

**TOWN OF LONDONDERRY
DEPARTMENT OF PUBLIC WORKS
WINTER MAINTENANCE
SNOW AND ICE CONTROL POLICY**



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Janusz Czyzowski, P.E.
Director Public Works & Engineering

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INTRODUCTION

As individuals living in New Hampshire know quite well, each storm situation varies and presents a unique set of circumstances. Each storm, therefore, presents different and unique challenges to the individuals employed by the Town who are charged with the responsibility of meeting the Town's winter maintenance obligations. In meeting these obligations, the individual judgment by those performing the required tasks is an essential component both in conducting and timing all necessary remedial work to overcome ice and snow hazards. This document constitutes a winter maintenance policy for the Town which is intended to provide general guidelines that are strictly advisory in nature. The provisions herein should not be understood or interpreted as restricting the essential freedom of judgment which must be exercised by the Highway Foreman, the Public Works Director, the Town Manager, or other individuals empowered to implement this policy or perform the winter maintenance obligations herein addressed.

I. RESOURCES AVAILABLE

The Town of Londonderry has the following resources available to it in its winter operations:

Weather Information

Local Radio: WZID 95.7 FM
Local T.V.: WMUR Ch. 9
Cable T.V.: Weather Channel
Weather Services: Meteorlogix

Personnel

Personnel available to the Town varies depending upon many economic, political, social, and health related factors. At present, the Town D.P.W. Highway Division has five truck driver/laborers, two equipment operator/mechanics, two equipment operators/truck drivers, one assistant foreman and one foreman available for storm responses. In addition, depending upon need five independent contractors with equipment and two temporary driver without equipment are called upon to assist the Town personnel with winter maintenance operations.

Equipment

Equipment available to the Town varies depending upon many economic, political, social, and mechanical related factors. At present, the Town has the following equipment available:

- 9 International 6 Wheelers (with plows & spreaders)
- 1 Back-Ho
- 2 Pick-Ups (with plows)
- 3 1-Ton Pick Up Trucks (with plows & spreaders)
- 2 Loaders
- 1 Grader

Materials

Sand is purchased by the Town on an annual basis and stockpiled at the Town Garage. The amount of sand used for winter varies from year to year. The amount the Town budgets for sand each year varies depending upon economic, political, and other factors. At present the Town budgets for 4,500 tons of sand per year.

Sodium Chloride (Salt) is purchased from three suppliers. The Town strives, as is possible, to keep the salt shed as close to full as possible. The salt stock is replenished after each storm when possible. The amount the Town budgets for salt each year varies depending upon economic, political, and other factors. The amount of salt used per year varies from year to year. The Town budgets for 3,700 tons of salt per year.

II. OPERATIONS

A. General

Winter weather in northern New England is difficult to predict. There are many variables affecting winter maintenance operations such as type of precipitation, air temperature and pavement temperature, traffic, wind, time of day, and day of week.

The Londonderry Public Works Department has the responsibility for maintaining approximately 175 miles of Town roadways. The Public Works Department's snow removal and ice control policy is based on many years of experience with due consideration for the many competing social, economic, and political considerations that are a necessary component of the Public Works Department's ability to perform snow removal and ice control. This policy expressly recognizes that it is impossible to provide bare pavement throughout the Town on all Town roads during a winter storm.

Traffic volume and speed are two of several major factors affecting the level of winter maintenance service. Heavily traveled roadways are given first priority. The Town attempts to maintain other Town roadways during a storm. Sometimes, however, conditions or other factors dictate that snow removal on other Town roads is not necessarily shoulder-to-shoulder.

It is impractical to develop specific rules on winter maintenance operations. Due to numerous variables involved in winter storms, the judgment of the Highway

Foreman, the Public Works Director, or other individual specifically so empowered governs the quantities and types of material used to control snow and ice. In general, the purpose of using salt is to reduce adherence of snow to the pavement, keep snow in a “mealy” condition and thereby permit nearly full removal by plowing, and, prevent the formation of ice or snow ice (hard pack). Salt is not intended to eliminate the need for snowplowing

The Public Works Director under the general direction of the Town Manager has direct responsibility for daily operation of the Department. The Highway Foreman supervises the day-to-day operations of the Highway Division.

B. Communications:

The following provides a guideline for the normal manner in which communication is to take place within the Town regarding its winter maintenance obligations. This section, however, is not intended nor should it be construed to be the exclusive manner in which communication must take place. This policy recognizes that each given circumstance warrants discretionary decisions by the individuals empowered with the responsibility for the Town’s winter maintenance policy and therefore authorizes these individuals to exercise discretion in determining, based upon the circumstances, the best method for communicating to ensure that winter maintenance obligations are met.

