

Amesbury DPW Facility Stormwater Pollution Prevention Plan

City of Amesbury, MA

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1 INTRODUCTION

1.1 MS4 Program

This Stormwater Pollution Prevention Plan (SWPPP) has been developed by the City of Amesbury to address the requirements of the United States Environmental Protection Agency's (USEPA's) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the 2016 Massachusetts MS4 Permit.

The 2016 Massachusetts MS4 Permit requires that each permittee, or regulated community, address six Minimum Control Measures. These measures include the following:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination Program
4. Construction Site Stormwater Runoff Control
5. Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management); and
6. Good Housekeeping and Pollution Prevention for Permittee Owned Operations.

Under Measure 6, Good Housekeeping and Pollution Prevention for Permittee Owned Operations, the permittee is required, per Section 2.3.7.b of the 2016 Massachusetts MS4 Permit (page 50-54), to:

...develop and fully implement a SWPPP for each of the following permittee-owned or operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater as determined by the permittee.

The SWPPP shall contain the following elements:

1. *Pollution Prevention Team*
2. *Description of the facility and identification of potential pollutant sources.*
3. *Identification of stormwater controls*
4. *Management practices including: minimize or prevent exposure, good housekeeping, preventative maintenance, spill prevention and response, erosion and sediment control, management of runoff, management of salt storage piles or piles containing salt, employee training, and maintenance of control measures.*
5. *Site inspections*

1.2 Stormwater Pollution Prevention Plan

This SWPPP accomplishes these requirements by:

- Providing an inventory of the materials and equipment at a facility that have the potential to cause stormwater pollution, and identifying locations where these materials are stored;

- Describing how stormwater is managed at a facility, including: engineered storm drain system conveyance; on-site pretreatment, treatment and infiltration systems; and discharges to surface water directly from the site;
- Reviewing activities that occur at the facility that represent a potential for stormwater pollution;
- Describing the Best Management Practices (BMPs) that will be implemented at the facility to reduce, eliminate and prevent the discharge of pollutants to stormwater;
- Identifying the employees responsible for developing, implementing, maintaining, and revising, as necessary, this SWPPP;
- Establishing a schedule and description of site inspections to be conducted at the facility to determine if the SWPPP is effective in preventing the discharge of pollutants;
- Serving as a tool for the facility employees, including a place to maintain recordkeeping associated with these requirements.

2 DETAILED FACILITY ASSESSMENT

2.1 Facility Summary

The DPW Facility is located at 39 South Hunt Road and is owned and operated by the City of Amesbury. The property was first purchased by the City in 2012 and included an existing 14,400 square foot industrial building that was subsequently converted for the administrative functions of the DPW. A new 12,000 square foot vehicle storage and maintenance facility as well as a sand/salt storage shed, bin storage for materials, and yard area were then constructed in 2014.

In addition, the City acquired a 3.25-acre parcel of land from Waste Management located further down the road from the DPW Facility at 56 South Hunt Road. This site is used as a snow dump during the winter months and is open to the public by permit for composting between April and December.

The Locus Map in Figure 2-1 shows the location of the two facilities within the corporate boundary of Amesbury. The Department of Public Works is primarily responsible for activities at, and maintenance of, both the DPW Facility and the Compost and Brush Facility.

2.2 Site Inspection

The site inspection associated with the development of this SWPPP was completed on October 28, 2020. The inspection was conducted by a representative from MPH Environmental, Inc together with a member of the Pollution Prevention Team, Mr. Peter Manor.

During the site inspection, information related to activities at the site, vehicles stored at the site, fueling operations, material storage, transport of oil and other materials, and spill history was gathered. A copy of the completed inspection form as well as blank forms for future site inspections is included in Appendix A to this document.

2.3 Pollution Prevention Team

A Pollution Prevention Team for the Amesbury DPW Facility has been prepared and designated the task of developing, implementing, maintaining, and revising, as necessary, the SWPPP for this facility. Listed below are Pollution Prevention Team members and their respective responsibilities.

Responsibilities assigned to one or more members of the Pollution Prevention Team include:

- Implementing, administering and revising the SWPPP
- Regularly inspecting stormwater control structures
- Conducting stormwater training
- Recordkeeping



Figure 2-1. Locus Plan

Leader: Rob Desmarais
Title: DPW Director

Office Phone: 978-388-8116
Cell Phone: 978-265-8707

Responsibilities: Considers all stages of plan development, inspections, and implementation; coordinates employee training programs; maintains all records and ensures that reports are submitted; oversees sampling program. Responsible for certifying the completeness and accuracy of the SWPPP.

Member: Peter Manor
Title: Director of Watershed & Infrastructure

Office Phone: 978-388-8116
Cell Phone: 978-204-0878

Responsibilities: Implements the preventative maintenance program; oversees good housekeeping activities; serves as spill response coordinator; conducts inspections; assists with employee training programs; conducts sampling/visual monitoring.

Member: Mary Mainville
Title: Administrative Assistant

Office Phone: 978-388-8116
Cell Phone: N/A

Responsibilities: Assists in all components of the stormwater program, as needed. Maintains spill kits at the Amesbury DPW Facility.

