



SNOW AND ICE CONTROL PLAN 2016-17



Revision: 15 November 2016

City of Lake Stevens Snow and Ice Control Plan Version 2016-17

Dial 911 if you have a need for emergency Snow and Ice service.

Purpose

A snow and ice control plan consists of the policies and intent of the City of Lake Stevens for the performance of its winter maintenance program and establish a plan for communications, operations, and procedures. The plan serves as a guide document and is considered a living document subject to changes and revisions. The plan reflects the expectations of the City management and maintain flexibility for modifications.

Background

The region typically has no more than 5 snow events in a season. Temperatures below the freezing level are typically brief, but there has been several prolonged events (5 days or greater) of below freezing temperature that results in icy conditions. Due to the hilly terrain of the City, even brief snow fall events can result in a significant congestion condition of the City's transportation network.

Past snow and ice services had been provided using both in-house and County resources for non-State route roadways (WSDOT has provided snow and ice services on SR 9, SR 92, and SR 204). This has included snow plowing major arterials, sanding key intersections and icy problem areas, and designating roadway closures.

Route Priorities for Plowing

The City has identified snow routes based on the street function, traffic volume, and importance to the welfare of the general community. Priority is given to routes with higher volume travel roads, which connect major sections of the City and provide access for emergency fire, police, medical services, and school bus routes. There are four classifications of routes: First Priority, Second Priority, Low Priority, and non-designated.

Hot Mix

Hot mix is a sand and salt mixture with a typical mix ratio of 1 part salt to 2 parts sand. This mix ratio may be adjusted as determined necessary by the Public Works field staff

to match icing and temperature conditions. The intent of hot mix usage is to provide ice melting on priority roadways where the icing condition is considered to be a high potential injury risk location as determined by the Incident Commander. Typically sand will be used to provide tractions during icy conditions to minimize the introduction of salts into the environment.

Anti/Deicing

Anti/Deicing is a liquid material that helps to prevent ice from sticking to the pavement and can in some applications help to promote melting. It is used in very limited locations, as indicated on the Anti and De-Icing Route Map, due to its high cost and to minimize the introduction of the salts into the environment. Application should only be applied when road surface temperatures are at 38 degrees and below. Application is best when applied to a dry surface.

A pre-treatment application log should be kept identifying time, date, average temperature, zone, and route priority as shown on the Plan's Anti/Deicing Map.

Events

The following defines the four levels of snowfall events that are considered in this Plan and will be used for identification only of a storm event:

- Level 1 – Projected snowfall event for over 48 hours with expected accumulations of 3 inches and greater, sustained below freezing temperatures.
- Level 2 – Projected snowfall event for up to 48 hours with expected accumulations of up to 3 inches or less, sustained below freezing temperatures.
- Level 3 – Projected snowfall event for up to 48 hours with expected accumulations of up to 3 inches or less, around freezing temperature.
- Level 4 – No snowfall projected, sustained below freezing temperatures.

Snow and Ice Equipment

The following are the frontline snow and ice vehicles:

- PW019 - Freightliner 5 CY– Sander and Plow - best on main arterial roads with gentle grades and larger horizontal curves - requires a Commercial Driver's License
- PW040 - Ford Louisville 10 CY - Sander and Plow - best on main arterial roads with gentle grades and larger horizontal curves - requires a Commercial Driver's License
- PW012 - International 5 CY (4x4) – Sander and Plow – good on hilly areas and smaller horizontal curves - requires a Commercial Driver's License

- PW047 - Ford F550 (4x4) - Sander and Plow – Stainless box used for hot mix - good on hilly areas and smaller horizontal curves – does not require a Commercial Driver's License
- PW042 - Ford F450 Flatbed (4x4) – Sander and Plow – good on hilly areas and small horizontal curves – does not require a Commercial Driver's License
- PW023 – Ford F350 – Small plow and De Icier

Command Center Overview

Each event will have a designated Incident Commander. This person will be in charge of all activities performed for the operations of snow and ice control. Direct access to the Incident Commander should include the Mayor, City Administrator, Council members, Public Works Staff, and designated school, fire, and essential service providers. The public should not have direct contact with the Incident Commander.

The Incident Commander will operate from the designated Command Center which will be establish as a location appropriate for the level of the event, estimated duration, and facility's needs. At the Command Center a map of the approved snow route map will be available. Staffing of the Command Center will be determined by the level of the event and as needs dictate. The Command Center should have access to a landline phone, computer linked to the City's network, and access to weather reporting.

