitored and received through various online sources via the Internet and broadcast television. The Director of Public Works and Assistant Director of Public Works are primarily responsible for monitoring information and advising the rest of the staff in the department of any potential storm or forecast that would require the need for snow and ice

intervention. The Public Works Management staff will decide what immediate and/or standby action is needed and take the necessary steps to see that the action is taken. In certain cases, the Police Department Shift Supervisor will notify Police Communications of any icing problems on the commencement of any unanticipated icing conditions. The Police Communications Operator will immediately notify the Director of City Services as to the extent of the icing problems. The Director of Public Works and Assistant Director of Public Works will assign drivers and plow trucks as necessary to apply material to address slippery conditions when warranted during short-duration events. The Director of Public Works and Assistant Director of Public Works will then assess conditions and various forecasting sources and determine an updated projection of storm intensity and duration. Based on the information received, further plans may be formulated.

After-hours weather forecast information is also monitored by Public Works management staff outside of normal operating hours. Should an unanticipated storm develop, they will develop an appropriate response and inform the City Administrator or his/her designee.

## **LEVEL OF RESPONSE**

Based on the weather forecast, the appropriate level of response to any given storm will be chosen by the Duty Director. To the extent possible, the number of drivers and trucks utilized during the storm and the timing of their shifts will be established in advance. Utilizing this approach maximizes the chance that the needed resources will be available for the initial response and throughout the storm event. This level of response can, in general, be built around several different scenarios:

II. Forecast for snow or when temperatures may cause a frost.

During normal working hours, anti-icing chemicals are applied to bridge decks, streets with hills or curves, and streets within school zones as a preventative measure. Typically, this material is also applied prior to weekends during the heart of the winter season as necessary

III. Forecast for 4" or less of snow.

Up to six (6) plow trucks may be dispatched throughout the City when the Duty Director is notified that the streets have started icing or that streets are getting slippery. Trucks are dispatched and may begin salting primary streets, snow routes, and spot salting secondary streets and residential streets as necessary with the objective being to keep passable the streets that are traveled throughout the City. Drivers in residential routes are instructed to spot salt all streets as necessary to include intersections in conjunction with hills, bridges, and snow routes.

The weather forecast and radar information will continue to be reviewed throughout the storm. If the storm is near the end, plow trucks will continue to patrol, salting only as necessary.

It is the goal of the Department of Public Works to have this type of snowfall completely cleared within six hours after the snowfall ceases.

IV. Forecast for 4" to 8" of snow

Projected staffing for the event may require the use of two shifts of up to sixteen-hour increments if necessary, taking into consideration the need to appropriately man water and wastewater operations, to deploy plow trucks for the initial call out based upon the judgment of the Public Works Management staff. This set up may include, if necessary, sending a group of drivers home to rest so they can work safely throughout their shift. The initial response may include up to six (6) plow trucks that can be dispatched throughout the City when the Duty Director is notified that the streets have started icing or are getting slippery. Trucks are dispatched and will begin salting primary streets, snow routes, and spot salting secondary streets and residential streets as necessary with the objective being to keep streets passable throughout the City. Drivers in residential routes may spot salt all streets as necessary to include intersections in conjunction with hills, bridges, and snow routes.

If accumulation of snow is less than one (1) inch when the call out begins and the accumulation rate is slow, plow trucks will apply salt to hills, bridges, and intersections as necessary until the accumulation increases.

Until such time that conditions warrant and an additional driver is called in to plow cul-de-sacs, Plow Drivers will make a pass through cul-de-sacs located within their route to keep them open and passable. In most cases, the additional driver will be called in once accumulation exceeds 2" depending on conditions.

It is the goal of the Department of Public Works to have this type of snowfall completely cleared within 12 hours after the snowfall ceases.

V. Forecast for 8" or more, with storm lasting more than 24 hours

Projected staffing for the event may require the use of two shifts of up to sixteen-hour increments if necessary, taking into consideration the need to appropriately man water and wastewater operations, to deploy plow trucks for the initial call out based upon the judgment of the Public Works Management staff. This set up may include, if necessary, sending a group of drivers home to rest so they can work safely throughout their shift. The initial response may include up to six (6) plow trucks that can be dispatched throughout the City when the Duty Supervisor is notified that the streets have started icing or are getting slippery. Trucks are dispatched and will begin salting primary streets, snow routes, and spot salting secondary streets and residential streets as necessary with the objective being to keep streets passable throughout the City.

Drivers in residential routes will spot salt all streets as necessary to include intersections in conjunction with hills, bridges, and snow routes.

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These types of snowfalls are infrequent; however, when they do occur they are planned for with thought that multiple split shifts will be required in order that the ice and snow is removed from city streets. It is the goal of the Department of Public Works to have this type of snowfall completely cleared within 24 hours after the snowfall ceases.

### **PUBLIC SIDEWALKS**

Clearing sidewalks around City Hall will start as soon as practical following commencement of an event. Utilities staff will address shoveling/plowing needs at the various wells and plants as necessary and when possible.

### **PARKING LOTS**

Public Works is ultimately responsible for the clearing of the City Hall parking lots and lots at city-owned facilities. This operation shall include salting and plowing. Snow is to be deposited in parking lots in a manner that is the least disruptive to parking as possible. No snow shall be placed in crosswalks or pedestrian areas. Staff will haul excessive accumulations of snow when necessary and within the ability of available staff.

## **SUMMARY OF RESPONSIBILITIES**

The task of keeping vehicular traffic moving on Crest Hill's 83 miles of streets during and following winter storms is the responsibility of the Public Works Department as more specifically detailed in this manual.

**FLEET SERVICES:** This Division has the key responsibility of insuring that all designated snow control equipment is properly outfitted and ready for use during snow operations. They may also be used in emergencies situations for salting and plowing as deemed necessary.

**WASTEWATER and WATER TREATMENT DIVISION:** Personnel from this Division are integrated with the Street Division for winter storm operations.

**STREETS DIVISION:** This Division has the responsibility for the receipt and analysis of storm warnings; the determination as to the type, amount, and timing of operations; the altering of personnel assignments; control of operations and direction of snow control strategies; and salting and plowing within the Plow Routes.

### **Duty Director Responsibilities:**

- Review weather forecasts daily.
- Verify status of equipment and staff availability.
- Determine if drivers should be sent home early for evening coverage.
- Determine if drivers should be kept after normal quitting times.
- Advise Police Communications of proposed response plan and update them as necessary
- If a full call-out of plow trucks is needed, the Duty Director should come in for the call out of the plow drivers to assist with deployment and startup.
- Inform Police Communications when crews are no longer working, or when a crew is left on for isolated slippery spots.
- Maintain status board during snow operations.
- Fill out call-out log and snow command checklist.
- Keep Public Works Management staff advised of status / plans.

## **Crew Leader Snow Responsibilities**

- Coordinate with other Divisions to make sure the garage is clean and organized at the end of each day to insure easy and accident free deployment of snow equipment.
- Work with On Call Supervisor to coordinate staffing needs and implementation.
- During salting/plowing operations:
- Assist salt truck drivers to clear trucks blocking the exit doors.
- Field calls for service and dispatch to the appropriate driver if determined to be an emergency.
- Coordinate with the Fleet Division staff for any truck repairs and call the on call Mechanic, if necessary.
- Do periodic street inspections for salt effectiveness.
- Inform on call supervisor of any changes/ problems including street conditions and weather updates.

