

7.0 PUBLIC STREETS OPERATION AND MAINTENANCE

7.1 OVERVIEW

This section describes how the practices typically performed by a Street or Highway department are managed and documented. The activities may include snow plowing, salt application, repairs of roadside vegetation, street sweeping, chemical storage and other roadway or building maintenance practices conducted at these facilities.



Provided by the Muncie Sanitary District.

7.2 SITE ASSESSMENT

7.2.1 Pavements/Street Sweeping

Regulation: 327 IAC 15-13-17 (b) (1) (C)	Written documentation of maintenance activities, maintenance schedules, and long term inspection procedures for BMPs to reduce floatables and other pollutants discharged from the separate storm sewers. Maintenance activities shall include, as appropriate, the following: (C) Periodic pavement sweeping as defined in the MS4 area SWQMP.
Implementation BMPs	<ul style="list-style-type: none"> • Create and maintain written documentation/procedures describing the activity. This could be SOPs, SWPPPs, P2&GHMs, or other applicable format. • Include a frequency or schedule for street sweeping in the procedure. • Perform routine maintenance on street sweeping vehicles to prevent spills and leaks. • Implement employee training on street sweeping operations (refer to Section 2.0 for more information on training requirements).
Programmatic Indicator	Estimated or actual amount of material by weight collected from street sweeping.
Possible Measurable Goals	<ul style="list-style-type: none"> • Decrease pollutants to the storm sewer system by sweeping streets and municipally-owned paved areas. • Sweep all streets several times per year (MS4 to decide frequency of sweeping). • Track the amount of streets swept.
Disposal	Describe in the procedure the disposal process and temporary storage method for street sweeping material. Materials must be: <ul style="list-style-type: none"> • Stored for less than six months at the municipality before disposal at a permitted landfill unless the MS4 can prove long-term storage is not intended. • Stored in 1) a covered container; or 2) on an impervious surface, covered and the runoff/run-on contained. • Stored in an area where the material will not wash into a waterway or wetland. • Refer to Section 9.2.2 for disposal measures.
Documentation	Record the amounts of debris collected on tracking logs, work orders or other means; or if the material is segregated from other debris, maintain disposal invoices with tonnage.

Advanced BMPs (optional)	<ul style="list-style-type: none"> • Designate a wash out area for the street sweeping vehicle where wash water is discharged to a sanitary sewer. • Implement a screening and reuse program for street sweeping materials. • Schedule street sweeping activities during spring snowmelt to reduce deicing pollutants to the storm sewer. • Prioritize sweeping for areas based on high-traffic areas, curb/no curb areas, observations, complaints, and proximity to waterways. • Store sweeping materials in a drying bed at the wastewater plant before disposal so runoff/run-on flows to the sanitary sewer. • Store sweeping materials under roof to prevent contact with precipitation.
Additional Resources	USEPA Stormwater BMPs – Parking Lot and Street Cleaning

7.2.2 Roadside Shoulder and Ditch Stabilization

Regulation: 327 IAC 15-13-17 (b) (1) (D)	Written documentation of maintenance activities, maintenance schedules, and long term inspection procedures for BMPs to reduce floatables and other pollutants discharged from the separate storm sewers. Maintenance activities shall include, as appropriate, the following: (D) Roadside shoulder and ditch stabilization.
Implementation BMPs:	<ul style="list-style-type: none"> • Create and maintain written documentation/procedures for the activity. • Include a frequency or schedule for inspecting shoulders and ditches in the procedure. This could be SOPs, SWPPPs, P2&GHMs, or other applicable format. • Implement employee training on stabilization operations (refer to Section 2.0 for more information on training requirements). • Refer to Section 9.2.2 for disposal measures.
Programmatic Indicator:	Estimate or actual linear feet or percentage and location of roadside shoulders and ditches stabilized.
Possible Measurable Goals	<ul style="list-style-type: none"> • Decrease erosion and sedimentation potential through the stabilization of ditches and shoulders that have been damaged or eroded. • Increase the linear feet of stabilized roadside shoulders or ditches. • Increase the total area vegetated.
Documentation	Record the location and linear feet of ditch or shoulder stabilized or repaired with tracking logs, work orders or other means.
Advanced BMPs (optional):	<ul style="list-style-type: none"> • Minimize areas of exposed soil on side slopes and ditches. • Remove ridges of road material or vegetation from the road shoulder so not to block runoff. • Install stone aprons at culvert outlets where erosion is occurring.
Additional Resources:	Maine Department of Environmental Protection – Maine Erosion and Sediment Control BMPs Road Construction and Stabilization

7.2.3 Planting and Proper Care of Roadside Vegetation

Regulation: 327 IAC 15-13-17 (b) (1) (E)	Written documentation of maintenance activities, maintenance schedules, and long term inspection procedures for BMPs to reduce floatables and other pollutants discharged from the separate storm sewers. Maintenance activities shall include, as appropriate, the following: (E) Planting and proper care of roadside vegetation.
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Implementation BMPs	<ul style="list-style-type: none"> • Create and maintain written documentation/procedures for the activity. This could be SOPs, SWPPPs, P2&GHMs, or other applicable format. • Include a frequency or schedule for inspecting roadside vegetation in the procedure. • Implement employee training on roadside vegetation (refer to Section 2.0 for more information on training requirements). • Refer to Section 9.2.2 for disposal measures.
Programmatic Indicator	Estimated or actual linear feet or percentage and location of vegetated swales and ditches that have an appropriately sized vegetated filter strip.
Possible Measurable Goals	<ul style="list-style-type: none"> • Decrease pollutants to waterways by providing a vegetative buffer along roadways. • Track the amount square feet of areas seeded, mulched, or netting used.
Documentation	Document the locations and linear feet of unvegetated swales or ditches with an appropriately sized vegetative strip with tracking logs, work orders or other means.
Advanced BMPs (optional)	<ul style="list-style-type: none"> • Plant native grasses and wildflowers that require less maintenance (mowing and chemical applications). • Plant salt tolerant species. • Plant native trees in a manner that will not interfere with storm sewer systems and drainage. Track or measure the number of trees planted or canopy created. Implementation tools may include i-Tree, National Tree Benefit Calculator, or Urban Tree Canopy.