The following are some key operations expectations:

1. A snow and ice report phone hotline and e-mail will be operational between November and March of each year
2. The Snow and Ice plan will be posted on the City's web site
3. A news release will be provided to the public informing them of the Snow and Ice plan
4. Time frames for snow and ice control application for designated routes should not be given out. This is due to the unpredictability of conditions and possible variations for emergency service calls.

Field Operations Overview

In October the snow and ice equipment will be made ready for the coming winter snow and ice event season. This includes performing inspections, servicing, readying plows and sanders for mounting, and stockpiling of sand.

At the beginning of an event, a determination will be made by the Incident Commander on the scheduling of shifts for operations. No shift will be longer than 12 hours.

A determination by the Incident Commander or Public Works will be made during an event when a "hot mix" will be use.

During an event, three snow and ice vehicles will be deployed (one for each zone); one additional vehicle using a “hot mix” may be deployed to specific locations as determined by the Public Works department or as directed by the Incident Commander; and one vehicle will remain at the City Shop in a state of readiness.

Each snow and ice vehicle will be brought in at least once during a designated work shift for inspection, servicing, and made ready for operations. The vehicle remaining in the state of readiness will be deployed to its place.

A resting area will be made ready for staff during prolonged events.

Policy Statement

In developing the policies for how to best undertake winter maintenance activities, the City balances a number of factors including:

- Public health, safety, and welfare
- Ability to deliver emergency services
- Desire to maintain an efficient transportation system
- Resource available that includes: staffing, equipment, and funds
- Safety of City staff

The objectives of the City are to:

- Ensure the public safety
- Provide cost effective snow and ice control services
- Minimize the economic loss to the community
- Reduce the hazards of winter conditions to motorists
- Facilitate the operation of emergency service vehicles and transit

- Policy 1 - All snow events will have a single designated Incident Commander that will direct the snow event operations. This position will be responsible for gathering information, directing snow and ice control operations, and implementing policy.
- Policy 2 - The Incident Commander shall be designated by the highest ranking on duty police department employee.
- Policy 3 - Field staff will perform the services for snow and ice removal in accordance with the identified routes in the order of priority with the Snow and Ice Plan route map unless directed otherwise by Incident Commander.
- Policy 4 - First Priority designated streets, as defined on the Snow and Ice plan map, will be made passable (considered to be acceptable for winter driving conditions for vehicles) before lower priority roads are cleared.

- Policy 5 - Road closure(s) will be performed as determined necessary for public safety as determined by the Police or Public Works department.
 - Policy 6 - Emergency service needs as determined by the Incident Commander will be treated as First Priority.
 - Policy 7 - Second Priority designated streets will be performed after the Incident Commander determines that the First Priority roads are considered to be acceptable for winter driving conditions for vehicles.
 - Policy 8 - Low Priority designated streets will be performed after the Incident Commander determines that the First and Second Priority streets are considered to be acceptable for winter driving conditions for vehicles.
 - Policy 9 - Non-designated streets will not receive snow and ice service except for emergency access as determined by the Incident Commander.
 - Policy 10 - When traveling on and between snow route designated streets the plow blade will be left in the down position when traveling forward regardless of the street designation or jurisdiction unless it is determined detrimental to the operator of the snow plow operations.
 - Policy 11 - Plowing will be performed at a single blade width for each direction on a designated snow route street.
 - Policy 12 - Snow placement from plowing operations will remain to the outside of the roadway (right side of travel) and may result in blocking private driveways.
 - Policy 13 - Snow removal from private property and private driveway accesses is not performed by the City unless determined to be an emergency by the Incident Commander.
 - Policy 14 - Sand placement is performed as determined by the field equipment operator or Incident Commander.
 - Policy 15 - The field equipment operator will not stop to assist a “stuck” vehicle unless the field equipment operator, on site Police Officer, or Incident Commander determines that the situation is a life safety issue.
 - Policy 16 - In the event that the public refuses to allow plowing of a designated snow route, the Police will be requested to clear the public from the route.
 - Policy 17 - County snow services will be utilized on pre-agreed upon routes or as determined by the Incident Commander.
 - Policy 18 - When snow or ice services are determined necessary by a Public Works Lead, Superintendent, Public Works Director, Public Works Standby staff, City Administrator, or a Police Officer, such as during an isolated snow or icing condition, Public Works will respond to the service and notify the Police at the time of the initial response.
 - Policy 19 - Sand is the preferred ice traction treatment but hot mix or anti/deicing usage shall be considered for potential high injury risk locations where sand alone is determined not to be effective in providing sufficient traction as determined by the Incident Commander or Public Works.
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Policy 20 - Incident Commander will alert the Fire District, School District, and Community Transit of any road closures.

