

TOWN OF WALDOBORO
PUBLIC WORKS
WINTER OPERATIONS PLAN
1991-1992

THIS PLAN ADDRESSES THE WINTERTIME PUBLIC WORKS OPERATIONS FOR ICE AND SNOW CONTROL ON TOWN ROADS AND SIDEWALKS. IT ALSO IDENTIFIES ESSENTIAL COMMUNITY SERVICES PROVIDED BY THE PUBLIC WORKS DEPARTMENT FOR WINTER WATER AND SEWER EMERGENCIES, POLICE AND FIRE DEPARTMENT OPERATIONS AND SCHOOL COORDINATION.

RESOLUTION

BE IT RESOLVED that the Board of Selectmen of the Town of Waldoboro adopt the following statements of policy regarding winter snow and ice clearing operations:

- 1) **NOTWITHSTANDING** the circumstances involved with changing climatic conditions, the Town will endeavor to keep Town roads and designated walkways in a reasonably safe condition for travelers and
- 2) Town employees will endeavor to exercise reasonable care and diligence in the performance of their duties, consistent with the intent of the current Town of Waldoboro Public Works Winter Operations Plan and
- 3) Travelers who use Town roads and designated walkways are expected to demonstrate due care and reasonable caution, especially under adverse winter conditions.

Executed at Waldoboro, Maine, this

day of June, 1992.

William B. Blodgett, Chairman

Lowell B. Wallace, Jr.

Anne Marie Halco

ATTEST:

Douglas G. Tait

Rebecca B. Maxwell
Town Clerk

Clinton E. Collamore
**BOARD OF SELECTMEN
WALDOBORO, MAINE**

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I. General: Duties and Responsibilities:

The Town of Waldoboro Public Works Department is responsible for maintaining 54.3 miles of town roads, consisting of 39.24 miles (72%) of paved roads and 15.06 miles (28%) of gravel roads, the town landfill, and public buildings. A significant portion of the Department's overall efforts are directed towards maintaining the essential transportation and utility services during an extended period of high precipitation, low temperatures and heavy winds, which together characterize the Maine winter.

The Public Works Director has direct responsibility for daily operation of the Department, acting under the general direction of the Town Manager and authority of the Board of Selectmen. The Public Works Director supervises the day-to-day operations of three functional divisions - Highway, Transfer Station and Inert Landfill and Water/Sewer. Appendix A contains an organizational chart identifying Department positions and individuals.

II. Resources Available to the Public Works Department to Assist in the Planning and Execution of Winter Operations:

In order to provide timely winter street clearing services and to gauge the level of activity required prior to, during and following winter storms, the Town utilizes the following:

- A. Snow/ice storm warning forecasts and updates are obtained from the National Weather Service, located at the Portland International Jetport:

U.S. Gov't - Department of Commerce
NOAA (National Oceanic & Atmospheric Administration)
National Weather Service
Portland, Maine
(207) 775-7781 (Announcing System)
(207) 773-0352 (General Weather Info - Business Hours)

- B. In addition the weather forecasts are broadcast continually and receivers monitor this forecast at the Public Works Garage, Town Offices, and the residence of the Public Works Director.

National Weather Service - Frequency 1bz.4750

- C. Weather forecasts are provided by local radio and television stations, including the dedicated weather channel on cable television.

- D. Road and weather conditions throughout the State are monitored by the Maine Department of Transportation in Augusta and this information can be obtained by calling MDOT radio frequency, it also can be monitored on the scanner for current information.

State highway frequencies:

- E. Assistance is available on local road conditions from the Waldoboro Police Department. During off duty Public Works hours (3:30 p.m. to 7:00 a.m.), the Public Works Department utilizes information provided by police officers on duty/patrol. To provide the best possible response in the shortest time it is important that the following information be provided by the Police Department and conveyed to Public Works at the time contract is made.

1. **Is the problem Town-wide, restricted to one area of Town or at a specific location?** The problem location needs to be defined as accurately as possible.

2. **What is the specific nature of the problem?**

Snow - how much is on the road(s) and how much is falling?

Ice - how severe are the conditions and is it widespread or site specific?

Debris - what is it (i.e., tree in road), what is its size, is it blocking all traffic or only one lane, etc.?

Washouts - how large an area is affected (size) and is the washout in progress or over?

Emergency Access - police, fire or rescue cannot get to a location because of specific road conditions or problems.

Miscellaneous - explain what the problem is in as much detail as possible.

3. **What is being done by the Police Department pending arrival of Public Works Employees?**

1. officer/patrol will/will not remain on site
 2. barricades will/will not be put up
 3. roads will/will not be closed
 4. fire/rescue will/will not be contracted
 5. media will/will not be contracted
4. A decision on what effort is needed to correct the problem will be made by the Public Works Department. However, any input from the police officer on-site may assist Public Works in the timely arrival of help.
5. Once contact is made via telephone, follow-up should be by radio between Public Works and the Police Department. It is the responsibility of Public Works to establish radio contact with the Police Department as soon as assistance is on-site or on Town roads. Communication will be maintained until the problem is fully taken care of. Public Works will notify the Police Department when all work is complete.

