



City of DuPont Snow & Ice Response Plan

(November 2016 update)

INTRODUCTION

The City of DuPont Public Works Department strives to maintain, operate and preserve DuPont's infrastructure, including the public road network as safely and efficiently as possible. This effort includes the development of strategies and identification of capabilities for responding to emergency situations in an effective, efficient and timely manner with resources available. As part of this mission, the Public Works Department conducts traction improvement, anti/de-icing, and snow removal operations to mitigate hazardous driving conditions during winter months to respond to snow and ice events.

City of DuPont's topography is extremely diverse and as a result the City can often experience numerous microclimates within its boundaries. Typically, the City's winter season lasts from mid-November through mid-March. The weather is generally wet with cool, moderate, and occasional icy or limited snow events. The winter maintenance program (labor, equipment, and materials) is sized and based to facilitate the movement and safety of traffic under normal expected winter conditions. This will typically be when temperatures drop below freezing and may create black ice or frost conditions. A light to moderate snowfall event may also occasionally take place. These normal winter conditions are typically characterized by brief, localized events within the City. The exceptional winter weather event would be characterized by a heavy snowstorm over the entire County or region which can adversely affect normal roadway travel for a week or more. Since this happens very infrequently, it would be an inefficient management of resources to size and base a winter maintenance program for this type of an exceptional winter weather event. Such planning would result in an excess of equipment and workforce sitting idle for most of the winter season.

The Department's winter maintenance program is based on history and the expected average conditions of winter for the City of DuPont. Therefore, when the rare heavy snow storm occurs, the program is often unable to deliver an 'accustomed' level of service to all the City's public roads, and must instead focus available resources on primary arterial or lifeline routes.

The short term consequences of this scenario are far outweighed by consequences of wasted resources if the program were sized and based on the worst scenario that could possibly happen.

The purpose of this Snow and Ice Response Plan is to provide clear, consistent, and environmentally responsible guidelines and procedures in order to keep the City's transportation network functioning as safely and efficiently as possible for the motoring public, Sound Transit, public schools, fire, police, aid vehicles, and general commerce. It is understood that this plan cannot eliminate all the impacts or effects of a snow and/or ice emergency. Rather, the intent of this plan is to maximize the use of available resources in order to reduce the threat to public safety from a snow and ice emergency.

The City is responsible for approximately 70 lane miles of roadway in the City of DuPont, of which only portions of our roadways have been identified as primary or lifeline routes that provide connectivity from our residential areas to the State highway system and to key service centers, such as schools and primary city facilities.

GENERAL INFORMATION

Organization of Staff

The Public Works Department (10) full time employees are assigned to operations with consideration to mobilization and logistics efficiencies; and are adjusted as is necessary to meet the needs presented by each unique Snow and Ice event.

Organization of Facilities

Public Works Department
303 Louviers Avenue
DuPont, WA 98327
Phone (main PW line) - (253) 912-5381

Organization of Equipment

The Department has the following snow and ice fighting equipment in inventory:

- 2 – 5 cuyd. Plow/Material Spreader Trucks
- 1 – 200 Gallon Liquid Anti-icing Applicator Truck
- 2 – 500 lbs. Salt/Material Spreader Utility Trucks
- 1 – Backhoe Loader
- 1 – Gator Utility Vehicle

Snow and ice fighting equipment and materials are assigned to the City's operational facilities with consideration to mobilization and logistics efficiencies; and are adjusted as is necessary to meet the needs presented by each unique snow and ice event.

Organization of Materials

The materials and supplies required to deliver an effective snow and ice emergency response are typically stockpiled at the Public Works Shop facilities located at 301 Louviers Avenue, DuPont, WA 98327 and are adjusted as is necessary to meet the needs presented by each unique snow and ice event. (For example, sand stockpiles used for traction improvement are typically located at the primary Public Works Shop facilities, although additional stockpiles may be placed at other key locations throughout the community as determined to be beneficial for a given event.) Salt brine used as an anti-icing agent is also stored at the Public Works Shop site 2,400 gallons.

RESPONSE TO A SNOW AND ICE EVENT

The City of DuPont's road network has been divided into 2 primary response priority levels and routes - primary and secondary routes. Within these two categories, there are generalized emergency response zones (upper and lower) which are identified, sized and shaped with the following important factors in mind:

Emergency Routes for Police and Fire, transit and School Bus Routes, and connectivity of the arterial network between residential areas and key service centers.

When snow and ice conditions affect roadways across the entire city, priority routes are monitored by public works and emergency services personnel on a regular basis during our ongoing response. Under heavy snow or severe icing conditions, some roadways may require salting, sanding, de-icing, and/or plowing several times within a 12-hour operational period. Therefore, some routes identified on the priority lists may not be addressed until higher priority routes are clear, depending on the severity of the event.