Revision Notes

19 January 2011

1. Policy 2 was changed removing Public Works from the position of designating the Incident Commander. In place this role was moved strictly to the most senior Police Officer.
 2. Incident Report form attached to the Plan
 3. SR 92 added as First Priority route on Designated Snow Route Map.
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1 November 2011

1. Policy 18 was added addressing how isolated events are to be addressed.
 2. Section of Machias Road and the east end of SR 92 added as First Priority route on Designated Snow Route Map.
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23 January 2012

1. Policy 5 was changed to remove closed roads being considered as a First Priority. The closure of a roadway is performed for safety and does not change a road's priority.
 2. Policy 7 and 8 had the addition of "the Incident Commander determines".. Clarifies who is responsible to make the determination that a road is considered acceptable.
 3. Policy 9 was rewritten to clarify when non-designated streets may be considered for snow and ice service.
 4. Policy 13 added the follow to the end of the Policy: "unless determined by the Incident Commander". There are certain situation, such as a medical access issue where this service might be considered.
 5. Policy 14 was removed as it was redundant to Policy 9 as rewritten.
 6. Route map was modified. This included the removal of roads with estimated 2% vertical grades that are not on main arterial, roads that are considered too steep to perform services on, and addition of roads that make for more efficient service operations.
 7. Note was added to beginning of plan to Call 911 for Emergency Service Request.
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14 November 2012

1. Hot Mix – section has been added explaining what is hot mix and its usage intent.
 2. Equipment – Ford F450 added to list
 3. Field Operations Overview – added in a statement when a "hot mix" will be use
 4. Field Operations Overview – an additional vehicle has been added to an event for the use of hot mix
 5. Policy 19 was added addressing when hot mix is to be used.
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17 December 2013

1. Anti and Deicing – section has been added explaining what is anti/deicing and its intended usage.
 2. Anti and De Icing Map has been added.
 3. Policy 19 was modified to include Anti/Deicing.
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16 October 2014

1. Anti and Deicing section had application temperature and application log text added.
 2. Anti and Deicing log form has been added.
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5 November 2014

1. Snow & Ice Control Route Plan map has been updated. Vernon Road (SR 9 to Lundeen) and 127th Ave NE (16th to 20th) have been change to High Priority.
 2. Policy 20 has been added to identify public agencies directly impacted by a road closure.
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19 October 2015

1. Command Center Overview – has the following changes
 - a. Direct access to the Incident Command “City Staff” has been changed to “Public Works Staff”.
 2. Under key operations expectations: the following has been deleted “If the event occurs outside of normal City Hall hours of operations, calls for sand and ice control will come through the Police Department.”
 3. Policy 21 has been added to identify how a City identified detour route will be treated during an event.
 4. Snow & Ice Control Route Plan has been updated to include the 20th St SE/Cavelero signal operational change during an event.
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19 November 2015