III. **Operations on Town Highways and Sidewalks:**

A. General - During the winter period extending generally from the 15th of November through the 15th of April, the principal efforts of the Public Works Department are directed towards control of snow and ice on town roads and state aid highways. To accomplish the objectives and policies of the Town of Waldoboro, operating procedures have been implemented. The operating procedures take place over four distinct time periods including (1) Pre-winter Preparation, Training and Orientation, (2) Winter Storm Operations, (3) Continuing Winter Operations during non-storm periods and (4) Post Winter Follow-up. Items (1) and (4) are contained in Appendix C & D; the remaining operations are described in the following section.

B. **Winter Storm Operations:**

1. **Determination of Operations:**

Using the resources identified under item II and judgement based on experience, the Director of Public Works, will determine the appropriate level and timing of snow and ice control to be

performed by the Department. The director or his designee will contact employees in the Department using the alert notification list.

Although significant improvements have been made in weather forecasting, accurate predictions of the specific effect of winter conditions on the roads in the Town of Waldoboro are not possible. An overall plan has been developed to provide for clearing of the roads and this plan is generally followed. However, each storm event is unique and deviations from the plan occur often. Decisions must be made using individual judgement based upon a current assessment of the situation.

2. Control Center:

Upon notification, employees meet at the Highway Garage on Wagner Bridge Road, complete a pre-startup check of equipment and proceed to perform the necessary snow and/or ice clearing operations. The Control Center is the Highway Garage (tel. # 832-4255), although the director or his designee will leave the Control Center to evaluate conditions and assist in the operations. During the period of time in which he is absent from the Control Center he can be reached via radio. The list of radio numbers is contained in Appendix E.

3. Equipment:

To support the operation, the Department has the following equipment available, providing all equipment is operational:

Supplemental Equipment:

In an emergency situation where the Town equipment is out of service for repair or the situation is beyond the ability of the Town to handle, supplemental equipment and operators may be rented from area contractors. A list of potential contractors is indicated in Appendix F. Also assistance may be secured from neighboring communities, although help in this area is unlikely if the storm event affects neighboring communities as well as Waldoboro. Major winter disasters may require the assistance of the Maine National Guard.

4. Materials:

At the highway garage yard located on Wagner Bridge Road, ice and snow clearing materials are stockpiled for use during the winter season.

- a) 4000 cy of a 90% sand/10% salt mixture. The salt is utilized to prevent the sand pile from freezing and to allow safe thawing action to take place coincident with application of the sand.
- b) Approximately 150 to 250 tons of salt are maintained on site in a covered salt shed. During the course of a complete winter, the Town utilizes approximately 400 tons of salt. As the stockpile is depleted additional salt is ordered. The Town source currently being used is:

- 1) Harcros Chemicals, Inc.
50 Larrabee Road
P.O. Box 587
Westbrook, ME 04092
Attn: Garry Klundt
1-800-492-0818
(207) 856-6756

- c) Several gallons of liquid calcium chloride should be considered for stockpile in a fiberglass storage tank at the Highway Garage. This material is utilized in connection with rock salt to speed the thawing process and depress the thaw point.

ARTICLE II PRESEASON PREPARATIONS

Section 1. Coordination:

1. The Importance of Co-ordination:

- a. Update the operation plan yearly based on the previous years experience and let the media, police, fire department, school and other officials know about the plan. Conduct coordination meetings.
- b. Know the plowing and spreading routes.
 - 1. All employees will make trial runs of their routes before winter to familiarize themselves with routes, road conditions, obstacles and problem areas. Remember that road conditions change from year to year and obstacles may be present now that were not there in the past. Plan fall meetings to familiarize road crews with their winter duties and all routes in case someone becomes ill and another crew member must take over the route.
 - 2. During trial runs, pinpoint drains and waterways that must be opened after every storm. Mark other structures that will be hidden from a plow, including fire hydrants, guide rails, drop inlets, catch basins and curbing ends.
 - 3. Plan plowing routes to bring trucks back to storage facilities when they are almost empty of deicing material. This saves time and fuel.
 - 4. Review the new development plowing plan with the full crew in late fall.
- c. Effective Radio/TV Communication
 - 1. Review the alert notification roster and radio calls with all employees.
 - 2. Check all radio equipment and insure that working spares are stockpiled at the garage.
 - 3. Review the storm warning system with all affected employees.

Section 2. Equipment Operation and Maintenance:

2. Equipment - Its Operation and Maintenance:

- a. Train operators thoroughly in the use of their equipment. This will ensure that operators are more effective and that equipment will last longer and cost less to maintain.
- b. Check all equipment, including all wing and plow hydraulic systems, repairing, replacing and painting where necessary. Inspect the condition of moldboards and cutting edges on all snowplows. Order an adequate stock of parts for plows. Inspect snowplow hoists and underbody blades. Check air and hydraulic hoses and other critical parts of power units.