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## **SNOW AND ICE CONTROL PROCEDURES**

The initial response is the spreading of rock salt (sodium chloride) treated with a liquid pre-wetting solution of an organic sugar byproduct, calcium chloride, and salt brine on routes that include arterial roadways, emergency locations and known trouble spots. The plow routes will continue to receive salt applications as required in an effort to maintain safe vehicular traffic. Salt operations will not necessarily result in bare pavement conditions during snowfall periods. Plow vehicles are equipped with front-end plows and will plow and salt simultaneously as appropriate.

For the majority of salting events, after the snowfall has stopped, primary roads and trouble spots will receive salt with the intent of reaching bare pavement. Low volume residential roads and cul-de-sacs will receive spot salting at critical locations such as intersections, long straight sections, curves, or inclines. Although salt is not normally applied constantly along the entire length of minor volume streets, staff may alter this standard to allow for consistent salting if pending weather conditions are not conducive to attaining near bare pavement conditions within a reasonable time after the event ceases. Salt may be applied along the entire length of residential streets during an ice storm. To maximize its effectiveness, salt is applied to the center of the roadway as the resulting salt brine generally flows to the edges allowing for maximum coverage. Salt placed outside the roadway crown has the potential to bounce into the gutter where it loses its operational effectiveness.

With favorable temperatures, rock salt will melt up to one inch of snow and reduce the bonding of compacted snow to pavement, thus ensuring a more efficient plowing operation when plowing becomes necessary. Rock salt is effective only above 15 degrees Fahrenheit. The pre-wet solution lowers the effective temperature of rock salt to melt ice and snow to temperatures as low as minus 30 degrees Fahrenheit.

### **ANTI-ICING**

Anti-icing is a road maintenance strategy that tries to keep the bond between ice and the pavement surface from forming. It involves applying ice control chemicals before or at the very beginning of the storm. Using this strategy often reduces total chemical use and allows a higher level of service to the traveling public. Anti-icing chemicals will be applied to outer roadways, hills, significant curves, and school zones if there is a chance of ice or frost forming and weather conditions permit.

### **SALT APPLICATIONS**

All salt spreaders are calibrated in late October and rated in terms of pounds per lane mile. The calibration settings are pre-set prior to each winter season. Application rates can be adjusted by the operator of each truck if necessary. When rock salt is treated with the pre-wet solution, ten gallons of the solution is applied to every one ton of rock salt at the set application rate. The Fleet Division is responsible for ensuring that each salt spreader is calibrated and that the following application rates are followed. These are a useful guideline and may not represent actual application.

## **MATERIAL APPLICATION RATE GUIDELINES**

<u>Type of Storm</u>	<u>Guidelines</u>
<b><u>CONDITION 1</u></b>  Temperature - at or above 30 degrees. Precipitation - snow, sleet or freezing rain. Pavement condition - wet, ice or snow.	On arterial and residential routes, if freezing rain, apply salt at 500-700 lbs. lane mile. Residential routes are spot salted. Enough salt is used to clear intersections to bare pavement at 500 lbs. per lane mile.
<b><u>CONDITION 2</u></b>  Temperature - below 30 degrees or falling to above 15 degrees. Precipitation - snow, sleet or freezing rain. Pavement Condition-ice or snow.	On arterial and residential routes, apply salt at 400-600 lbs. per lane mile and pre-wet. If snowfall continues and accumulates, plow and repeat salt at 500 lbs. per lane mile. For residential routes, plows apply salt after snow abates and salt to clear intersections to bare pavement at 300 lbs. per lane mile with pre-wetting solution.
<b><u>CONDITION 3</u></b>  Temperature - below 10 degrees and falling. Precipitation - snow. Pavement Condition - ice or snow.	On primary and snow routes, apply per-wet at a rate of 400-600 lbs. per lane mile. When snow becomes slushy, remove by plowing and repeat application at 200-400 lbs. per lane mile. Residential routes, apply a salt and pre-wet mixture and use enough to clear intersections at a rate of 200-400 lbs. per lane mile.

## **SALT STORAGE**

It is anticipated, with planned salting, in an average winter, the City will use up to 1,500 tons of rock salt. Even minor winter storms will require about 150 tons of salt. The City's stored inventory is 1,800 tons (estimated). The salt usage in the 2022 season is estimated at about 1,500 tons. We have a contractual obligation to purchase 1,800 tons during the 2022-2023 winter season, and can purchase as much as 1,800 tons if needed.

Salt is loaded by the truck operator with a front-end loader located at the salt storage site. The Assistant Director of Public Works will initiate the replenishment of salt stock as necessary.

## **RECORDS AND REPORTING**

For the purpose of performance evaluation, as well as the necessity to document ice control operations, accurate information on the work accomplished must be kept. After each storm, staff will gather and compile data on storm type, duration, miles driven, fuel, and material used.

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## **EMERGENCIES AND COMPLAINTS**

The established snow plowing routes will result in the quickest and most efficient removal of snow from City streets. Deviations from these routes will result in a less timely overall removal of snow. Consequently, no plow operator will deviate from his route unless so directed. If a police, fire or medical emergency requires an interruption of a normal route plowing operation, the request must be made through the Duty Director who will then assign a particular vehicle to the emergency request.

Plowing snow onto driveways and sidewalks is unavoidable. The amount of snow plowed onto driveways and sidewalks will vary depending on several factors:

- a. Rate of speed of plow truck.
- b. Type of snow (light/fluffy vs. heavy/wet).
- c. Type of plow blade (steel or rubber, Crest Hill currently uses steel blades).
- d. Distance between sidewalk and edge of street.
- e. Type of street (collector, arterial, residential, dead-end) relative to depth of snow.

Cul-de-sacs are plowed in a counter-clockwise fashion starting in the center working to the curb (as compared with (a) plowing to the center, (b) plowing only the outer ring at the curb, or plowing each individually in an attempt to avoid all driveways, hydrants, mailboxes, trees, signs, street lights, etc.) so as to complete the clearing operation as quickly as possible. This recognized procedure may result in more snow in a cul-de-sac driveway as compared with a driveway along a straight length of street. Snow is not plowed to the center of the cul-de-sac because:

1. Cannot plow in a clockwise direction due to turning radius and angle of the plow.
2. Over a period of time, no storage space in center after a few consecutive snow falls.
3. Piles of snow in center leads to kids tunneling and playing -- an unsafe condition.
4. Piled snow in center covers manholes which must remain accessible (water valves and sewer mains).
5. Snow melting from these piles will create icing in the travel lanes since cul-de-sacs are designed to drain to the outside curb.

Time permitting or during periods when snow is wet and heavy, plow drivers may attempt to plow snow to open areas.

Snow plow drivers make every effort to plow as close to mailboxes as possible so that mail delivery is not interrupted. During heavy snowfalls, especially on cul-de-sacs, it is very

difficult for the plows to completely clear snow away from mailboxes without risking damage to the post or the mailbox itself. It is the responsibility of the resident to remove snow from around the mailbox to assure uninterrupted delivery of mail.