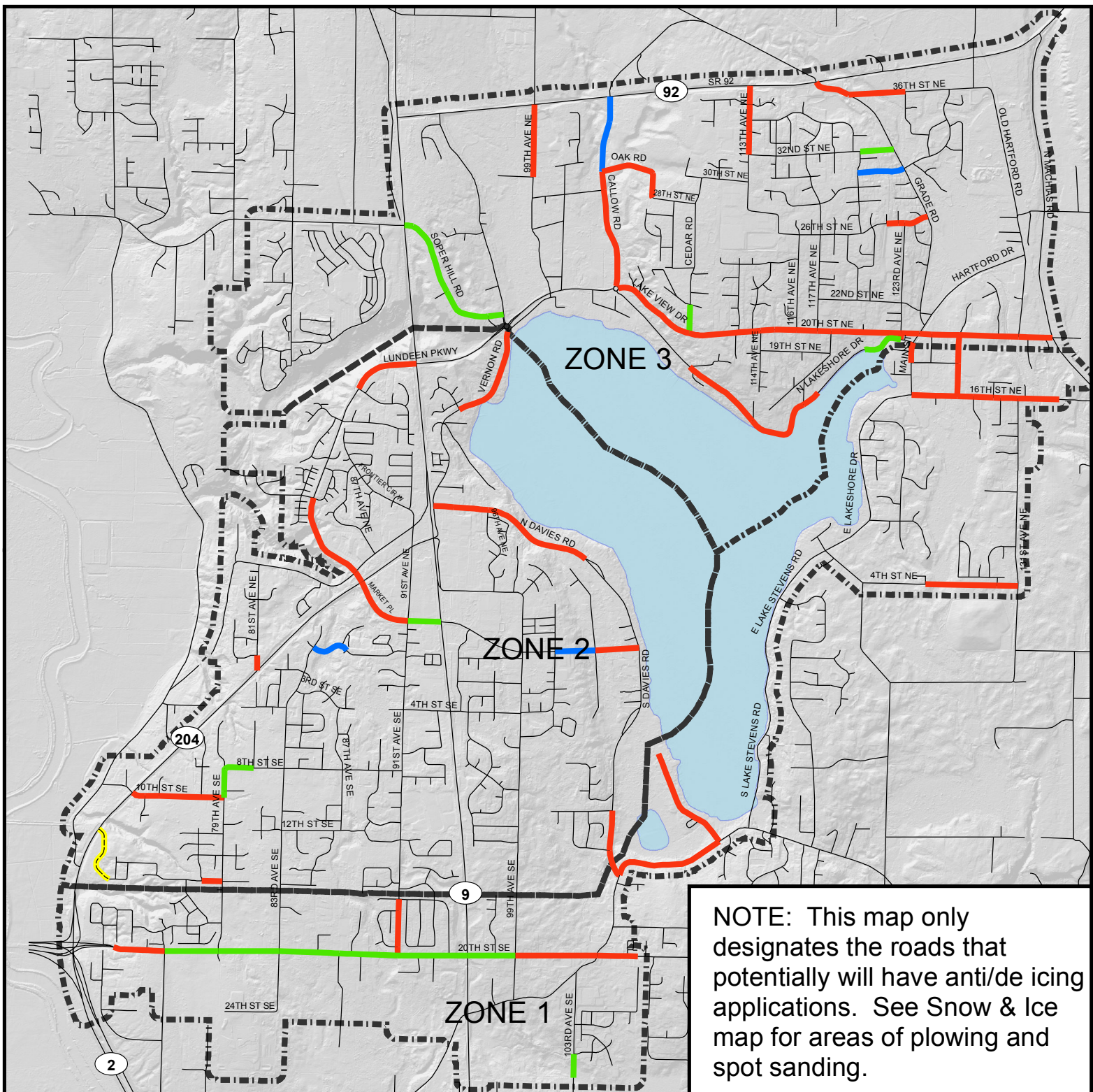
1. Designated Snow Route Map has been updated to identify the temporary detour route with priority for the temporary Grade Road closure.
 2. Community Transit Grade Road detour route map added page 11.
 3. Community Transit Snow Route map added page 12.
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1 November 2016

1. Policy 21, designating a temporary detour route for Grade Road closure has been removed.
 2. Designated Snow Route Map has been updated to remove the temporary Grade Road closure detour route.
 4. Community Transit Snow Route Map has been updated to remove Grade Road closure detour route..
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15 November 2016

1. Snow and Ice Equipment List Updated to reflect the current equipment in service.
 2. The designated Snow & Ice Control Plan map has been updated to reflect change in Low priority route from 118th Ave NE to 119th Dr NE.
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Snow Phone: 425-212-3317