- c. Mount, load and test all spreaders. Make necessary repairs to spreaders. Make sure all personnel are familiar with spreader controls, whether they are manual or automatic.
- d. Inspect all vehicle lighting, including wiring and sockets on headlights, tail lights, stop lights and turn signals. (Warning lights must be visible from all sides, whether bodies are raised or lowered.)
- e. Make sure you have sufficient stocks of tire chains, tires, spreader repair parts and other miscellaneous supplies.
- f. To keep equipment in top conditions, set up a regular maintenance routine to be followed all winter. Equipment operators should inspect vehicles after each storm and report needed repairs.
- g. The first step in vehicle maintenance is to make sure every operator knows what to expect of each piece of equipment. Operators should check these items carefully:

Spreaders: Inspect pumps, hoses and fittings; check spinners and augers, auxiliary engines.

Controls: The two major components of any hydraulic system are the pump and the controls, whether they are manual or automatic. All operators should become thoroughly familiar with spreader controls. No two hydraulic systems are exactly the same. Therefore, controls will differ from truck to truck. Know your equipment and how the auger or conveyor and the spinner react at various settings.

Plows: Carefully inspect blades after each use. If blade wear begins eating into the moldboard, it will be very costly to replace. Remember that snow plow blades do not wear evenly. Replace blades when they are badly worn at any point! Have operators check blade wear during storms. Make sure plow blades are set at the proper angles for better fuel consumption.

All Electrical Equipment: Inspect and service all lighting and electrical equipment regularly, including wiring and sockets. Carry ample stocks of parts of rotating flasher units, including lenses and lamps.

Safety Equipment: Make sure there are flashlights, flares, flags and safety vest in truck cabs. A first aid kit is also a good idea. Replenish spare part inventories immediately following storms.

- h. Inventory and order all equipment parts in the fall so that the material will be on hand when needed. It's difficult to obtain parts with a blizzard in progress.

Section 3. Materials:

Materials:

- a. Insure that adequate stockpiles of sand are on hand prior to the start of winter (4000 cubic yards). Specification.
- b. Provide stockpiles of gravel, peastone, and rip rap at the Town Garage for possible washouts or special winter emergencies. List amounts.
- c. Contract early in the fall for supply of salt and liquid calcium chloride. List supply.

Section 4. Training:

Conduct training sessions on application procedures (Annex H) to include:

- a. How salt and calcium chloride work
- b. How and when to use salt
- c. Application rates
- d. Special storm situations
- e. Special de-icing problems

Section 5. Safety:

Conduct continuing training sessions on safety (equipment and practices - Annex I).

Section 6. Public Relations:

Conduct training sessions on the Town's parking ordinance, procedures for helping motorists, public relations and specifically how to handle complaints, etc.

Section 7. New Roads Inspection:

Inspect new development roads for acceptance/correction/paving prior to winter.

ARTICLE III PRESTORM ACTIVITIES

Section 1. Weather Reports:

ARTICLE IV WINTER STORM OPERATIONS

Section 1. New Route Design Criteria:

The Public Works Department has organized the equipment into eight major routes. The routes are described as follows. See map of snow removal routes in Appendix G. Each complete route for a single truck is over miles in length and takes in excess of 5 to 6 hours to complete. The routes have been established to:

- a) Provide highest priority coverage to the roads with heaviest usage (the major arterials) and history of severest conditions and/or accident. Examples are
- b) Maximize the cycle capability of each vehicle so that unnecessary reload trips are not made for resupply of materials at the highway garage.
- c) Plow routes are designed for mostly right-hand turns to avoid leaving windrows in intersections.
- d) Provide an intermediate priority to collector streets with lessor traffic loads and reduced history of

accidents. (A collector street is one that is being used or will be used to carry a substantial volume of traffic from a minor street(s) to a major street or community facility, and normally includes the principle entrance street to a large subdivision or group of subdivisions, and the principle circulation streets within such subdivisions). Examples of this type of street are

- e) Because of their location adjacent to collector streets, many minor streets (not including dead end streets and cul-de-sacs) will be cleared concurrent with collector streets or immediately following the collector streets. Examples are
- f) Dead end streets follow in priority although many may be cleared earlier in the process to meet the objectives of cycling.
- g) Due to the inability of the large 8 cy trucks to effectively clear many dead end streets and cul-de-sacs, the effort has to be augmented by the 1-ton dump trucks and one ton pickup. Clearing of cul-de-sacs and dead end streets is extremely time consuming. Very often these areas will not be cleared until well after all other clearing operations are completed. This also occurs when manpower is not available to man all Town equipment (extended storms, illness, etc.).
- h) Sidewalk clearing in designated areas will generally begin in priority areas with the onset of a storm. Due to manpower and equipment shortages, general sidewalk clearing may not take place for sometime following a storm. The areas of sidewalk which are planned for priority clearing include:
 - (1)
 - (2)
 - (3)
 - (4)
 - (5)
 - (6)
 - (7)

Other sidewalks and paths will be cleared as time allows following a storm.

- 2. It is important to note that the plan which has been presented and the accompanying map are subject to change with each storm. Also the time frame for clearing can vary markedly depending upon condition and continuing effects of a storm. Other factors affecting the plan are:
 - a) night time plowing
 - b) commuter traffic
 - c) parked cars
 - d) equipment breakdown
 - e) assistance to the fire or police department
 - f) assistance to school buses
 - g) time length since the start of the storm.
- 3. In order to guide the Department in utilizing the best available techniques in snow and ice clearing operations a set of guidelines is provided in Appendix H.
- 4. Operator and citizen safety is an important consideration during all snow clearing operations and suggested safety practices are provided.

