

City of Gresham Transportation Division Winter Operations Management Plan

The City's NPDES Stormwater Permit issued by Oregon DEQ requires the City to ensure that all winter materials utilized on roads for anti-icing and de-icing purposes (e.g., abrasives, sand, deicers including but not limited to liquid magnesium chloride or other granular products, etc.) are utilized and stored properly, according to most updated accepted practices.

The City's goal is to provide a targeted, timely and effective approach to winter operations to serve its residents and businesses and to maximize public safety. We are pro-active in our approach, use products that are very effective at improving driving conditions to aid emergency response and reduce the likelihood of vehicle accidents, as well as controlling environmental impacts from the use of winter safety products and materials. Treatment and techniques to control snow and ice are chosen by educated and trained staff based on the conditions of the weather event.

A) Materials Utilization: The City's inclement weather response route consists of three categories:

- **Anti-icing:** In a light ice event anti-icing is only applied to hills, curves, and bridges. In a medium ice event anti-icing is applied to hills, curves, bridges, and signalized intersections. In a full ice event anti-icing is applied to our full priority 1 and 2 streets if weather conditions are conducive prior to the storm.
- **De-icing:** De-icer may also be applied in conjunction with sand under some conditions. Prior to application staff evaluates the eutectic temperature, effective temperature and amount of material required to ensure effectiveness, safety, and the environment.
- **Sand:** Sand may be applied in conjunction with deicer under some conditions and when weather conditions are not conducive for de-icing materials. In a light, medium or heavy ice event sand is applied to Priority 1 and 2 streets on a as needed bases to hills, curves, bridges, and intersections and may be utilized in isolated areas when impacting traffic movement. We typically keep sand application to minimum as we recognize
- **Plowing:** Initiate plowing upon accumulation and repeat operations if accumulation continues. Plow in a manner to limit berms through intersections and reduce impacts to pedestrian crossings when possible. Plow and store snow away from surface waters.
- **Storage:** Include SOP info on storage, inspections/maintenance, and spill response.
- **Liquid melting products:** The City of Gresham has SOPs in place for routine inspections of storage and distribution tanks and equipment, maintenance of tanks and equipment and filling procedures

A) Winter Maintenance Strategy:

Level of service: The City's inclement weather response route consists of three categories:

Priority 1 - hospital and emergency routes, arterial streets, and bridges;

Priority 2 - through and collector streets, and steep grades;

Priority 3 - residential streets, cul-de-sacs, and dead ends. If inclement weather persists, crews may be required to stay on Priority 1 and Priority 2 streets until the weather improves.

- Map of the priority areas can be found on the City's website at <https://greshamoregon.gov/severe-weather/>

B) Decision Making, Tools, and Safety

- Use of forecasts to determine materials needed and timing of application
- Check of pavement temperatures and weather conditions prior to anti-icing/de-icing
- Periodic review of procedures for applicable staff and overall training for new staff on product use, environmental safety, spill response, driver safety and public safety
- Safety briefings with staff and pre-trip/post-trip walkarounds on equipment
- Equipment pre-storm calibration and review of equipment performance with data tracking
- Immediate equipment repairs, as needed
- Inclusion of spill kits in every vehicle
- Plow and store snow away from surface waters
- Staff training (hands on, magnesium chloride product training, safety videos, plowing/sanding techniques)
- Plow snow and ice prior to using any chemical control; this aids in using less chemical
- Begin sand cleanup as soon as the weather event allows
- Dispose of sand at a DEQ approved facility
- Deploy best practices for control of stormwater pollutants at all materials disposal locations
- Oversight of contractors and their practices, as applicable

C) Tracking and reporting:

- The City of Gresham uses GPS tracking on winter equipment to document location, date, and quantity of sand and/or chemical distributed on city streets for each winter event.
- Equipment is calibrated each year and tested prior to events to evenly distribute products.
- Data is provided to Water Science and Policy staff for annual reporting to DEQ to comply with the City's NPDES stormwater permit