Email: road-sanding@lakestevenswa.gov

Call 911 for an Emergency and Medical Service



REVISED: 15 NOV 2016

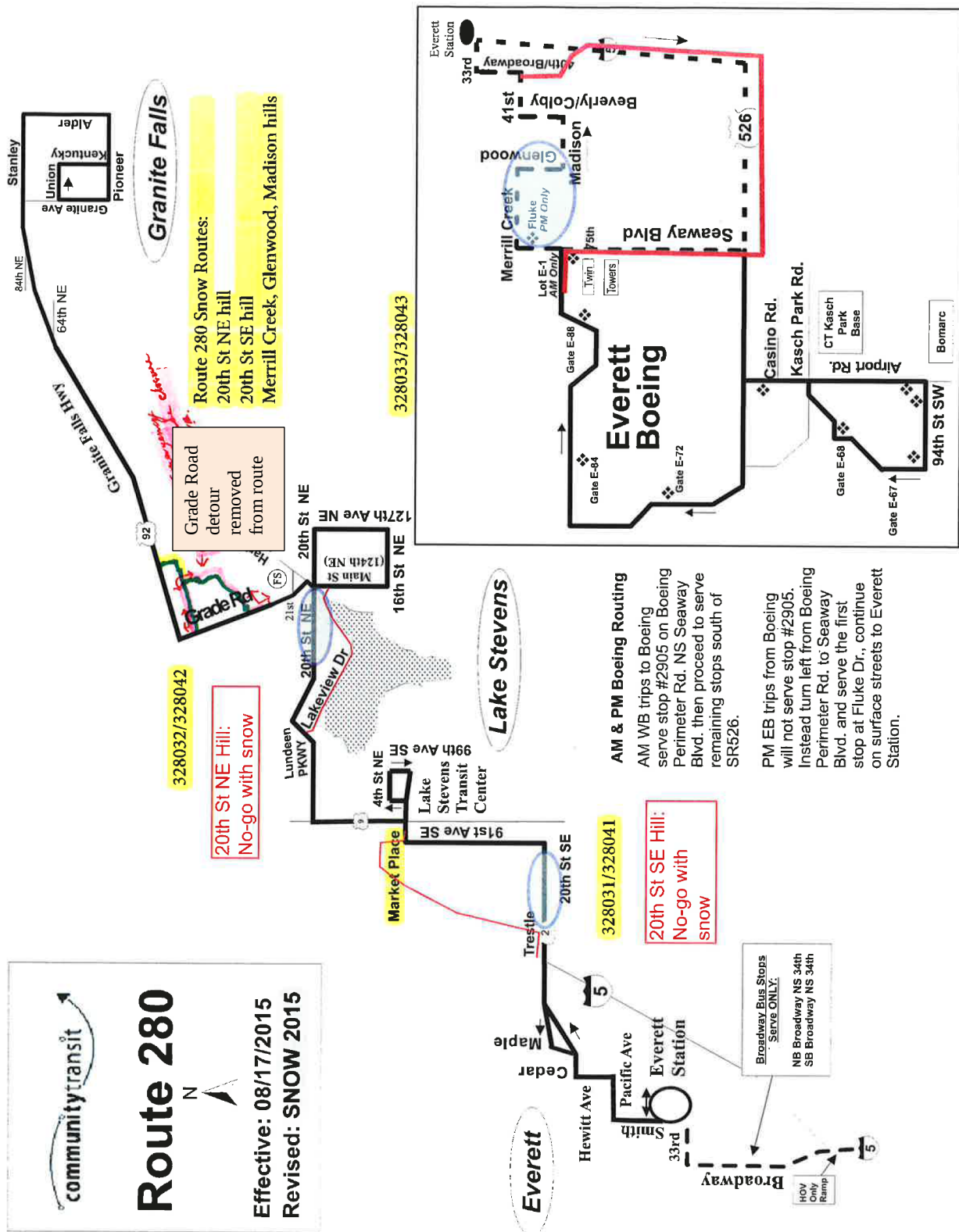
ANTI & DE ICING ROUTE PLAN 2016/17



Legend / Approximate Road Miles

- HIGH (FIRST PRIORITY)/11.1 ROAD MILES
- MEDIUM (SECOND PRIORITY)/ 3.2 ROAD MILES
- LOW/ 0.9 ROAD MILES
- ROAD CLOSED
- Snow and Sweep Zone

Community Transit Snow Route Map November 2016



LAKE STEVEN – POLICE DEPARTMENT
Snow and Ice Event – Incident Report

UNIT LOG		1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
4. UNIT NAME/DESIGNATORS		5. UNIT LEADER (NAME AND POSITION)		6. OPERATIONAL PERIOD
7. PERSONNEL ROSTER ASSIGNED				
NAME		ICS POSITION		HOME BASE
8. ACTIVITY LOG				
TIME	MAJOR EVENTS			
9. PREPARED BY (NAME AND POSITION)				

**Lake Stevens
Pre-Treatment Anti/Deicing Application Log**

Date	Time	Avg Temp	Zone	Road Priority (H/M/L)	Initial	Comment