6. Applicable Ordinance/Laws:

During snow clearing operations it is important that motor vehicles are not parked in... "such a manner as to create or constitute an impairment to traffic or to interfere with the removal of snow of ice, or the sanding or salting of public streets and highways or to delay or preclude the delivery of emergency services, police fire and ambulance constitute a hazard contrary to the public health, safety and welfare"... Because of this the Board of Selectmen adopted a Traffic Ordinance in 1978 (Appendix J).

In addition, Title 19, Section 1111, Vermont Statutes Annotated **Permitted Use of the Right of Way** makes it unlawful to ... "construct a fence or building, or deposit material of any kind within, or in any way affect the grade of a highway right of way, or obstruct a ditch, culvert or drainage course that drains a highway, or fill or grade the land adjacent to a highway so as to divert the flow of water onto the highway right of way, without a written permit from the Board of Selectmen of a Town, as the case may be".

The practice of plowing across Town roads, blowing, or shoveling snow onto the highway is prohibited under this statute.

The Public Works Department will notify the Police Department for appropriate action against motorists and residents who violate either the traffic ordinance or obstruction statute. Where snow castles are built in the road edge snow banks, the Public Works Department will destroy the castles and provide the resident with a notice concerning the action taken, why it was necessary and a warning against future action.

Section 2. Snow Routes (Town)

Section 3. Snow Routes (State)

7. Snow Removal on State Highways in the Town of Waldoboro:

Within the Town of Waldoboro there are 18.87 miles of State Highways including:

U.S. Route #1 (.27 Urban)*	6.80
State Route #32 (N)	5.83
State Route #32 (Urban)*	.47
Jefferson Street (Urban)*	.52
Old Route #1	<u>5.25</u>
	18.87

ME Rt 220N (Washington Road)
ME Rt 220S (Friendship Road)
ME Rt 32 (Winslows Mills Road)
ME Rt 32W (Bremen Road)

Snow removal on these roads is the responsibility of the State of Maine administered by the District Highway Garage, located in Waldoboro.

Questions or comments on these highways are to be directed to the Division #5 Acting Engineer, at 832-5202. List numbers.

ARTICLE V POST STORM ACTIVITIES

After a storm event or during periods of lessened storm activity a number of operations need to take place to insure readiness for subsequent winter operations.

Section 1. Equipment Inspection:

Equipment needs to be inspected using preventive maintenance techniques, and repairs made as necessary. Special attention needs to be given to tires, brakes, snow plows--including wings, shoes, bearings, spinners and chloride feed systems.

Section 2. Stockpile Materials:

Materials, especially salt, need to be reordered to insure an adequate stockpile on-site.

Section 3. Check Plow Routes:

Plow routes need to be driven and checked for identification of problems, especially illegal plowing by driveway contractors, problem mailboxes, snow castles, etc. It is the responsibility of the route driver to identify these problems and report them to the supervisor.

Section 4. Wing-back Operations:

It is important to wing-back snow on road shoulders following each major storm and to clear critical areas to make room for future storage. If the snow bank height becomes excessive, the top of banks will have to be cut down for proper visibility or future snow storage. If the snow is allowed to melt in place and refreeze, the result is a heavily compacted mass which cannot be moved without considerable effort by snow plows. Therefore, winging-back is an ongoing function which needs to be addressed as soon as storms subside and the amount of stockpiled snow dictates that winging back is needed.

Section 5. Snow Removal/Cleaning:

The Town does not have a policy of hauling snow. However at specific locations, intersections, cul-de-sacs without storage space, school bus route problem areas or sites of repeated accidents, the Town may selectively utilize the loader and dump trucks and haul snow from the site. The principle purpose of hauling is safety. The hauled snow shall be dumped at the landfill site or at some other suitable and acceptable place as determined by the Public Works Director or acting foreman.

Section 6. Maintenance of Drains/Catch Basins:

It is important that roadway drains and catch basins be kept open to allow melting ice and snow to run off. A salt or solid calcium chloride application may be needed to free them of ice and snow.

Section 7. Thawing Culverts:

Following a storm, generally within 48 hours, an investigation will be made of all complaints received during the storm. The investigation will be completed by the Director, foreman or their designated representatives. Their findings shall be made known to the complainant as soon as practicable.

ARTICLE VI POST-SEASON FOLLOW-UP

Section 1. Review Winter Snow Clearing Operations:

Review the winter snow clearing operations recently completed with all in-house personnel and outside affected groups including fire, rescue, police, schools, and industry to obtain input for improvement in the coming season.

Section 2. Equipment Maintenance:

Give all equipment a thorough maintenance check after the last snow storm of the winter.

- a. Sandblast and paint all plows, blades, and spreader assemblies as appropriate.
- b. Order new plow blades and other equipment as necessary.
- c. Oil and grease all moving parts.

Section 3. Summer Construction:

Schedule summer construction for areas where road defects have resulted in problems all winter long, such as ice patches.

Section 4. Identify Equipment Needs:

Identify new equipment needs for improving operations.

Section 5. Training:

Provide the opportunity for employees to attend snow conferences and other events to broaden their understanding of snow clearing operations and to become aware of changing equipment and technology.