Properly installed and maintained mailboxes will be reimbursed by the City if the damage was caused by City equipment making direct contact with the mailbox. Temporary repairs may be made upon notification as time permits.

Snow which is plowed, shoveled or blown from private property onto City Streets (public right-of-way) creates a hazard for vehicular movements and can adversely impact snow removal operations. This action is in violation of the Crest Hill Municipal Code, Section 12.16.090 which states:

***DEPOSIT OF SNOW AND ICE PROHIBITED***

*No owner or occupant of a residence or business shall cause or allow the shoveling, blowing, hauling or otherwise depositing snow or ice onto any city street or upon any private street where members of the general public may be reasonably expected to travel. This prohibition shall not be construed to require residents to remove snow or ice from streets which has fallen there naturally. (Ord. 1336, passed 12-20-04)*

Individuals should shovel or blow snow from sidewalks or driveways onto the treebank (parkway), not into the roadway.

Specific rectifiable complaints will be handled as soon as practicable but shall not interfere with the expeditious completion of the plowing operations underway. Normal complaints will be handled only after operations have been completed.

## **PARKING LOTS**

### **GENERAL**

Public Works is responsible for clearing the City Hall and Police Department parking lot and parking areas at City facilities. The standards for snow plowing of City operated parking lots are:

1. All City lots should be plowed by 7:30 A.M. the morning after the storm per the parking lot priority list. Plowing will start when snowfall exceeds two inches in depth.
2. All snow will be plowed to in such a manner that it does not negatively impact parking spaces.

## **STORM COMMAND CENTER**

The vast majority of snowstorms in the Crest Hill area are less than eight inches (8") in depth and can normally be managed without the necessity of establishing special communications procedures. The City will activate the SCC when it is determined the type and extent of a storm warrants a centralized location for coordination.

The purpose of the SCC is:

1. Central location for the monitoring and control of on-going storm operations for operational decision making.
2. To provide a central contact point to the public for the issuance of status information.
3. To provide an up-to-date single contact point to news media for the issuance of accurate status information.
4. To provide a central location from which accurate information can be provided to City Administration and City Officials.

The SCC will be located at the Public Works Department, 2090 Oakland Ave.

**TELEPHONE:** The SCC is equipped with the following telephone line:

Public Access Number 815-741-5108. This telephone number rolls over to other extensions providing expanded access should call volume deem it necessary.

**RADIO:** The SCC is radio-equipped for contact with Public Work snow removal personnel.

**STATUS MAPS:** The SCC has a large scale City map for the on-going recording of snow removal status against which snow plowing and salting routes have been marked. The SCC also has numerous television monitors to track storm updates in real time.

## **STATUS REPORTING**

The City has 6 Plow District routes and the drivers will call in to the SCC at the start of plowing, at various points (as designated) and at the completion of the route so as to provide a constantly updated status report of the clearing operation.

The SCC operation will be terminated only after all routes have been plowed and the conditions giving rise to the emergency have abated. Termination will be initiated by the Duty Director.

## **TOWING FROM SNOW ROUTES**

The task of removing parked vehicles from posted snow routes is handled cooperatively by Public Works and CHPD. After it has been determined by the Duty Director that 2" or more of snow has fallen, CHPD is notified and they may begin to remove illegally parked vehicles. As they have an area cleared of vehicles, CHPD notifies Public Works and a truck is dispatched to plow the street. The number of vehicles that can be towed is limited by the lack of secured storage space. Tickets are issued by CHPD and towing is implemented if unusual problems are created by the parked vehicles.

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## II. Employee/Equipment List

Siefert	Mark	Public Works Director	815-723-8671	815-954-5284	<a href="mailto:msiefert@cityofcr.com">msiefert@cityofcr.com</a>
Kline	Blaine	Asst. Public Works Dir.	815-741-5108	815-641-2578	<a href="mailto:bkline@cityofcr.com">bkline@cityofcr.com</a>
Martino	Ada	Admin. Assist.	815-723-8671	815-278-0490	<a href="mailto:amartino@cityofcr.com">amartino@cityofcr.com</a>
Bushong	Eric	Crew Leader		815-641-5966	<a href="mailto:ebushong@cityofcr.com">ebushong@cityofcr.com</a>
Cialoni	Robert	Laborer		815-370-4955	<a href="mailto:rcialoni@cityofcr.com">rcialoni@cityofcr.com</a>
Clemens	Edwards	Laborer		1-779-267-1624	<a href="mailto:eclemens@cityofcr.com">eclemens@cityofcr.com</a>
Daletski	Matt	Asst. Mechanic		815-278-0495	<a href="mailto:mdaletski@cityofcr.com">mdaletski@cityofcr.com</a>
Dyar	Dane	Laborer		815-216-2196	<a href="mailto:ddyar@cityofcr.com">ddyar@cityofcr.com</a>
Guzman	Juan	Laborer		815-207-0562	<a href="mailto:iguzman@cityofcr.com">iguzman@cityofcr.com</a>
Hietscholds	Nick	Laborer		1-779-702-0004	<a href="mailto:dkuban@cityofcr.com">dkuban@cityofcr.com</a>
	Dan	Laborer		1-815-954-7458	<a href="mailto:pmartino@cityofcr.com">pmartino@cityofcr.com</a>
Martino	Paul	Laborer		815-351-2070	
Peceniak	Richie	P.T. Laborer		815-735-2326	
Semplinski	Brian	Mechanic			<a href="mailto:bsemplinski@cityofcr.com">bsemplinski@cityofcr.com</a>
Sternal	Jennifer	Receptionist Clerk	815-741-5108		<a href="mailto:jsternal@cityofcr.com">jsternal@cityofcr.com</a>

### SEWAGE TREATMENT PLANT

Halaska	Tony	Building Maintenance		815-582-1993	<a href="mailto:thalaska@cityofcr.com">thalaska@cityofcr.com</a>
Brown	Matt	Crew Leader		815-278-0493	<a href="mailto:mbrown@cityofcr.com">mbrown@cityofcr.com</a>
Brown	Joe	Laborer		815-922-4174	<a href="mailto:jbrown@cityofcr.com">jbrown@cityofcr.com</a>
Garriott	Erik	W/S Operator		815-278-0402	<a href="mailto:egarriott@cityofcr.com">egarriott@cityofcr.com</a>
Harbut	Nick	Laborer		815-641-2525	<a href="mailto:nharbut@cityofcr.com">nharbut@cityofcr.com</a>
Kemp	John	Laborer		779-435-9069	<a href="mailto:jkemp@cityofcr.com">jkemp@cityofcr.com</a>
Marsh	Jeremy	Laborer		331-215-2318	<a href="mailto:jmarsh@cityofcr.com">jmarsh@cityofcr.com</a>
Vogrin	Jim	Laborer		815-351-5954	<a href="mailto:jvogrin@cityofcr.com">jvogrin@cityofcr.com</a>