1. Prior to Storm

The Director and Highway Foreman communicate prior to the storm to determine the level of readiness and probable initiation of snow and ice control operations. The Director and Highway Foreman utilize the various weather forecasting sources available.

2. Onset of Storm:

Police Department calls Highway Foreman to inform him that roadway conditions are requiring initiation of snow and/or ice control operation. Highway Foreman then calls in the response team as required according to procedures. If the storm begins during the regular work hours, the Highway Foreman may not wait for the Police Department to request the initiation of snow and ice control operation.

3. During Storm Operations

Radio communication is maintained with all response vehicles. Requests and special instructions for service are taken via telephone or radio at the Highway garage or D.P.W. Requests are relayed to the Highway Foreman who dispatches personnel and equipment when they become available or immediately if it is deemed to be an emergency. The Highway Foreman or designee will determine the extent of the emergency.

Telephone and radio communications with the Highway Foreman, the Director, School Administrators, Bus Managers, Police Department, and Fire Department continue on an as needed basis during the storm.

Any problems with communications or communications equipment may be noted in the log.

4. Wrap Up After The Storm

At the end of the snow/ice operations the Highway Foreman notifies the Police Department that operations are ended and ask to monitor any potential weather related problems, i.e., drifting snow, icing conditions, etc.

Following the storm, generally on Monday of next week the storm log is delivered by the Highway Foreman to the D.P.W. secretary for the director's review and filing.

C. Applications

1. Application of Materials

The use of salt, sand or salt-sand mixtures is a discretionary decision that is dependent upon many factors including not only the conditions of the roadway and the weather conditions, but also anticipated changes in these conditions and fiscal constraints experienced by the Public Works Department. The decision also depends upon the effects of peak traffic periods, approaching nightfall, daybreak, predicted temperature changes, and the anticipated time for the end of the storm. All of these factors, and more, are considered and evaluated prior to selecting the proper materials or rate of application.

Adverse roadway conditions existing during periods of low temperatures, which are predicted to rise would generally be treated in accordance with the recommendations for the higher temperature. If the time of day and weather forecast is such that a drop in temperature may reasonably be expected, treatment would generally be for the lower temperature. Generally, neither salt nor sand should be used at low temperatures if the pavement is dry and snow is blowing off the pavement. However, changing circumstances may warrant such an application.

Salt is the chemical of choice for most storm situations. Salt is used to prevent snow and ice build-up on the pavement and to aid removal of any build-up that occurs. Salt is most effective for melting purposes at temperatures above 20 degrees Fahrenheit becoming slower acting at temperatures below 20 degrees Fahrenheit.

Approximately 300 lbs. per lane mile of salt is applied during initial salt application. However, the actual amount applied during a particular application is left to the discretion of the individual performing the application.

Salt is generally applied to the middle 1/3 of pavement width and on high side of super-elevated curves. Spread width may be increased or decreased at the discretion of the individual applying the substance and depending upon the action of traffic. Salt is applied early in the storm so that brine develops on the pavement and prevents build-up of packed snow. If snow continues and accumulates on the pavement plowing should follow. At the end of the storm when all roadways have been plowed, an additional treatment of salt and/or sand may be applied if deemed necessary.

There are many additional circumstances which, in the discretion of the individuals applying the materials, may necessitate modification to these treatments. Some circumstances are:

- Rising or falling temperatures
- When pavement is cold and dry and dry snow is falling, salt may not be applied. Plowing and treatment of icy spots, if they develop is recommended.
- In low temperatures or on very lightly traveled roadways the effectiveness of salt is reduced and sand or salt/sand mixture may be needed for traction.

2. Spreading Practices

Timing of the initial application during each storm is very important. Generally, spreading should be delayed until there is sufficient accumulation on the pavement to hold and contain the material. However, each circumstance is unique and the decision regarding the timing of the application is left to the discretion of the individuals charged with the responsibility for implementing the winter maintenance policy.

Portions of the town are peculiar due to various physical conditions and will require a greater application rate or an additional application during some storms. However, these areas should be judged and treated separately and not used as a barometer to evaluate and subsequently direct complete applications over the entire town. In order to conduct efficient operation, when possible periodic observation of the pavement surface conditions may be performed.

When possible and at the discretion of the individual responsible for performing the task, the width of material spread (throw plus roll) may be restricted to increase the concentration of the salt where it is needed and therefore increase the effectiveness of the application. Spreading operations should be conducted at lower speeds. Air turbulence created at high speeds makes it difficult to retain all the material discharged within the desired width. Spinner and belt speeds and

spread pattern may be adjusted to obtain the correct spread rate and to retain the material within the required width.