IV. WINTER SEWER & WATER OPERATIONS:

A. Prior to the onset of winter, the water and sewer department will:

1. Check hydrants and valves to insure their operability.
2. Flag all hydrants for winter locations
3. Inventory and order necessary emergency materials.
4. Insure that used fire hydrants are drained prior to winter.

B. Winter Operations:

1. During storms, the water and sewer department may be called upon to assist in snow and ice clearing operations. Their role will principally be in relief of other drivers who have been on extended duty.
2. Following storms, their principal responsibility shall be to clear snow and ice from around hydrants and to clear access lanes to pump stations.
3. The water and sewer department also has responsibility for repair of broken and frozen water mains, within the overall limit of Town responsibility up to and including the curb stop.
4. In the event of a power failure at the Alder Brook Pump Station, the auxiliary generator must be hand activated during the winter. This is necessary because the generator intake system draws a sufficiently large volume of air to cause the furnace to malfunction. The furnace must be shutoff at the breaker panel LP1 prior to activation of the generator.
5. When fire hydrants are used by the Fire Department during the winter, the Fire Department will notify the Police dispatcher immediately following the fire and identify the used hydrant by number. The Police dispatcher will immediately notify Public Works through the alert notification roster so the hydrants can be drained before they freeze.

V. COORDINATION/COMMUNICATION/PUBLIC INFORMATION:

- A. All communication from the public concerning conditions and problems should be directed during normal working hours (7:30 a.m. to 3:30 p.m.) to the Public Works Office, 1400 Wagner Bridge Road, Waldoboro, ME 04572 - Tel # 832-4255. Emergency requests during non-working hours should be directed to the Police Department dispatcher, 832-4500 for relay to the Director, acting foreman or Highway Garage. The Highway Garage phone system is intended for internal control only and not for direct communication between the public and the department.

- B. Complaints or requests for service, when received, must be written on a request form service slip with the required information noted. The form to be used is provided in Appendix L.

The complaints will be reviewed and investigated by the department and corrective action taken as appropriate.

- C. Because of the volume of complaints specific to objects in the Town right of way and damage to property, the following Town policy has been established.

1. Title 19, Section 1111 prohibits encroachment of the Town Right of Way without prior approval by the Board of Selectmen. Objects in the ROW are placed there at the owners risk and the Town assumes no responsibility for any damage to objects placed in violation of the statutes. Common items damaged are fences placed with the Town ROW, flower pots, basketball hoops, etc.
2. To insure mail delivery to all rural residents, the Town has provided blanket authorization for mail boxes located in Town Right of Way. The Town retains control over specific location of the mailboxes and may require the homeowner to move the box to a more suitable location.
 - a) The Town will fix a damaged mailbox or replace a mailbox only when the Department determines that a plow physically hit the mailbox. This determination is made by observation of cut marks, paint off the plow blade, etc.
 - b) Heavy snow coming off the plow blade will often knock over and damage mailboxes which have not been adequately mounted or braced or those mailboxes whose doors have been left open. Also, mailboxes are damaged by private contractors and homeowners during driveway clearing operations. The Town will not fix or replace mailboxes in these situations.
3. The Town will restore or replace objects located on private property damaged as a result of its snow or ice clearing operations.
4. Recovery of damages will be pursued by the Town if Town equipment is damaged due to objects placed in the Town ROW.

D. When conditions are especially severe, the Public Works Director working in concert with the Town Manager may issue a special snow emergency statement advising the local media, radio station, industries and schools that conditions may adversely affect their operations. One or all of the following parties will be notified when this occurs:

Waldoboro Fire Department	- Contact Police dispatcher	832-4000
Waldoboro Ambulance	- Contact Police dispatcher	832-4000
Waldoboro School Administrative District #40		832-5358
Superintendent	- David Gaul Home	563-8805
Transp. Supt.	- Raymond Kennedy Home	832-7717
Medomak Valley	-	832-5389
A.D. Gray Jr. High		832-2106
Miller Elementary School		832-2103
Waldoboro School Bus Garage		
GTE	- Steve Minor - HRM	832-5313
Radio Stations	- Coast 102.5 FM	236-2452
	- WQSS - 21 Elm Street Camden	
	- WMCM 103.3 FM - 415 Main St.	596-1033

E. It is important that as part of the communication/public information program that the following issues be communicated each year to the residents at or near the beginning of the winter storm season:

1. Snow should not be blown/plowed or shoveled into the Town Highway.
2. The nightly parking ban needs to be respected and cooperation is needed during other times of the day when storms are occurring and parked cars need to be moved.
3. Children cannot be allowed to create castles, forts, tunnels and other similar structures in roadside snow banks.

4. Mailboxes need to be properly installed and lids closed when not in use.
5. Snow plows must be respected, given their width, weight and speed. Drivers often will attempt to crowd snow plows or homeowners will attempt to protect their shoveled drive by standing at the entrance. Both practices invite disaster because of the lack of maneuverability of these vehicles, the generally icy conditions and often the inability to see perfectly under blowing snow conditions.
6. Objects in the Town ROW need to be moved or relocated during the winter. Basketball backboards can be turned away from the street and this will prevent the hoops from damaging plow trucks or causing accidents.