		Snow and Ice Equipment			
Unit	Model	Plow	Salt	Liquid	
2	F350	9'6" V-plow	N/A	N/A	
14	F350	9'6" V-plow	N/A	N/A	
17	F350	9'6" V-Plow	N/A	N/A	
32	F350	9'6" V-Plow	N/A	N/A	
33	F350	9'6" V-plow	N/A	N/A	
40	F350	8' Straight Blade	N/A	N/A	
42	F350	9'6" V-plow	N/A		500 Gallon Anti-ice Tank
44	F350	8' Straight Blade	N/A	N/A	
46	F550	9' V-Plow	Spreader Box		
31	Single Axle	11' Straight Blade	Spreader Box	N/A	
100	Tandem Axle	11' Straight Blade	Spreader Box	N/A	
101	Single Axle	11' Straight Blade	Spreader Box	N/A	
102	Single Axle	11' Straight Blade	Spreader Box	Yes	
103	Single Axle	11' Straight Blade	Spreader Box	Yes	
104	Single Axle	11' Straight Blade	Spreader Box	Yes	
105	Single Axle	11' Straight Blade	Spreader Box	Yes	
106	Single Axle	11' Straight Blade	Spreader Box	Yes	
118	Tandem Axle	12' Straight Blade	V-Body Spreader	Yes	
216	Gehl Skid Steer	8' V-Plow	N/A	N/A	
311	John Deere Gator	4' Plow	N/A	N/A	

