

# SNOW & ICE CONTROL PLAN 2023 - 2024

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## VILLAGE OF CAROL STREAM DEPARTMENT OF PUBLIC WORKS

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**THIS PLAN HAS BEEN DEVELOPED WITH A FOCUS ON TIMELY AND EFFECTIVE SERVICE DELIVERY AND AN EXPANDED FOCUS ON ENHANCING EFFICIENCY IN THE USE OF CHLORIDES TO FURTHER REDUCE THE NEGATIVE IMPACTS ON AQUATIC LIFE AND INFRASTRUCTURE**

# Village of Carol Stream

## Department of Public Works

### 2023 – 2024 Snow & Ice Control Plan

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This plan is designed to support an “open-road” policy, which is intended to make all streets (220 lane miles and over 300 courts) passable no more than eight hours after the last snowflake falls in any event. In order to achieve this policy, the Street Supervisor, in consultation with the Superintendent of Operations and the Director of Public Works, will be responsible for authorizing and assigning the following resources:

- **Supervisory staff** will monitor weather forecasts and conditions, as well as pavement temperature data via a weather service (available remotely) that will deliver virtual pavement data from one central location. Staff will also monitor various live security cameras and stay in contact with Police personnel during off-hours in order to gather information on road conditions in order to make timely and effective deployment decisions.
- **In-house personnel** will be placed into service before contractors are called upon. When conditions and/or forecasts indicate the need for additional resources, contracted personnel and equipment will be used to supplement in-house resources. Agreements have been signed with three qualified contractors detailing responsibility, securing insurance and acknowledging pay rates for a variety of equipment.

Once roads are made passable, resources will be strategically assigned and scheduled to fully open roads from curb-to-curb, with more consideration to other factors such as overtime, use of contractors, and employee fatigue.



**Trucks working in tandem provide more immediate impact**

## Preventing and Combating Accumulation of Snow Pack and Ice on Pavement

The Department employs several strategies to fight snow pack and ice accumulation:

- **Anti-Icing** is applied to pavement to prevent the early development of ice patches, to reduce the formation of snow-pack and to create conditions which promote the build up of slush once snow has started to accumulate. The department's anti-icing production capability was increased with the purchase of a brine-making system in 2013; additional storage capacity (5,000 gallons) was added in 2023. Increased production and storage have allowed for an expanded use of brine prior to an event. Five vehicles (including a UTV) are outfitted with anti-icing equipment to allow for broad coverage of the street network in advance of a storm. The UTV-mounted unit is used to apply anti-icing product on Village properties, including the sidewalks in the Glenbard North walking path area. Anti-icing will be deployed via two strategies depending on conditions:
  1. When there are two days' notice prior to a predicted event crews will apply brine on the entire Village street network.
  2. When less time is available before an event, crews will spread brine on as many streets as possible, starting with pre-established priorities (main thoroughfares, school zones, curves, hills, and others with a higher incidence of accidents).



**Five anti-icing units can be deployed – four on roadways and the newest UTV unit for sidewalks and Village properties**

- **De-icing** is performed when ice has formed and/or when snowpack is present. Occasionally, conditions allow spot locations of ice to form, and crews may use salt, salt brine, organics, or a combination of these materials to melt the ice as weather and road conditions demand. In an effort to meet regulatory agency demands to reduce chloride levels in local waterways, **road salt** is conservatively applied based upon a variety of factors as assessed by the Street Supervisor, in consultation with the Superintendent of Operations, and Director of Public Works. Typically, this means that salt will be used sparingly during initial plowing operations or only widely broadcast during the final pass during plow operations (except on the main roadways where salt will be applied as needed).

Depending on the duration of the snow (longer events), the Supervisor may direct operators to trickle salt on the road crown during the first pass in their routes. The salt, treated at the spinner with a liquid brine solution and organic material, is spread from plow trucks at a pre-determined rate (lbs./lane mile) based upon a variety of factors including: pavement temperatures, dew point, wind, sunshine, humidity and consistency of the snow. Salt will also be routinely spread on courts, but at a lesser rate than on other streets. However, **additional salt may be used during an ice storm, if warranted**, based upon forecast conditions or observations of pavement conditions by operations or police department staff.

