

# RYE PUBLIC WORKS STANDARD OPERATING GUIDELINE

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**DATE:** May 2, 2011

**SOG NUMBER:** Ten (#10)

**SUBJECT:** Snow & Ice Removal and Control

**ISSUED BY:** Dennis G. McCarthy, Public Works Director

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**Purpose:** It is the goal and intent of the Rye Public Works Department through its Highway Division to provide timely, efficient and cost-effective winter maintenance, snow removal and ice control on the roadways of the municipality for the safety and benefit of the Town's residents and the general motoring public.

**General:** The above stated purpose is attained by implementation and execution of the procedures and tasks which are outlined in this guideline. Due to the many variables inherent in New England weather, each storm and weather event is unique and will require different effort and/or emphasis on any of a number of tasks which together determine the overall snow and ice removal and control or winter maintenance strategy.

**Command:** Direction of all winter maintenance activity is under the direct command of the Highway Working Foreman, and the general direction of the Director of Public Works or their designees.

**Manpower:** The Town of Rye Public Works Department has eight (8) full-time personnel, and one (1) part time employee. All employees are needed and are expected to participate in snow and ice removal operations.

**Equipment:** The Public Works Department Highway Division has one - backhoe, one - front end loader, four - six wheel dump trucks, two - one ton dump trucks, and two - pick-up trucks assigned to it. Snow and ice removal operations utilize all the equipment assets of the Highway Division.

**Communications:** All the Highway Division rolling stock is equipped with two-way radios capable of transmitting and receiving on a frequency of 156.045 MHZ. Each plow and equipment operator is assigned a unique call number. A list of all call numbers is appended to this document. A mobile radio is also maintained at the Highway Division garage. The Public Works Department does not have a dispatch center. All Town emergency vehicles are equipped to transmit and receive the Public Works frequency. Drivers and operators shall monitor radio communications at all times. As such, commercial radios shall not be operated at audio volumes which would hinder hearing the communications radio. In addition, any electronic equipment such as I-Pods or Telephones shall not be allowed if they create a distraction to hearing and understanding radio communications.

**Routes:** The Town is divided into four treatment routes and seven plow routes. Each of the four six wheeled dump trucks is assigned a treatment route, consisting of approximately one quarter of the Town maintained road mileage each. The four six wheel dump trucks, the front end loader, and the two pick-up trucks are each assigned to a plow route. The one ton truck, which is equipped with a spreader, is assigned to the Highway Foreman and is available to move between the assigned routes and handle problem areas should they arise. The remaining one ton dump truck is maintained in reserve.

The Town's backhoe stays in the Public Work's yard and is employed for salt and sand loading. Each driver is expected to load his own vehicle, utilizing the backhoe.

**Materials:** The Department uses approximately 1,500 tons of rock salt and 500 tons of sand each season. The sand is used as an abrasive and is applied to the road to improve the public's motor vehicles traction. Salt is employed by the Department as a de-icing and anti-icing agent. Sand and salt is purchased from a supplier as needed. The Town's salt shed consists of two bays, each capable of holding approximately 120 tons of material. One bay is filled with salt only and the second bay is filled with a sand salt mix.

**Terminology:** In an effort to avoid operational confusion the following standardized terminology with activity definitions is established and employed.

***"Treat Routes":*** Roads will be treated with straight salt or a sand/salt mixture only. The mixture proportion will be determined by the Highway Foreman. Salt will be spread along the center of the roadway in a width of two to eight feet. Drivers will go over their assigned route hitting all roads, intersections and turn arounds in such a manner that one back tracks as little as possible.

***"Sand Roads":*** Roads will be treated with straight sand for the travel width. Reserved for gravel roads and reduced salt roads.

***"Treat Main Drags":*** Drivers shall treat just the high volume portions of their routes normally designated as being those roads with double yellow traffic markings. Normally requested during periods of severe snowfall.

***"Keep Routes Open":*** Keeping the center of the roads open by making one plow pass in each direction; not spending a lot of time cleaning intersections and/ or turn arounds. This normally will be requested while snow is still falling and there is a need to finish the routes in as short a time as possible.

***"Keep Main Drags Open":*** Similar to Keeping Routes Open but only performing the task on roads with double yellow lines. Normally requested only when snow is accumulating at greater than one inch per hour and it becomes imperative to concentrate all efforts on the main roads only. (Snow falls of greater than one inch per hour has the potential of having three to four inches of snow on the roads at the beginning of the routes before a driver gets back to the beginning of their route. Motor vehicles begin to get stuck when there is an accumulation of four inches on the road.)