### III. Plow/Salt/Anti-Icing Routes

#### Plow and Salt Routes

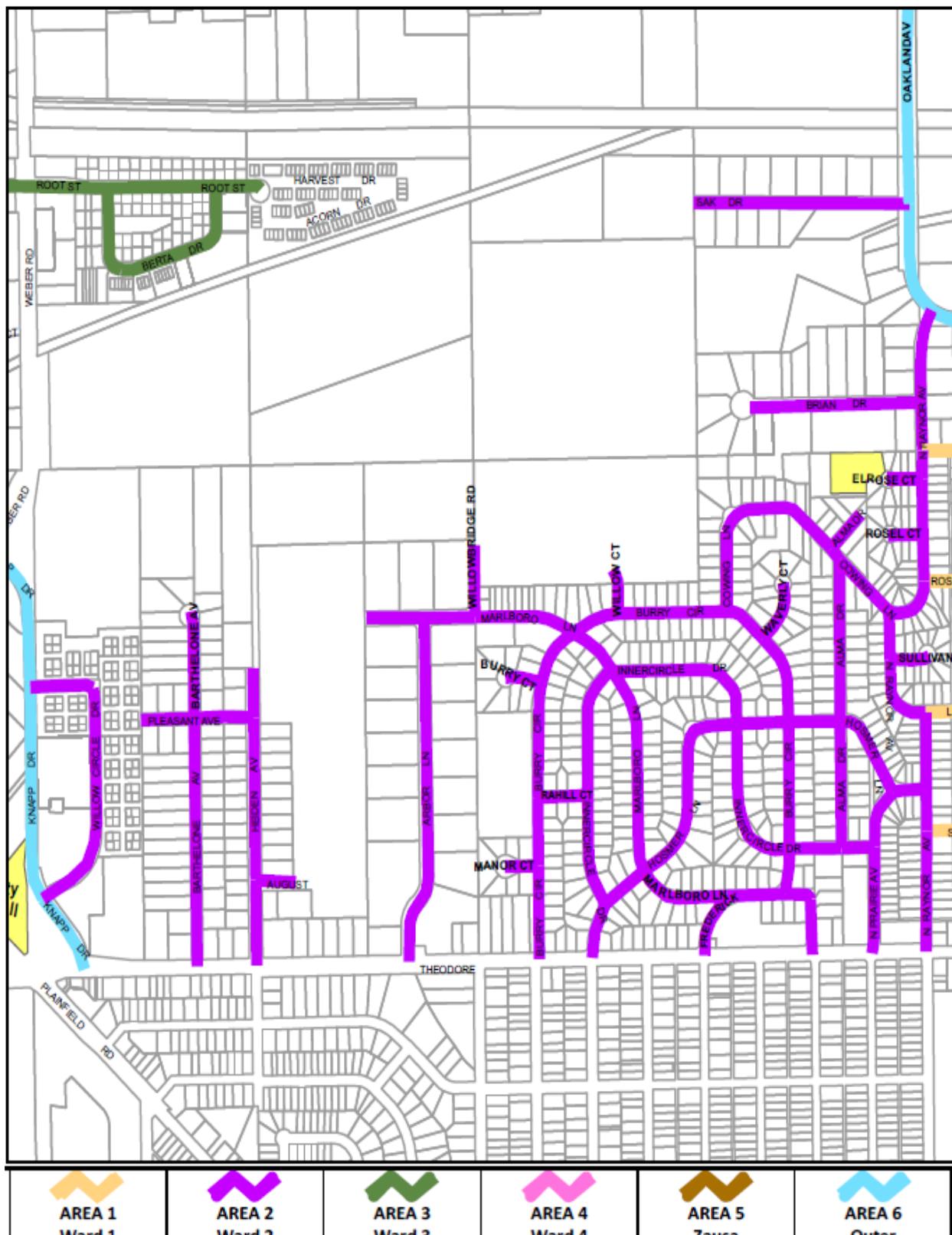
City of  
CREST HILL  
Illinois



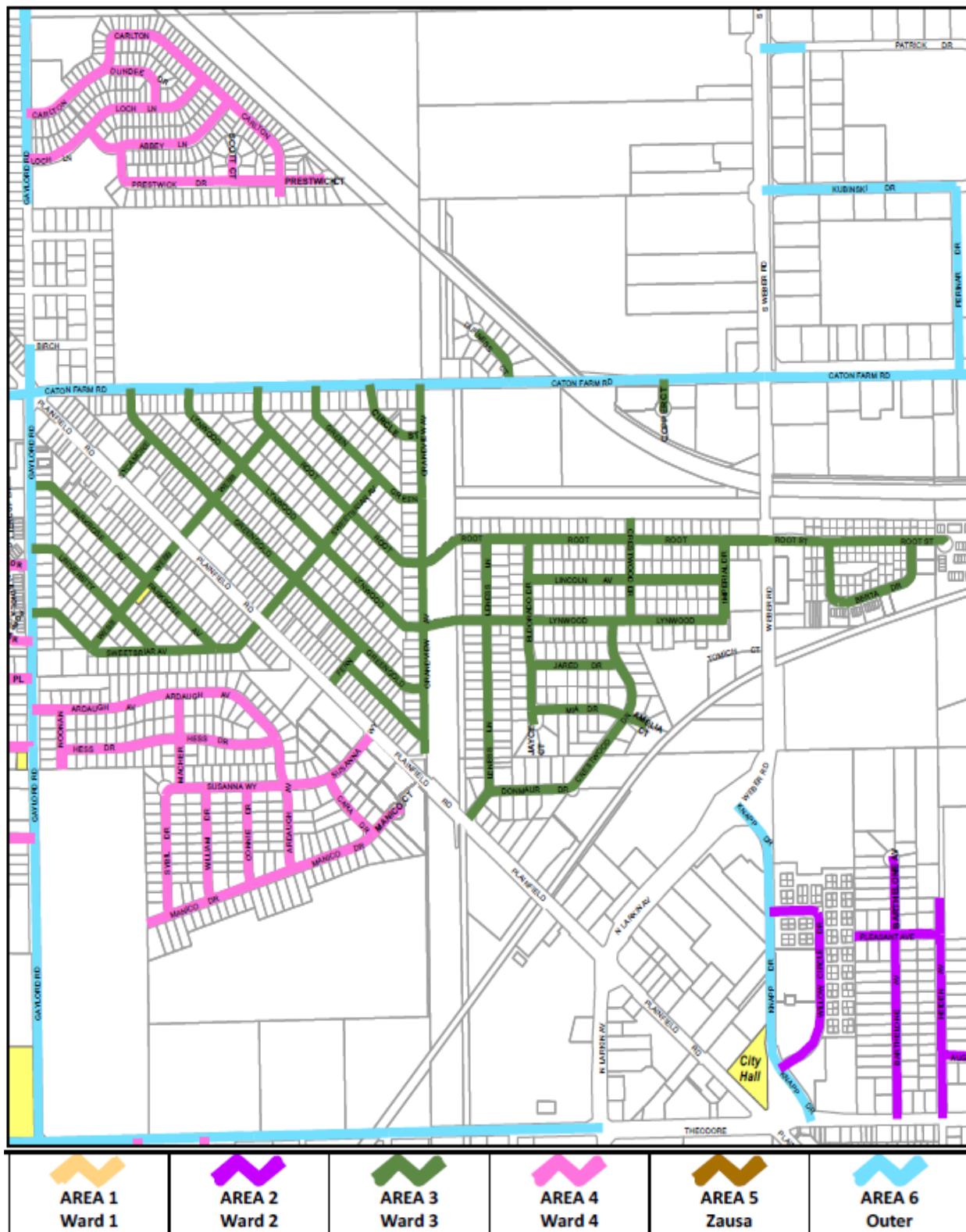
#### City of Crest Hill Snow Routes - Area 1



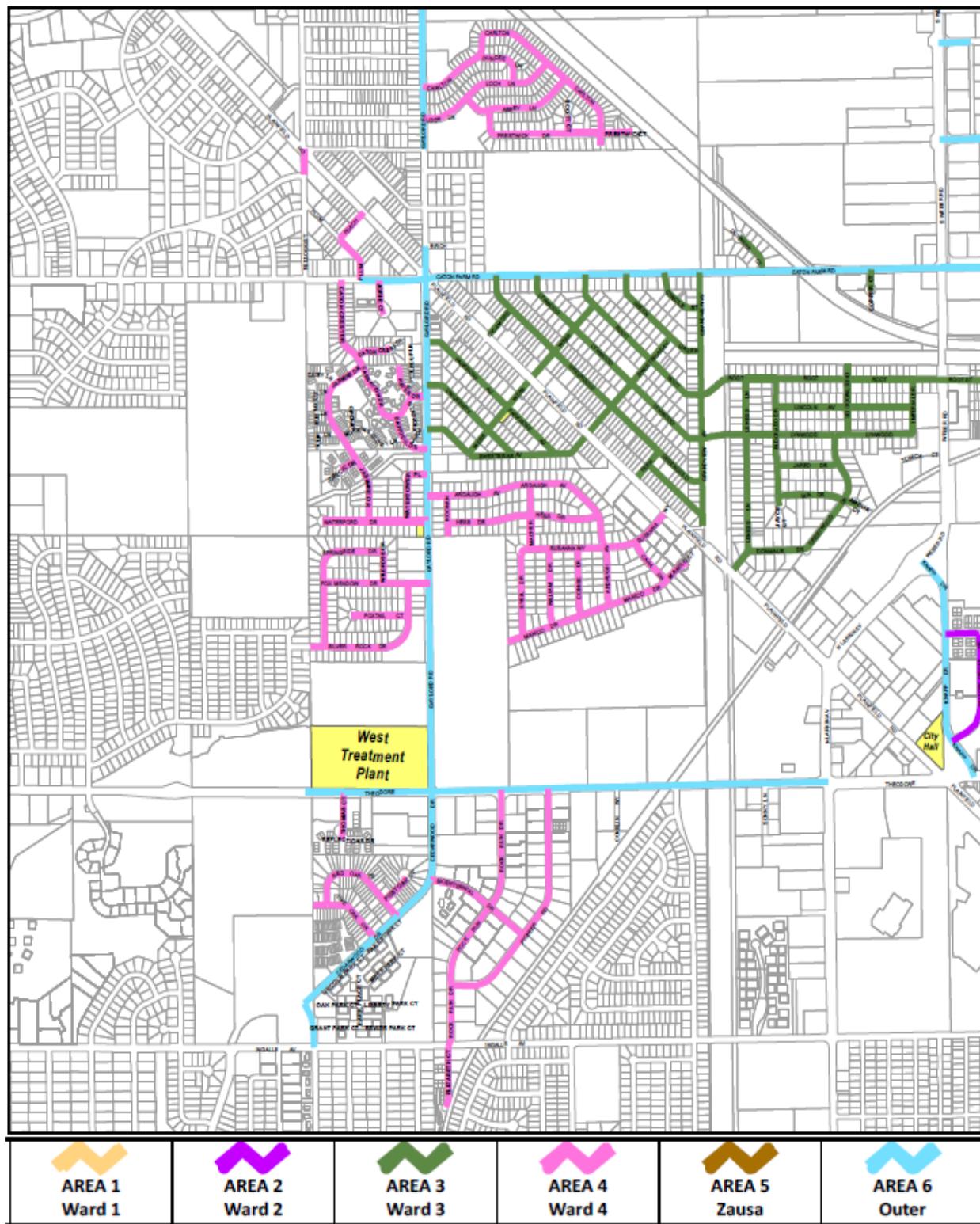
**City of Crest Hill**  
Snow Routes - Area 2