Priority Roadways

Each of the 2 emergency response (primary and secondary) routes has a pre-established priority listing of roadways established by the following designations:

Major arterials and collectors

Lifeline Emergency routes

Access roads to highways and freeways

School bus snow routes and Sound Transit routes and park and ride lot access

(Secondary routes will be addressed as conditions allow or as requested by Police)

Snow and Ice Removal Route Maps

The snow and ice removal routes are mapped, and priority roadways within each are listed in a sequence that optimizes the City-wide effectiveness and efficiency of plowing

and traction improvement application (sanding, salting) operations. In order to be optimally prepared for the wide range of probable winter conditions that can occur in Pierce County, the City uses a phased approach to implementing our response efforts. Snow and Ice Operations - Response

City of DuPont Public Works Department will mobilize road crews based upon the severity of a snow and ice event. There are four phases of response, procedures, resource allocation, and coordination efforts crafted to address major storm events as listed below:

Phase 1

A significant storm is forecast. Measurable snow accumulation and/or severe black ice conditions with temperatures below 32 degrees are predicted. The following steps are implemented during this phase:

* The objectives of Phase 1 are preparation and prevention, with primary focus on hills, curves, signalized intersections, and similar areas likely to be affected by frost/ black ice events. Actual conditions and/or citizen RFA's will be addressed on a site specific basis.

1. Supervisor/On Call Personnel is alerted to forecast or developing conditions.
2. Each area is checked for developing snow or freezing conditions (as applicable).
3. Supervisors may schedule applications of anti-icing agents.
4. Maintenance crews prepare equipment for snow and ice operations.
5. Supervisors adjust initial response schedules as the weather event unfolds.
6. Citizen and emergency services requests are incorporated into response schedules.
7. Crews are on 8-hour shifts during this phase unless the event occurs after regular work shift hours, at which time the Supervisor or on call personnel will dispatch additional personnel as conditions warrant. Personnel may be required to work more hours if the response phase is upgraded, or if developing conditions warrant.

Phase 2

Snow and/or icing conditions have occurred. Sites where snow or ice accumulations have affected City roads may be isolated to widespread. The following steps are implemented during this phase:

* The objectives of Phase 2 are to transition from preparedness into response. Citizen RFA's addressed on a site specific basis as resources allow, and priority routes cleared.

1. Public Works Director is alerted.
2. All maintenance crews are divided into 8-hour day and night shifts (which may be expanded to 12-hour shifts at the Director's discretion) to provide 24-hour coverage for commuters.
3. Response efforts are focused on addressing priority routes in upper and lower zones with available resources to address conditions caused by the event.

4. Emergency services and citizen's requests are noted and incorporated into response efforts as applicable or addressed based on priority as circumstances and conditions may warrant.
5. Personnel maintain communications between shifts and provide regular updates to Supervisor and/or Public Works Director on status of event and response efforts.

Phase 3

Snow and/or icing conditions have occurred and are widespread. The long-range forecast calls for snow and ice conditions to continue. The following steps are implemented during this phase:

* The objectives of Phase 3 are to produce the best possible results with available resources during an active event. RFA's will be incorporated into operations as needed to facilitate emergency services requests or as directed Public Works Director. Priority routes may be further segregated for response with highest attention given to primary access roadways providing greatest arterial access for emergency services and/or those with the highest travel volumes (such as Center Drive, Wilmington, McNeil, etc.).

1. Crews are adjusted to 12-hour shifts for 24-hour coverage.
2. The Public Works Supervisor continuously updated and advised of maintenance progress and/or problem areas. Response focused on highest priority routes first.
3. Once conditions have stabilized and arterial lifeline routes have been plowed and/or treated with de-icing products, as applicable, resources are assigned to response on remaining portions of priority routes and local access collector roads
4. Status reports are provided to the Director of Public Works once daily, or as significant changes occur.
5. Additional departments may be requested to provide support to ongoing operations.

Phase 4

The long range forecast calls for no additional snow accumulation and/or warmer temperatures. The following steps are implemented during this phase:

* The objectives of Phase 4 are to transition from emergency response operations back to normal delivery of services. Citizen RFA's will be addressed on a site specific basis as resources allow. Shifts are adjusted to normal as conditions and priorities dictate.

1. Large accumulations of snow and ice are removed from the traveled way and drainage courses (catch basin inlets, etc) along priority routes.
2. As priority lists are completed, focus will turn to removal of any remaining snow accumulations on local access roadways and remaining residential areas.
3. Crews are adjusted back into normal 8-hour day shift periods.
4. Snow and ice response equipment is repaired, cleaned, and prepped for future use.
5. Materials and supplies are inventoried and replenished as needed.
6. Any accumulations of sand are removed from roadways as soon as reasonable following conclusion of snow and ice response operations and end of probable events.

7. After action meetings are held to assess effectiveness of response efforts and identify improvements opportunities for future response efforts and future events.

The duration of any of the above phases of operational response and implementation may vary depending on the predictability, severity, and duration of a given winter event.