3. *Plowing Operations:*

Each storm presents unique circumstances dictating different decisions regarding the initiation of plowing operations. Generally, however, plowing begins after two inches of snow has fallen and continues until the storm has ended. In some cases, at the discretion of the individuals empowered with the responsibility for implementing this policy, plowing may be suspended in order to allow drivers to rest and/or sleep. Widening and intersection sight distance clearing is performed at the discretion of the individuals implementing this policy with due consideration for the many factors that must be considered. If possible, it generally occurs following the storm during daylight hours when best visibility exists.

For light accumulation snowfalls, snow squalls, and so-called “Alberta Clippers” of short duration, plowing may begin immediately and may include simultaneous salting and/or sanding to provide desired results quickly and efficiently.

Truck mounted front plows and in some cases wing plows are utilized for, among other things, to clear roadways of snow and frozen precipitant. Storm intensity generally measured in inches per hour varies considerably in New Hampshire but average major snowstorms are approximately one inch per hour. This one-inch per hour intensity rate and the allowable snow accumulation is one consideration used in planning the availability of equipment necessary for snowplow operations. The planned allowable snow accumulation of most roads in town is 4 inches with a maximum allowable accumulation in non-emergency situations of 8 inches and a planned plowing frequency of 3 ½ hours. These above mentioned figures are only an approximation and are based on an average of 1” per hour under optimum conditions (i.e., no traffic tie-ups due to accidents or stuck vehicles and no equipment breakdowns). The maximum allowable depth of snow that a motorist may encounter on highway pavements does not include blizzard conditions, heavy wind, drifting conditions, or other emergency conditions.

Frozen precipitation, including sleet and the build up of ice caused by freezing rain or special situations are not subject to the procedures indicated above. When a changeover from snow or sleet to freezing rain is predicted or anticipated, the individuals implementing this policy exercise discretion in deciding whether to leave the snow and ice on the pavement as it may capture the freezing rain and thereby prevent a glare ice situation.

D. Storm Log

Maintaining records is a desirable objective. When possible, beginning with the arrival of the Highway Foreman or responding supervisor at the town garage, a storm log may be initiated and kept throughout the storm event in which, if possible, notes may be maintained regarding communications, conditions and major events.

At a minimum, when possible, the following information may be noted on the log:

- a. Approximate time each piece of equipment and personnel begin and end operation.
- b. Weather conditions, total snow accumulations and maximum and minimum temperature.
- c. Any reported major problems from drivers or operators including equipment failure.
- d. Approximate time equipment is down and time that equipment is back in service.
- e. Report on accidents and special situations, especially Police calls.
- f. Approximate amount of salt and sand used.
- g. Communication with town or school officials regarding road conditions or other storm related matters.
- h. Other situations that occur which, at the discretion of the individual maintaining the log, is potentially significant

E. Response Teams

Department responses will vary with the conditions encountered, personnel, who are available for work. The time of day and day of week, the temperature, overall road conditions, preceding weather, anticipated weather, etc.

The Department response teams are as follows:

1. ***Spot Salting*** – Depending upon the circumstances two to three men may be called. The Highway Foreman or another individual specifically empowered to do so will determine whether additional help is needed to cover the icy spots and if contractors need to be called to assist with the operation.
2. ***Ice/Snow Winter Storms*** – The Highway Foreman or another individual specifically empowered to do so will contact the Town's personnel and contractors to start salting and plowing operations.

F. Blowing and Drifting Snow

Quite often after a cold, dry snowstorm blowing and drifting snow will begin to drift across roadways creating hazardous travel conditions. If identified, the Police Department or other individuals who observe this condition may, depending upon the circumstances, call and request the Highway Foreman to improve the conditions. The Highway Foreman or other individual specifically empowered to do so will determine an appropriate response to the situation identified including, but not limited to, the pieces of road equipment, personnel, and materials that need to be utilized to address the situation.

G. Post Storm Operations

At an appropriate time following the completion of winter maintenance obligations, additional activities may take place to ensure readiness for subsequent winter operations which may include, but need not be limited to, the following:

1. Equipment inspected using preventative maintenance techniques and repair as necessary.
2. Materials, especially salt, may be reordered in order to insure adequate stockpile.
3. Depending upon available resources and at the discretion of the individuals implementing this policy, plow routes may be checked for problems, especially for snow piles created by driveway contractors.
4. Depending upon available resources and at the discretion of the individuals implementing this policy, following a major storm the snow on the sides of roads may be pushed further off the road.
5. Depending upon available resources and at the discretion of the individuals implementing this policy, the height of snow banks may be decreased.