## **City of Crest Hill**

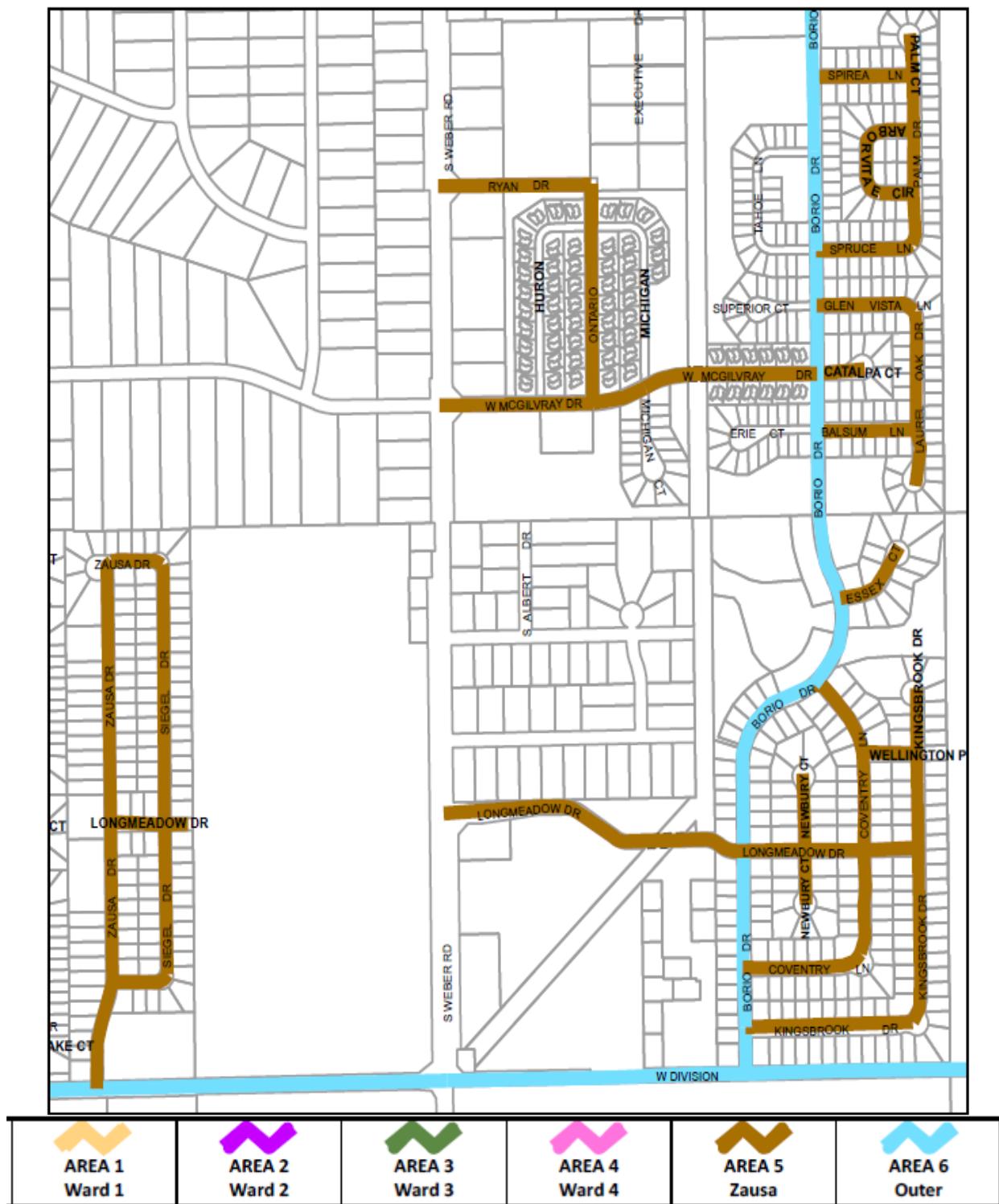


**City of Crest Hill**  
**Snow Routes - Area 4**

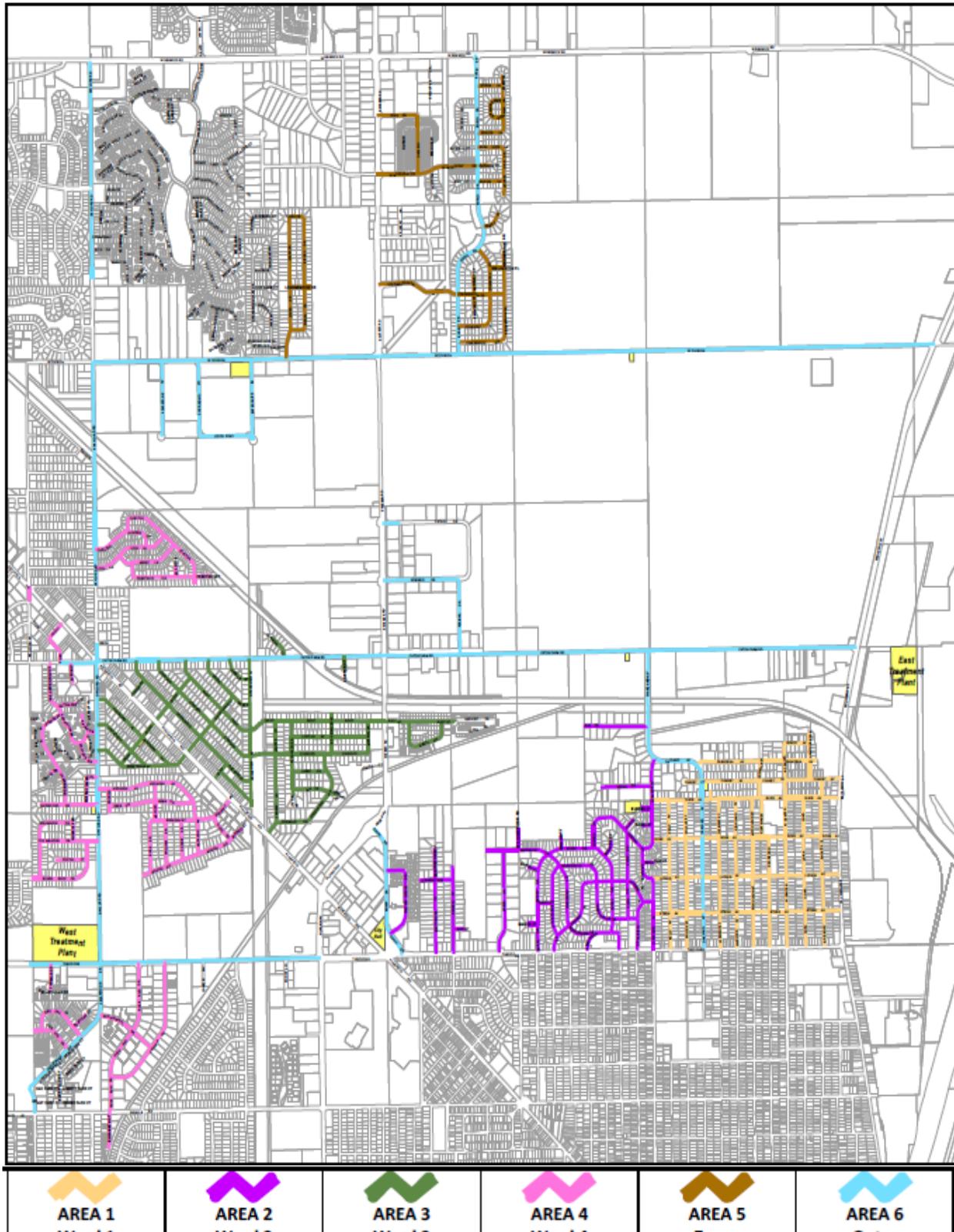


# City of Crest Hill

## Snow Routes - Area 5



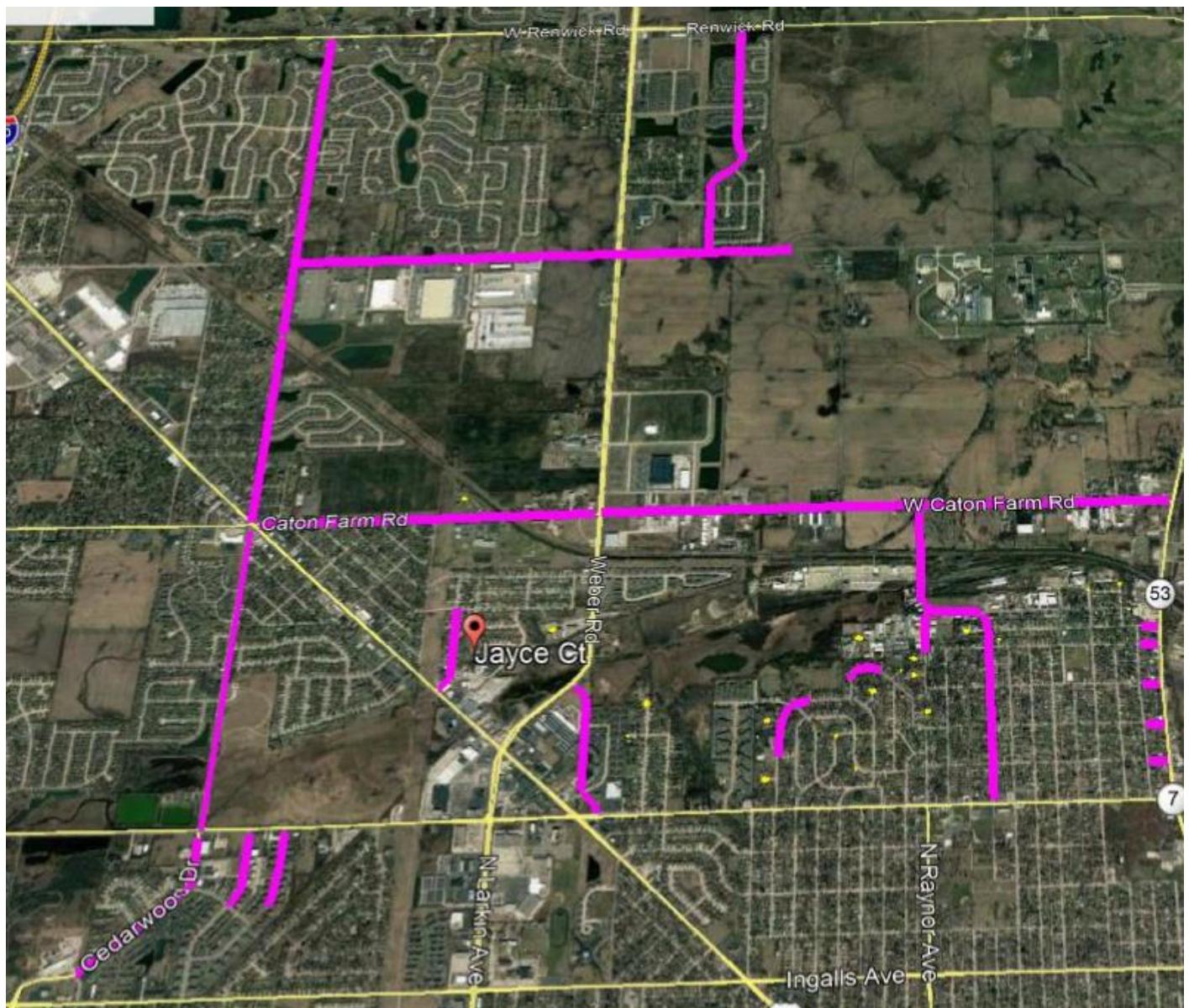
## City of Crest Hill Snow Routes - Outroads



## Anti-Icing Route

### **ANTI-ICING LIST OF STREETS**

Gaylord Road	Theodore to Renwick
Cedarwood	Theodore to Gael Drive
Caton Farm Road	Gaylord to Broadway
Division	Gaylord to a point just past Borio
Knapp	Theodore to Weber