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APPENDIX A

PUBLIC WORKS DIRECTOR
Assistant Engineer
Utilities Superintendent

Earle Wallace

Public Works Secretary

SOLID WASTE/RECYCLING
SUPERINTENDENT
Robert Maxcy

HIGHWAY MAINTENANCE IV
ACTING FOREMAN

HIGHWAY
MECHANIC II

WATER/SEWER
LANDFILL OPERATOR II FOREMAN IV

HIGHWAY MAINTENANCE III

WATER/SEWER
OPERATOR

HIGHWAY MAINTENANCE II

APPENDIX A2

VEHICLE AND ROUTE ASSIGNMENTS

<u>Vehicle</u>	<u>Primary Operator</u>	<u>Alternate Operator</u>
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APPENDIX E

TOWN OF WALDOBORO RADIO CALL LIST

	<u>CALL NUMBER</u>
Lincoln County Sheriff's Department Dispatch	Lincoln
Town Offices	Waldoboro
Town Manager	101
<u>Public Works Dept.</u>	
Earle Wallace	401
John Daigle	402
Alforest Willey, Jr.	403
Keith Collamore	404
Doug Severson	405
Gifford Campbell	406
Paul Walter	407
Dick Kennedy	408
Sidney Geyer	409
<u>Transfer Station</u>	
Robert Maxcy	201
Arthur Skinner	
<u>Police Department</u>	
Chief Leroy Jones	Waldoboro 1
Sgt. Guy D. Benner	Waldoboro 2
Leigh Abbott	Waldoboro 3
Milford Rice	Waldoboro 4
Raymond Kennedy	Waldoboro 6
Daniel Moran	Waldoboro 7
David Pratt	Waldoboro 8

Dean Batlis	Waldoboro 9
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Gregg Daggett	Waldoboro 10
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Travis Ford	Waldoboro 11
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Dog Control Officer

David & Elaine Pratt	Waldoboro 8
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Fire Department

Fire Dispatch	Waldoboro Base Lincoln
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Chief Robert Maxcy	201
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Deputy Chief Richard Glidden	202
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Assistant Chief Allan Benner	203
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Lieutenant Gary R. Blackler	205
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Lieutenant William B. Gould	206
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Lieutenant Robert A. McNally	207
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Lieutenant Ernest A. Vannah	208
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Waldoboro EMS

Director Scott Lash	301
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Deputy Director James Eaton	302
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APPENDIX F

**CONTRACTORS WHO MAY ASSIST THE TOWN IN
SNOW CLEARING OPERATIONS
UNDER SUBCONTRACTED SERVICES**

NAME

TEL #

APPENDIX G

MAP OF HIGHWAY ROUTES

APPENDIX H

GUIDELINES AND OPERATING INSTRUCTIONS FOR ICE AND SNOW CLEARING TECHNIQUES

I. Techniques:

- A. Timing is critical in applying salt, calcium chloride and sand/salt combinations. Begin de-icing as soon as snow starts to accumulate to keep snow and ice from bonding to the pavement. When spreading de-icing material on two-lane roads, make sure the truck straddles the center line of the road. This saves time and fuel because the spreader has to make only one pass on these roads.
- B. Take advantage of nature when de-icing. Let the wind help to spread salt and cinders over the road. On elevated curves, let gravity work by spreading on the high part of the curve.
- C. To know when to reapply de-icer to the road, watch the tires of cars traveling along the road. If snow falls directly behind the tires, it is time to reapply salt or cinders. If snow fans out under the tires the de-icer is still working.
- D. Consider continuous plowing of both roads and road shoulders during a snowstorm. That way, if another storm occurs within a few days, only fresh snow has to be plowed.
- E. Once the snow has stopped and plowing is finished, return to areas where drifting has occurred. Take two trucks in tandem and clear out the excess snow before it has time to harden. It is easier to push the drifts away from the road or cut down drifts when the snow is still fresh.
- F. Plow and remove snow (if necessary) from intersections, sharp corners and bends.
- G. Remove the windrows on the sides of bridges to prevent drifting. If windrows are allowed to remain, available roadway will be reduced and snow will later melt and form ice.
- H. Give salt time to work. Generally salt early to create a brine at the snow/road interface and salt late for extended clearing.
- I. Increase salt application during the night and on sunless days and when the temperature drops sharply. Without the sun, you lose the effect of pavement radiation and warmth.
- J. Leave no gaps in sanding or salting operations.
- K. Wing-back snow banks at the first available opportunity following a storm.
- L. Use liquid calcium chloride to augment the action of rock salt when temperatures drop below 25 degrees f. Concentrate use in critical hill or depression areas such as

II. Guidelines:

A. General:

- 1. Salt weighs approximately 2000 pounds per cubic yard and the capacity of Town dump trucks is 8 cubic yards. Therefore, a full truck will leave the garage with 15,000 to 16,000 lbs (+/-) of salt.