Towing

Often during snow removal operations, stranded or parked vehicles will be encountered on Town roads. When such a vehicle is on a Town roadway or right-of-way it may be towed under the Town's winter parking ban/ordinance. Generally, the procedures for having a car such as one so identified towed are as follows:

- Operating personnel call the garage base station that notifies the Londonderry Police Department and requests removal of the vehicle.
- Persons contacting the Public Works Department to retrieve their car after a storm are referred to the Londonderry Police Department.

Sidewalks

Sidewalk snow clearance will be conducted after the needs to maintain roadways have been satisfied and will depend upon the availability of resources.

Schools, Police Department, Fire Department and Library

The Highway Division is not responsible for clearing snow and providing winter treatment to the Town's school access roads and parking lots.

The school superintendent or designated official representative shall contact the Police Department and Highway Foreman to determine the condition of the Town's roads in order to make decision regarding the use of school buses. The school representative(s) shall make the decision to cancel or postpone school for that day.

The Highway Division is not responsible for clearing snow or providing winter treatment to the Police Department, Fire Department and Town Library parking areas.

The Highway Division will maintain only Day Boulevard and the secondary access road to the Police Department.

Parking

The Town has enacted a winter parking ban effective from November 1st to April 1st of each year. This ban prohibits parking on the Town's roads or right-of-way (ROW) between the hours of 12 midnight and 8 a.m. or at any other time in such a manner as to impede snow removal operations. The Town has the right to tow or ticket violators. The purpose of this winter parking ban is to allow winter maintenance crews unobstructed snow removal and ice control routes, as much as possible, to maintain to maximum effectiveness of their efforts.

Fire Hydrants

The Highway Division is not responsible for the clearing of snow from around fire hydrants. This responsibility belongs to the utility companies.

Damage to Private Property

In implementing this winter maintenance policy, the Town is not responsible and assumes no liability for damage to private property that is located within the public right-of-way. (RSA 231:92) The right-of-way (ROW) is often 50' wide and, in most cases, extends 10 to 20 feet from either side of the paved or gravel road.

In the event damage occurs to personal property during the Town's implementation of this winter maintenance policy, the Town may only be responsible to repair or replace the damaged personal property if the personal property was damaged through actual contact with the Town's snow removal equipment at a time when the personal property was located completely upon private property. The Town will not repair or replace private property which is damaged when the private property is within the town's right of way or which is damaged not by the Town's equipment, but by snow, ice, or other material removed from the Town's right of way.

IV. PUBLIC INFORMATION

Town residents are advised prior to each winter season of the Town's winter policies by public notification in the newspaper and on the Town website as follows:

TOWN OF LONDONDERRY NOTICE FROM THE DEPARTMENT OF PUBLIC WORKS

The Department wishes to remind residents of the snow ordinance regarding parking and the placement of snow on the streets. The Winter Parking Ban is in effect from November 1 to April 1. During that time, no person shall park any motor vehicle on any public road or right-of-way between 12:00 midnight and 8:00 A.M. or at any other time in such a manner as to impede snow removal operations. Any vehicle parked in violation will be towed by the Police Department. Any vehicles so towed shall be stored and released to the owner only upon payment of the cost of towing. No person is allowed to place any snow or ice upon the surface of the traveled portion of any Town maintained portion of road or highway. Blowing, shoveling, or plowing snow into the street, creates a very dangerous situation that can cause swerving and accidents. Any person violating this ordinance may be subject to a penalty as specified in Town's snow ordinance.

Location of mailboxes: Mail and newspaper boxes are allowed, at the owner's risk, in the Town's right-of-way. Claims for damages or other liabilities resulting from their installation are the responsibility of the owner. The following are suggestions for reducing the possibility of damage: the mailbox should be installed in such a manner that no part of the mailbox is within three feet of the edge of pavement. Installations should be sufficiently sturdy to withstand the weight of heavy snow resulting from plowing operations. The Town does not repair or replace mailboxes damaged during snow removal operations.

Generally, the Town has a 50 foot right-of-way, which extends 13 feet from the edge of pavement. Residents are asked not to reconstruct road shoulders and swales or place any structures and landscape items within the Town Right-of-Way. Stakes, delineators or rocks create a road hazard and should be removed.

The Town is not liable for damages that may occur to objects placed within its right-of-way.

Cleaning of Driveway Culverts: Londonderry homeowners may not be aware that they are responsible for their driveway culvert. In order for the culvert to remain clean at all times, we ask that residents periodically check their culvert and free it from debris. This will go a long way toward alleviating erosion, ice build up and drainage problems in the future.