***"Clean-up Routes":*** Plow all roads, intersections and turn arounds by making multiple passes to ensure all accumulated snow has been removed from the full width of the travel way. Normally not performed until the snow has stopped or stopped accumulating.

***"Slush Off":*** Scrape off any snow, ice or combination of each that has been loosened from salt treatment. Normally will require only one pass in each direction unless instructed to slush off and clean up.

***"Push Back":*** After several storms, or one large storm it may be necessary to send plows out to push back accumulated windrows of snow or to shelf same. If this operation is performed well after a storm event the loader, backhoe or pick-up truck should accompany the plows to clean up intersections and residents driveway after pushing back or shelving.

**Documentation:** Each driver shall maintain a plow activity log on the form provided (See Appendix A) and complete and turn the form into the foreman prior to the end of the shift. The Highway Foreman shall complete a storm log (See Appendix B) upon completion of all snow removal activities using the driver's activity logs. The Director shall summarize the foreman's storm log on a Yearly Storm Event Summary (See Appendix C).

**Leave:** No leave shall be requested nor will it be granted for the duration of November 15<sup>th</sup> through April 15<sup>th</sup> of each calendar year unless said leave is subject to immediate recall.

**Refueling:** Each driver or operator shall fuel up the vehicle or equipment they operated that shift before leaving at the end of the shift so all equipment is filled up and ready to go immediately.

**Execution:** Upon notification by the on duty Police or Fire Personnel or upon determination of the need for action by the Public Works Director or Highway Department Foreman, the Highway Foreman or his designee will initiate operations by calling in the appropriate and necessary manpower and equipment.

**Implementation:** Due to the many variables inherent in dealing with snow and ice removal such as temperature, time of day, day of week, interruptions, intensity, snow type, etc. each snow event is unique and the operations must be specifically crafted to address the event. However, generally the storm event will be addressed as outlined in the following Operations section.

**Operations:** As previously stated, each winter weather event is unique and requires slightly different tasks to reach the same final condition. It is anticipated that a typical snowfall event will be handled as follows:

**Treat:** The first task to be addressed is the treatment of roads with salt. All roads, with the exception of gravel roads, will be treated with an application of approximately 400 pounds of straight rock salt per lane mile. This treatment is necessary to develop slurry of brine on the road surface under the accumulating snow, in order to ensure the said accumulating snow does not adhere or bond to the road surface. Salt will be applied to the center of the roadway, where traffic will work the brine across the roadway. Salt has a lower working limit of approximately 10 degrees Fahrenheit; therefore no salt will be applied if the outside ambient temperature is below this limit. Other de-icing agents are effective to lower temperatures and salt may be treated with one of these additives if deemed necessary.

Sand will be applied on an as needed basis. The main function of an application of sand will be to assist motorists in obtaining traction on ice or snow covered roads, or when road temperatures are below the effective range of salt (10 F.).

**Plow:** The Highway Division shall start to plow all routes upon the accumulations of approximately two inches of snowfall. The Director of Public Works or his designee may, at his discretion based upon weather information reports, elect to not remove snow until greater or lesser accumulations. All routes will begin at the Public Works Garage. Each operator will work systematically around their respective routes. No operator will leave his or her assigned route unless he/she has the approval of the Highway Working Foreman or his designee. Level of plowing shall be determined by the Highway Foreman in accordance with the efforts outlined in the terminology section.

**Clean Up:** As the storm winds down the crews will begin the final plow round which includes removing snow from all intersections, cul-de-sacs, and turn arounds, along with removal from the full width of the road.

**Final Treatment:** After the storm has finished, treatment of the roads will begin when all the routes have been cleaned up. Treatment may consist of sand, sand/salt mix, straight salt, or no treatment at all. The Highway Working Foreman or his designee will determine the most appropriate material to be used based on current weather, expected weather, time of year and temperature.

**Suspension:** During storms of a long duration, and if snow fall rates are less than 1 inch per hour, the Public Works Director or his designee may elect to shut down snow removal operations. Current weather conditions, weather forecasts, as well as day of the week will be considered before operations will be shut down. Shut down should occur late at night after the majority of traffic has ceased. This period will last no longer than 4 hours and may last for a shorter time period if weather conditions change. It will be the responsibility of all operators to be sure and get the needed rest during this period.