Leness Ln	Lynwood to Plainfield
Rock Run Drive	Theodore to Bicentennial
Pioneer	Theodore to Bicentennial
Burry Cir. Hill	Rahill Ct. to Dead End Street
Raynor Ave. Hill	Elsie to Oakland
Cowing Ln	Around curve
Oakland	Caton Farm Road to Theodore
Chaney Hill	Hickory to Broadway
Elsie Hill	Hickory to Broadway
Rose Ave. Hill	Hickory to Broadway
Ludwig Ave. Hill	Hickory to Broadway
Stern Ave. Hill	Hickory to Broadway



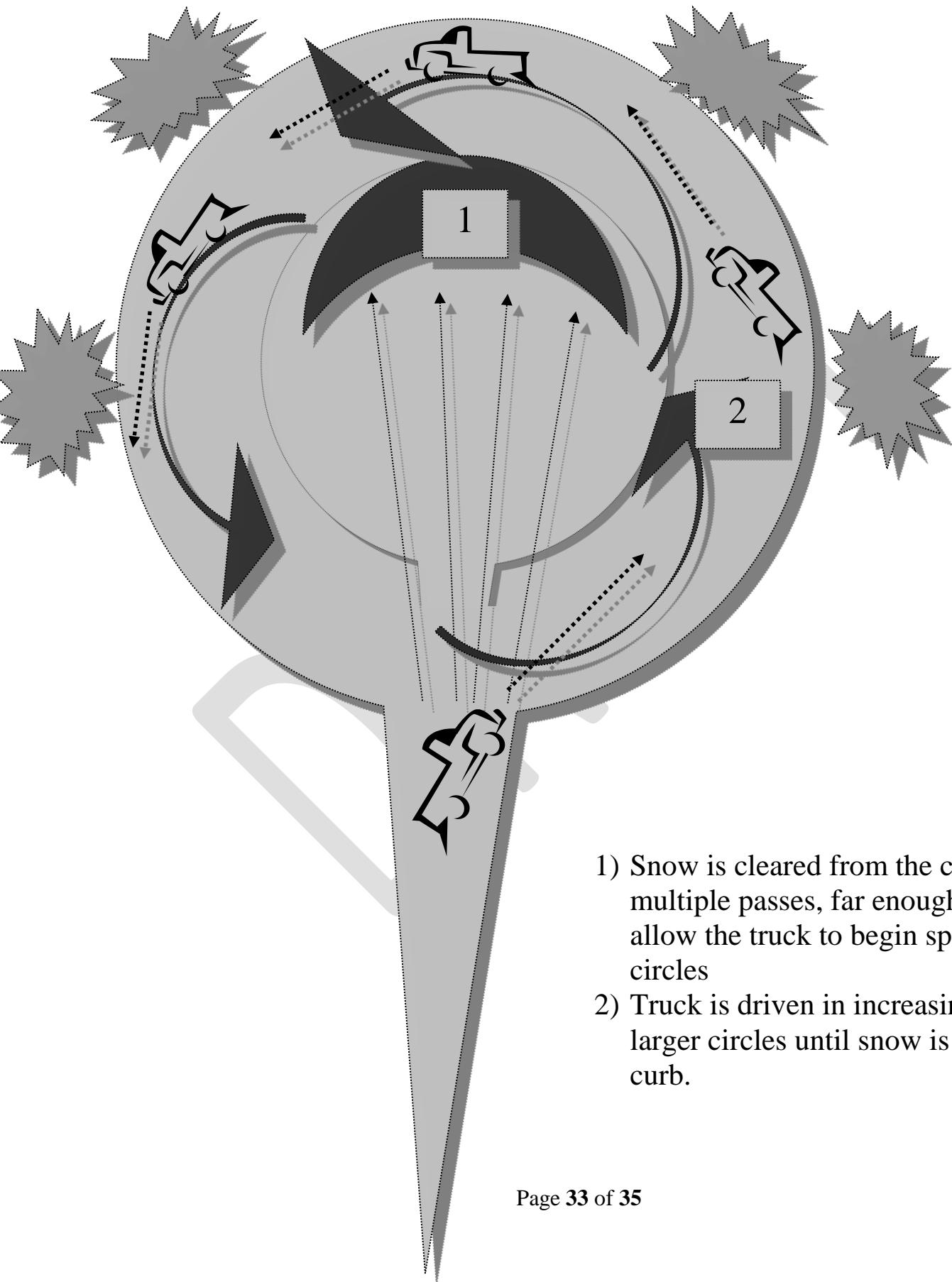
### Anti-Icing Application Decision Flowchart/Supermix