B. Conditions:

1. Condition I - Storms which are predicted to be of short duration or squalls and flurries.
 - a. Application - Salt application should be 300 to 600 lbs per mile. If temperature is below 25 degrees, apply salt and liquid calcium chloride. Stop calcium chloride and salt when temperatures reach 5 degrees F. Apply less salt on sunny days. Apply sand/salt on gravel roads.
 - b. Method - apply in a narrow strip in the center or as high as possible on banked curves.
 - c. Follow-up - apply second strip in danger spots only. One cubic yard of sand per mile may be applied in dangerous spots.
2. Condition II - Snow storms of expected plowable depth
 - a. Application - 300 - 600 lbs of salt per mile early in storm. Stop salting as snow accumulates. If temperature is below 25 degrees apply salt and liquid calcium chloride. Stop calcium chloride and salt when temperatures reach 5 degrees F. Apply salt/sand on gravel roads continuously.
 - b. Method - apply in a narrow strip in or near center or as high as possible on banked curves.
 - c. Follow-up - touch up with extra salt or sand in danger spots where traffic tie ups occur. Thereafter, plowing should be begun and continued as is necessary. After all roads are plowed, a second light salt application can be applied before edges are pushed back.
3. Condition III - Rain on cold pavement or sleet continuing and forming ice.
 - a. Application - 300 to 600 lbs per mile. If air temperature is 25 to 34 degrees F. and rising, apply rock salt and only use liquid calcium chloride if needed on specific critical areas. If air temperature is 25 to 35 degrees F. and falling use liquid calcium chloride in combination with rock salt. Apply sand/salt mixture to gravel roads continuously. Pea stone or gravel may be necessary for application under severe gravel road icing conditions.
 - b. Method - first application as determined by weather forecast concerning speed of ice build-up, temperatures and time of year. If rain, sleet or snow continues for a long period and a falling temperature is predicted, additional salt may be necessary to clear pavement quickly before dropping temperatures limit the effectiveness of the salt.

III. Operating Instructions:

All personnel in the Highway Department are to be considered on twenty-four (24) hour a day call basis. If you leave town for a period of time when snow is impending or during a storm or if sickness occurs, notify the director or foreman in charge.

All drivers will be responsible for their routes. The following operating instructions shall be observed:

1. All trucks equipped with radios will keep in constant communication at all times with the director.
2. All trucks will be checked and fueled every night or after every storm before the driver leaves.
3. Notify Highway immediately in the event of a breakdown.

4. Check plow blades for wear during plowing operations and when through plowing. If worn notify director or change.
5. Check all tires for flats before leaving garage.
6. Drivers will be responsible for chains on trucks if pavement is slippery.
7. All drivers when plowing snow will use a reasonable rate of speed in all areas. There will be no excessive speeding in snow plowing operations. When you have a wet snow, extreme caution will be taken not to knock down mailboxes.
8. All drivers will take caution where there are sidewalks. Try not to plow snow into a sidewalk area. A slower speed will prevent this.

All personnel are requested to be courteous at all times to all persons. Remember that they are the taxpayers who actually pay the bills. The service of keeping our streets in good condition is one that is immediately recognized by all taxpayers. Maintain the good reputation of the Department as a group and yourself as an individual.

APPENDIX I

WINTER SAFETY PRACTICES

I. Personal Safety:

Maine roadworkers spend much time working in cold weather. Guarding against overexposure and knowing how to recognize frostbite can prevent serious injuries. Become familiar with the following guidelines.

Preventing Injuries from Extreme Cold

(NOTE: The extent of injury caused by exposure to abnormally cold temperatures depends on additional factors such as wind velocity, type and duration of exposure, temperature, and humidity. Freezing is accelerated by wind and humidity or a combination of the two factors.)

- A. Wear proper clothing
- B. Limit exposure as much as possible
- C. Take frequent, short rest periods
- D. Keep moving

(NOTE: Exercise fingers and toes if necessary, but do not overexert.)

- E. Do not drink alcohol before exposure to cold
- F. Do not bathe before exposure
- G. Do not smoke before exposure
- H. Learn to recognize the symptoms of overexposure and frostbite.

(NOTE: Cold hands may be warmed by placing them under dry clothing against the body, such as in the armpits.)

Clothing for Extreme Cold

- A. Thermal-type woolen underwear
- B. Outer clothing which will repel wind and moisture
- C. Face helmet and head and ear coverings
- D. Two pairs of socks

(NOTE: Carry extra dry socks when working in snow or wet conditions.)

- E. Warm boots

(NOTE: Make sure boots are not so tight that circulation becomes restricted.)

- F. Wool-lined mittens or gloves covered with wind and water repellent material.

Safety Equipment

- A. Flashing lights
- B. First aid kits

Symptoms of Cold Exposure

- A. Shivering
- B. Numbness
- C. Low body temperature
- D. Drowsiness
- E. Marked muscular weakness

Order of Treatment of Cold Exposure

- A. Get to a warm room as quickly as possible
- B. Remove wet or frozen clothing and anything that is binding
(EXAMPLES: Necklace, watch, ring, belt)
- C. Rewarm by adding clothing, wrapping in a blanket, or by getting into a tub of water that is warm but not hot to the forearm

(NOTE: Dry thoroughly after soaking in warm tub.)

- D. Drink hot liquids

(CAUTION: Do not drink alcohol.)