**Schools:** The Highway Department has the responsibility for the clearing of snow and winter treatment of the Elementary and Junior Highway School's parking lots and access drives. On days when school is in session, the Highway Division will make every effort to time winter maintenance efforts to maximize school site clearing, then bus route clearing.

The school superintendent or designated official representative may contact the Director or Highway Foreman to determine the condition of the municipality's roads in order to determine the safety of students using school buses. The School Superintendent has the singular authority to cancel school and associated school activities.

**Parking:** The Town has enacted a winter parking ban effective from November 1st to April 1st of each year. This ban prohibits parking in or on the Town's roads or rights of way (ROW) between the hours of 11:00 PM and 6:00 AM. 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 the maximum effectiveness of their efforts.

**Priorities:** With a total of 45 miles of roads from which to remove snow and control ice, the Highway Division has to assign priorities for winter maintenance route activity in order to maximize the effectiveness of their efforts for the motoring public.

- A. School bus routes will be given a priority during school days. It takes approximately 3 hours to properly prepare a route for bus traffic; the timing of the storm could have an effect on proper preparation of all routes. Each plow route operator will make every possible attempt to see that the best possible snow clearance will be completed on their route. The School District shall be responsible for informing the Public Works Department to any changes in the normal school routine.
- B. The Town Office and Safety Complex will be maintained as early and often as possible during business hours. Steps and walkways will be maintained as time and personnel permits, Town Office and Police Department staff will have to assist in keeping the steps and walkways clear during working hours. Public Safety is a very great concern in this area due to many cars and pedestrians in the area, but our limited resources will dictate our ability to maintain these areas.

- C. Public parking areas at the Town Offices, and each municipal department, will be maintained by plowing during the winter storm. The application of slip resistant materials will be applied after the storm, as determined to be needed by the Director of Public Works.
- D. Transfer Station/Recycle Center: Transfer station personnel are required to assist with the Town's general winter maintenance operations. If the facility is open during the snow or ice storm, personnel will plow this area prior to opening for public use. Public areas shall be kept as clear as possible to provide as safe access as reasonably possible. Sand and other slip resistant materials shall be used in public areas. It often will not be possible to maintain clear ground, but a reasonable effort will be made during storms. Should storm conditions and work load require the Transfer Facility will be shut down without notice.

**Sidewalks:** The Town of Rye does not maintain sidewalks as part of its winter maintenance activities. The other areas not maintained by the Town include:

- a. Town roads classified as Class VI roads
- b. Private roads
- c. School District sidewalks and parking areas, which are the responsibility of the school district.
- d. Parking Area and Sidewalks for the United States Post Office
- e. Private property
- f. State roads and property

**Limited Salt Areas:** The Town of Rye has established the following roadways or portion of roadways as limited salt areas.

- a. Garland Road

**Damages:** Although the Highway Division makes every attempt to avoid damage to private property, it should be noted that the municipality isn't held responsible for damage to private property that is located within the public right of way. The right of way (ROW) is often 50' wide, and is often confused by property owners as their own property. In most cases, the ROW often extends 10 to 20 feet of either side of the paved or gravel road. Homeowners often cultivate extensions of their lawns, place mailboxes, erect fences or stonewall in these areas, which improves the appearance of the street greatly, but is obstructive to good maintenance being conducted on the roadway.

In the event of personal property damage, the Town will only be responsible to repair or replace damaged mailboxes having been in actual contact with the snow removal equipment.

**Post Storm Operations:** As determined by the Director of Public Works, the snow banks resulting from the previous accumulations shall be pushed back, or shelved to make space for future snow storms accumulation.

**Interruptions:** This guideline is intended to serve as the normal operating procedures for winter maintenance, snow removal and/or ice control. One or more of the following, which may delay or prevent the implementation of this policy, may affect all or any part of this Policy:

- Equipment Breakdown
- Snow Accumulation in Excess of 1" Per Hour
- Freezing Rain or Other Icing Conditions
- Traffic Congestion
- Emergencies
- Personnel illness

**Scope:** This guideline shall apply to all Public Works staff.

**Compliance:** Staff not complying with this guideline shall be subject to the appropriate incremental discipline, with repeat offenders subject to dismissal.

**Timeframe:** This guideline shall go into effect Monday, May 2, 2011 and remain in effect until superseded, or rescinded by the Public Works Director.

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