- In winter 2019-20 a pilot program was undertaken in Zone 2 to test (under appropriate conditions) use of strictly liquid de-icing materials in place of salt. The positive results of that pilot program encouraged the use, expansion and continued evaluation of this strategy in the coming season. The factors considered when determining if this strategy is deployed include: pavement temperature, pavement grip, moisture content, time of day, precipitation type and rate of accumulation. The intent of the continued pilot program is to determine if widespread use of all liquid de-icing can provide a desired level of service while reducing use of chlorides.



**Liquid-only de-icing in residential area**

## Assignment of Resources

For purposes of effectively deploying vehicles and personnel, the Village's street system has been divided into sixteen zones. Attached is a map which depicts the various zones, developed to make best use of available resources and to deliver timely and effective plowing throughout the community.

- Within most of the zones some streets may be classified as “arterials” or “mains”, based upon their size and/or traffic volume. These arterials and mains are actually treated as one zone (Zone #16), with three large dump trucks and a small dump truck assigned specifically to work these streets throughout a snow event.<sup>1</sup> The remainder of the streets are handled by in-house resources, with the exception of courts, which are assigned to contractors.
- Equipment and personnel are assigned to each zone so that work in all zones can begin at roughly the same time, rather than prioritizing one zone over another.<sup>2</sup>
- The department has adopted a deployment plan to immediately and strategically make use of every vehicle when it initially leaves the Public Works Center at the start of operations. Vehicles are assigned a route to plow on the way to their plowing zone, which results in a quicker impact on many of the main streets.
- Another recent feature is the assignment of a Supervisor to inspect and track the performance of contractors working in the courts. Staff recognized that the largest number of resident complaints originated in the courts. Assigning a Supervisor to oversee contractor work in these areas is intended to improve the quality of service and better track contractor expenses.

## Snow Plowing

The Village has a variety of in-house equipment assigned to plowing duties. Below are examples of the typical equipment used in each zone:



**Large Dump Truck**

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<sup>1</sup> Some other roadways in the Village are under the jurisdiction of State, County or Township agencies, including: North Avenue, County Farm Road, St. Charles Road, Schmale Road, Gary Avenue and Army Trail Road.

<sup>2</sup> Under very heavy snow conditions, or reduced staffing, resources will first be concentrated on mains and arterials.



**Six-wheel Dump Truck**



**Small Dump Truck**



**Wheeled Loader**

## General Policies

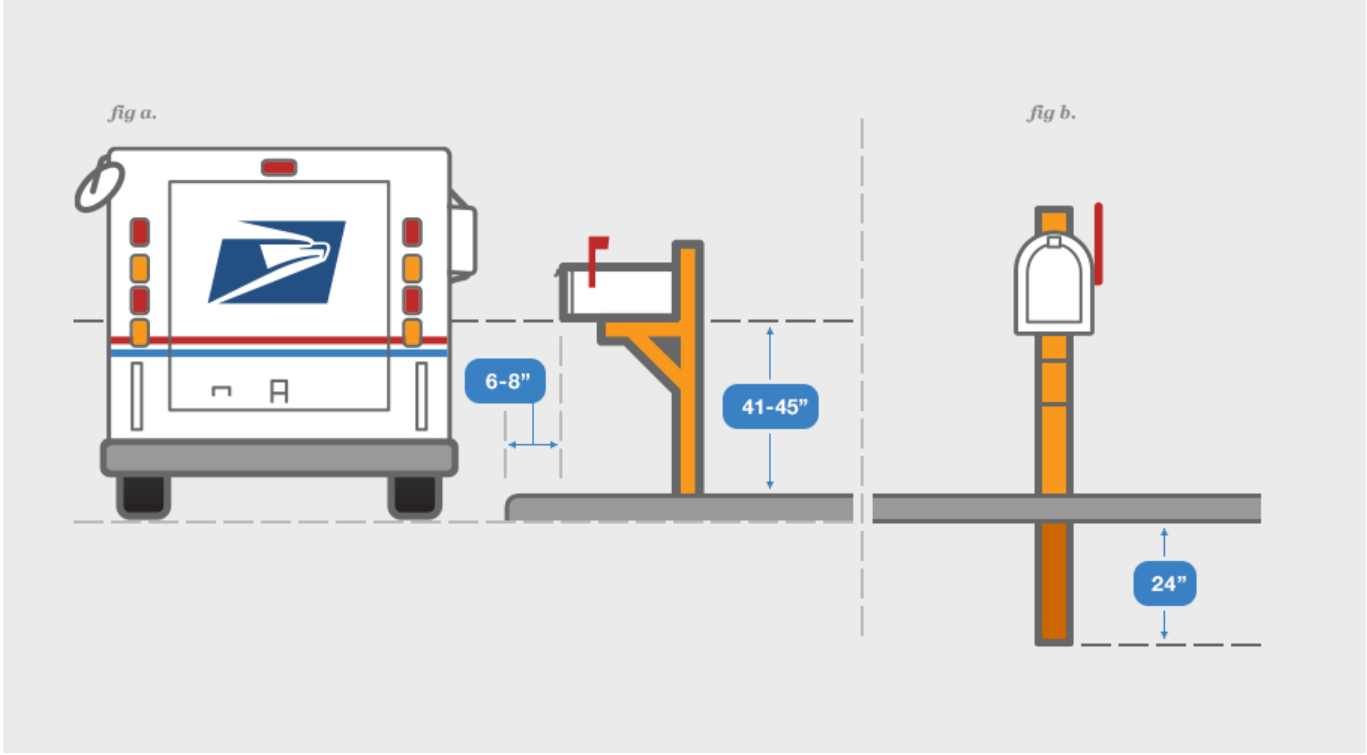
Over the years the Village has adopted a number of policies in order to support the effective removal of snow from the streets. Below is a summary of those policies currently in place:

1. **SIDEWALKS** - As a general rule, sidewalks will not be plowed by the Village, including those in the area of schools. Property owners are strongly encouraged to shovel snow from walks adjacent to their property.
  - a. Glenbard North School Walking Path Program: beginning in 2015-16, the Village partnered with Glenbard North High School and the Carol Stream Park District to clear main walking paths serving the high school. Specifically, a contractor has been engaged to provide the following services:
    - Clearing of snow from sidewalks and/or bike paths in the following locations:
      - On the south side of Lies Road between Idaho Street and County Farm Road (except for the area immediately adjacent to the Glenbard North High School property);

- On the west side of Kuhn Road from Thunderbird Drive to Woodhill Drive (except for the area immediately adjacent to the Glenbard North High School property).
- Application of a snow and ice-melting agent (to be provided by the Village) in the same areas as identified above.
- Work shall be performed in a timely fashion so as to accommodate pedestrian use of the sidewalks and/or bike paths on the following schedule when:
  - Morning: all requested work to be completed no later than 6:30 am
  - Afternoon: all requested work to be completed no later than 2:15 pm (except for early dismissal on Mondays when work must be completed by 1:15 pm)

Public Works staff will anti-ice the sidewalks with the UTV-mounted equipment, and continue to anti-ice the bike path with a pick-up truck-mounted unit.

2. **PARKING** - By ordinance, parking is not allowed on streets following a 1-inch snowfall. Public Works and Police staff will coordinate efforts to enforce this ordinance.
3. **STREET STATUS** - The Village will plow all streets, regardless of their acceptance status (i.e. – new developments with public improvements).
4. **FIRE HYDRANTS** - Residents are encouraged to remove snow from around fire hydrants adjacent to their property.
5. **GARBAGE** - On garbage collection days, residents are requested to place garbage containers in their driveways, not on the street or close to the curb. The Village will not reimburse residents for damage to garbage containers placed too close to the street.
6. **PROHIBITED** - All property owners are prohibited by Ordinance from depositing snow in the street when cleaning their driveways.
7. **MAILBOXES** - The Village will replace properly installed mailboxes damaged by direct contact with snowplows. However, mailboxes suffering damage due to improper installation (placed too close to curb) or due to deteriorated support (rotting wood, rusted metal, etc.) will not be the responsibility of the Village. In addition, the Village will not be responsible for mailboxes that may have suffered damage from snow flying off a plow. (**See attached for USPS mail box installation specifications**).



**Mailbox Specifications**



# SNOW ZONE MAP