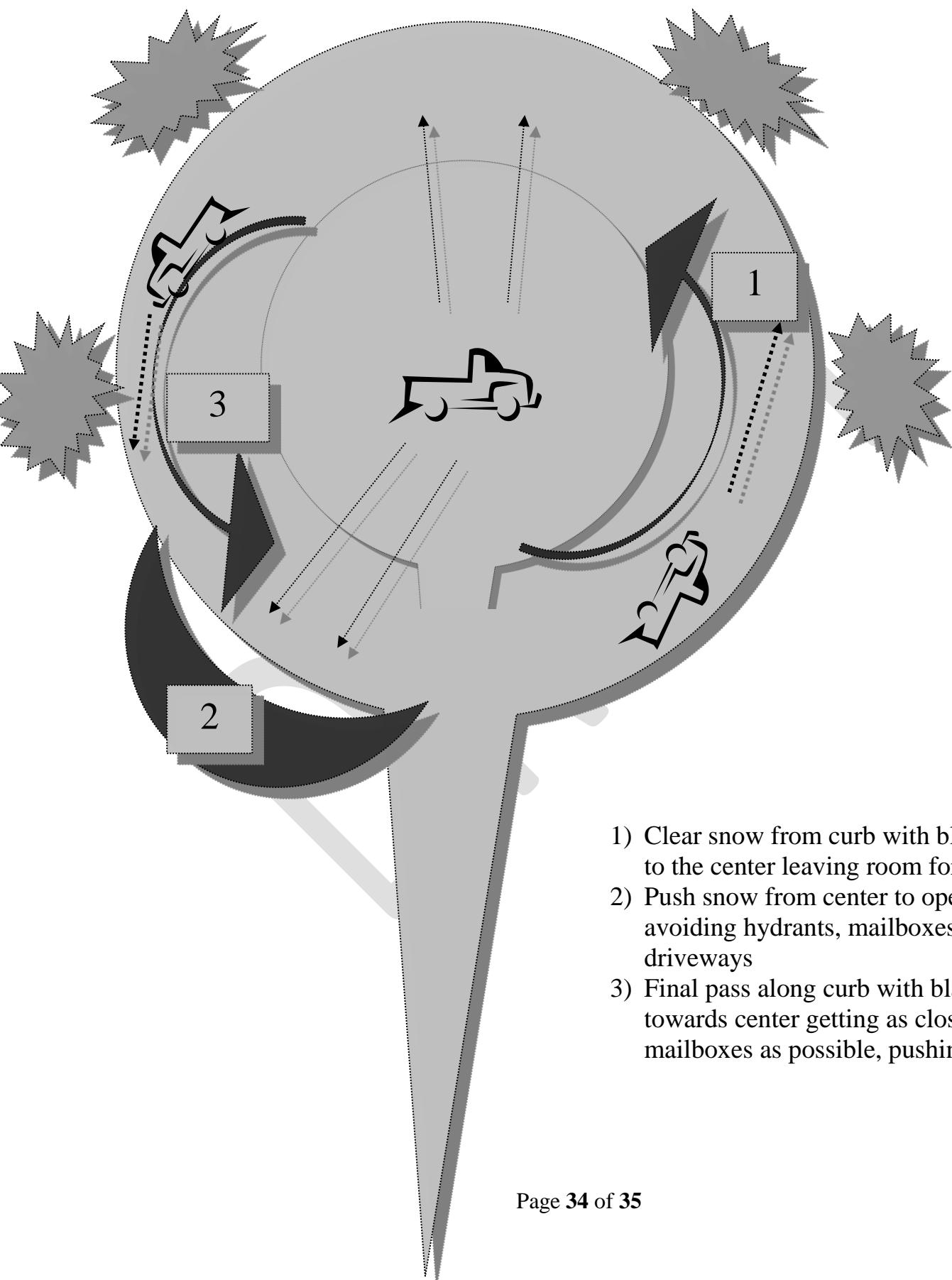
## IV. Cul-de-sacs/Alleys/Dead Ends

Area 1	Area 2	Area 3	Area 4	Area 5
Chaney Ct	Barthelone Ave	Amelia Ct	Jorie Ct	Zausa Dr
Hawthorne Ave (DE)	Manor Ct	Root St	Caton Crest Ct	Catalpa Ct
Pasadena Ave (DE)	Burry Ct	Copper Ct	Juricic Drive	Palm Ct
Hoffman	Waverly Ct	Durness Ct	Waterford Dr	Laurel Oak Dr
Center	Brian Dr.	Crestwood Dr (DE)	Foxtail Ct	Kingsbrook Dr (south)
Elseie (BTWN Clement and Oakland)	Elrose Ct	Jayce CT	Wildrose Dr	Kingsbrook Dr (north)
	Rosel Ct	Alley (BTWN Fern and Grandview)		
	Sullivan Ct		Thomas Ct	Newburry Ct (north)
	Willow Ct		Post Oak Ct	Newburry Ct (south)
	August St (DE)		Prestwick Ct	Coventry Lane
	Marlboro (DE)		Scott Ct	Essex Ct
	Alma Drive (DE)		Manico Ct	Siegel
	Pleasant Ave (DE)		Manico Dr (DE)	
	Heiden Ave (DE)		Noonan Dr (DE)	
			Susanna	
			Sybil	
			Carlton (DE)	

## Light Snow Cul-de-Sac Circular Plowing Method



## Heavy Snow Cul-de-Sac Open Area Plowing Method



- 1) Clear snow from curb with blade angled to the center leaving room for step 2
- 2) Push snow from center to open areas avoiding hydrants, mailboxes and driveways
- 3) Final pass along curb with blade towards center getting as close to mailboxes as possible, pushing to pile.

## Material Supplies

**Salt Purchase Agreement is attached.**

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

Although several companies produce a commercial product for anti-icing and pre-wetting of rock salt, Crest Hill's current provider for this material is:

Industrial Systems Ltd.  
112 West Route 120  
Lakemoor, IL 60051

(815-344-5566