7.2.4 Salt and Sand Storage

Regulation: 327 IAC 15-13-17 (b) (2) (A)	<p>Controls for reducing or eliminating the discharge of pollutants from operational areas, including roads, parking lots, maintenance and storage yards, and waste transfer stations. Appropriate controls shall include the following:</p> <p>(A) Covering or otherwise reducing the potential for polluted stormwater run-off from deicing salt or sand storage piles.</p>
Implementation BMPs	<ul style="list-style-type: none"> • Create and maintain written documentation/procedures for the activity. This could be SOPs, SWPPPs, P2&GHMs, or other applicable format. • Cover or reduce the potential for stormwater contacting deicing salt or sand storage piles (i.e. enclosed building, storage shed or tarp). • Provide containment of any accidental losses of concentrated solutions, salts and other polluting materials (i.e. sweep back or collect salt that has escaped the covered area). • Implement employee training on salt storage operations (refer to Section 2.0 for more information on training requirements).
Programmatic Indicator	<ul style="list-style-type: none"> • Number and location of deicing salt and sand storage areas covered or otherwise improved to minimize stormwater exposure. • Estimated or actual amount (tons) of salt and sand used for snow and ice control.
Possible Measurable Goals	<ul style="list-style-type: none"> • Investigate alternate road deicing measures. Alternatives to road salt may include: calcium magnesium acetate (CMA), calcium chloride, urea, sand, natural brines, potassium chloride, magnesium chloride (Freeze Guard), sodium formate and regular salt such as Quik Salt, and CG-90 (sodium chloride). • Calibrate salt spreaders routinely.
Documentation	<ul style="list-style-type: none"> • Document the deicing chemical storage locations in procedures or other documents. • Document the amount of deicing chemicals (salt, sand, brine, etc.) used or purchased with tracking logs, work orders, invoices or other means.

<p>Advanced BMPs (optional)</p>	<ul style="list-style-type: none"> • Implement alternate deicing chemicals, such as, beet juice, brine or other materials. • Annually calibrate the salt spreaders. • Use brine to accelerate the melting of ice. • Provide an area with secondary containment and impervious surface for storage of chemical deicing containers. • Segregate stormwater runoff from salt piles to use as a base for salt brine. • Inform salt applicators of sensitive areas, such as public water supplies, lakes, and ponds. Consider de-icing alternatives in sensitive areas. • Store salt on an impermeable pad, not on the ground. Asphalt is the most widely used material for pads, since salt has little effect on it. However, concrete is sometimes used. Concrete must be high quality, air-entrained and treated with linseed oil or asphalt-type coatings to reduce chloride penetration, and prevent scaling or spalling (i.e. flaking). • Do not store salt in sensitive areas (i.e. zone of influence of water supply wells, significant recharge areas, lakes and wetlands) or within the 100-year floodplain to reduce water contamination
<p>Additional Resources:</p>	<ul style="list-style-type: none"> • Indiana Local Technical Assistance Program (LTAP) – Snow and ice control training, publications and salt application calibration • University of New Hampshire Technology Transfer Center – Salt Reduction BMPs • New Hampshire Department of Environmental Services – Road Salt Reduction • Tahoe Regional Planning Agency BMP Handbook – Snow Storage • USEPA Stormwater BMPs – Road Salt Application and Storage

7.2.5 Snow Disposal Area

<p>Regulation: 327 IAC 15-13-17 (b) (2) (B)</p>	<p>Controls for reducing or eliminating the discharge of pollutants from operational areas, including roads, parking lots, maintenance and storage yards, and waste transfer stations. Appropriate controls shall include the following:</p> <p>(B) Establishing designated snow disposal areas that have minimal potential for pollutant run-off impact on MS4 area receiving waters.</p>
<p>Implementation BMPs</p>	<ul style="list-style-type: none"> • Create and maintain written documentation/procedures for area. This could be SOPs, SWPPPs, P2&GHMs, or other applicable format. • Designate a snow disposal area for excessive snow falls. The snow disposal location should not be placed directly in or immediately adjacent to surface waters (including wetlands), nor in the vicinity of a wellhead protection area. • Implement employee training on snow disposal operations (refer to Section 2.0 for more information on training requirements).
<p>Programmatic Indicator</p>	<ul style="list-style-type: none"> • Ensure that snow is only deposited in the designated location and not placed on an impervious surface. • Train and/or inform personnel annually of the location for snow disposal.
<p>Possible Measurable Goals</p>	<p>Reduce the potential for road salt entering stormwater through the use of grass covered snow disposal areas located away from the receiving waters.</p>
<p>Documentation</p>	<p>Document the snow disposal locations in procedures or other documents.</p>

<p>Advanced BMPs (optional)</p>	<ul style="list-style-type: none"> • Direct snow piles to detention basins so that the soil and other debris attached to the snow can settle out before the water is discharged to surface waters. • After the snow melts, collect litter to prevent it from entering the stormwater system. • When storing snow in landscaped areas, plant with native and adapted species tolerant of snow storage (perennials that die back annually and shrubs/trees that can bend with weight, but not break). • Employ concave landscaped areas rather than mounded landscapes for snow storage. • Locate snow storage areas to maximize solar exposure and away from primary roadways to the greatest extent feasible
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