- E. Carry out appropriate procedures as described for frostbite

Symptoms of Frostbite

(NOTE: Frostbite results when crystals form in the fluids and underlying soft tissues of the skin. The effects are more severe if the injured area is thawed and then refrozen. Frostbite is the most common injury resulting from exposure to cold elements. Usually, the frozen area is small. The nose, cheeks, ears, fingers, and toes are most commonly affected. Just before frostbite occurs, the affected skin may be slightly flushed.)

- A. Skin becomes white, gray, or waxy yellow

(NOTE: Color indicates deep tissue damage. Victims are often not aware of frostbite until someone tells them or sees the pale, glossy skin.)

- B. Skin tingles, then becomes numb
- C. Pain may occur, then let up

D. Blisters may form

E. Area of frostbite swells and feels hard

(Note: In advanced cases mental confusion and poor judgment occur, the victim staggers, eyesight fails, the victim falls and may pass out, shock is evident, and breathing may cease. Death, if it occurs, is usually due to heart failure.)

Treatments for Frostbite

A. Protect frozen area from further injury

B. Warm frostbitten part as soon as possible

C. Give artificial respiration if needed

WINDCHILL FACTOR CHART

How Cold Is It?

Estimated wind speed (in MPH)					Actual Thermometer Reading (°F.)							
	50	40	30	20	100	-10	-20	-30	-40	-50	-60	
Equivalent Temperature (°F.)												
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
-----Green-----					-----Yellow-----					-----Red-----		

LITTLE DANGER
greater than
40 mph have
little addi-
tional effect).

INCREASING DANGER
(for properly
clothed person).
Maximum danger
of false sense
of security.

GREAT DANGER
Danger from freezing
of exposed flesh.

2. Safe Procedure for Snow Removal

- A. Do not exceed appropriate speeds for equipment and conditions
- B. Use all available safety warning devices

EXAMPLES: Flashing lights, hazard lights

- C. Be alert for obstructions
- D. If truck skids, STEER INTO THE SKID until you regain some control then steer back into the driving lane.
- E. Plow in the direction of traffic
- F. Be wary of drivers coming from behind

(NOTE: Rear end collisions are common)

- G. Wear protective clothing, especially gloves

EXAMPLES: Thermal-type woolen underwear, outer clothing which will repel wind and moisture, face helmet and head and ear coverings, two pairs of socks, warm boots, warm mittens or gloves.

- H. Know symptoms of cold exposure and frostbite
- I. Carry container of hot liquid (NOT ALCOHOL)
- J. Carry emergency equipment

EXAMPLES: Flares or reflectors, first aid kit, fire extinguisher, flashlight

Hazards of Snowplowing

(NOTE: Some plows are equipped with automatic safety trips and will ride over some obstructions. However, other obstructions will dislocate and/or damage the truck and plow. Always use extreme caution when plowing. Pre-check all routes for hazards before the snow flies. Know your routes.

- A. Bridge expansion joints
- B. Pavement expansion joints
- C. Headwalls of culverts
- D. Cattle guards
- E. Signposts
- F. Guardrails
- G. Hard-packed snow or ice
- H. Low shoulders

(NOTE: If wheel drops off, plow digs in.)

- I. High shoulders
- J. Raised pavement markers

(EXAMPLES: Left or right turn bays, lane markers.)

- K. Curbs
- L. Islands
- M. Fire hydrants
- N. Raised manholes
- O. Deep side ditches
- P. Railroad crossings
- Q. Mailboxes
- R. Fences
- S. Narrow roads and bridges

3. Crew Notes:

- A. Be extremely careful in situations that require backing.
- B. Keep the plow blades and hoppers in working condition. Frostbite can be contracted rapidly as work is performed on the equipment.
- C. Watch for pedestrians when plowing. Do not exceed 25-30 miles per hour. At speeds greater than this, a grown person can be knocked down by the force of the thrown snow. Watch for children in snow banks.
- D. Stay with the truck if it is immobilized. It's easier for the rescue team to find a truck than a body covered with snow.
- E. Fatigue and carbon monoxide are twin hazards. Ventilate the cab. Stay alert.
- F. Stay in the cab when material is being dumped into the bed. Also stay in the cab if the truck contacts a powerline.
- G. If your feet get cold put your hat on.

4. Supervisors' Notes

- A. Check the cab of the truck for exhaust seepage. Carbon monoxide is colorless, odorless, and tasteless. If the driver feels drowsy check the cab.

- B. Fatigue is dangerous. Shift lengths should not be more than 12 hours long except in emergency situations.
- C. Prequalification of drivers to re-acquaint them with the equipment and to assure their capability to operate the equipment could save trouble during the plowing operation.
- D. Falling snow, blowing snow, extended night driving, sun glare, and white-outs lead to eye fatigue. They reduce vision acuity and depth perception capability of the eye, thus increasing the possibility of an accident. Check the drivers often to determine if they have noticed any vision problems. If they have, a rest period may be in order.
- E. Certain eye defects, which affect perception and color blindness, may disqualify a driver from plowing operations, even though the driver is qualified for normal work operations. Check with a doctor if doubt arises concerning a driver's ability.
- F. If private companies aid in the plowing operations, treat them as if they were your own crews. Expect, train, and require the same