2.4 Facility Description

The primary purpose of the DPW Facility is to provide a base of operations for the City's Department of Works which is responsible for the administration, planning, maintenance, construction management and technical engineering of the City's infrastructure, including buildings, roads, traffic and drainage systems, trees, parks and cemeteries, sanitary sewers, water production and distribution, snow and ice management and solid waste and recycling collection. Activities at the site are described in Section 2.7

The facility covers approximately 6.3 acres, and contains the structures and other features shown on the Site Map in Figure 2-2 and described in detail in the following sections. Components shown on the site map include:

- Administration Building
- Maintenance & Vehicle Storage Building Addition, including interior wash bay and fluids storage areas
- Sand/Salt Storage Shed
- Emergency Generator
- Materials storage bins
- Location of the engineered drainage system, including catch basins, drain manholes, infiltration basins, underground recharge system and retention pond
- Outfall to adjacent, unnamed wetland area
- Structural stormwater pollution control measures

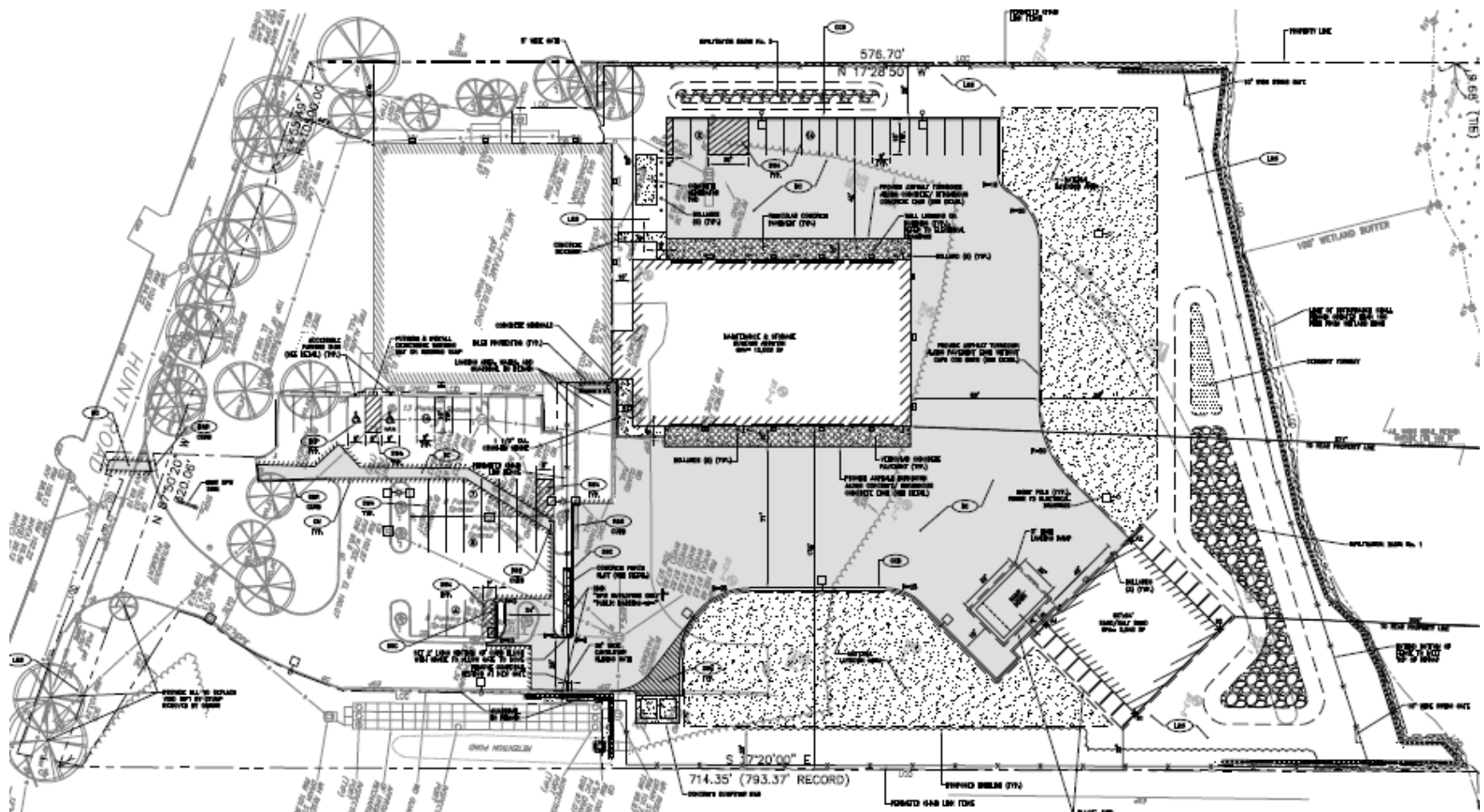


Figure 2-2. Site Plan

- Equipment Storage areas
- Waste disposal area.

2.5 Facility Structures

Administration Building

As previously mentioned, the City of Amesbury converted a 14,400-square foot light industrial building for the administrative functions of the DPW. The building itself is divided into two different areas as follows:

Office Space. When the City purchased the building in 2012, the DPW staff only required a small portion of the office space available at the south end of the building. This was due to the limited number of staff assigned to the location, including the DPW Director, City Engineer, DPW Operations Manager, and full-and/or part-time administrative assistants and engineering interns. However, the City is currently constructing additional offices to relocate staff from the Inspectional Services Department and the Office of Community and Economic Development. Once completed, the administrative area of the building will be fully built-out following the addition of nine new offices and a meeting room/conference room that will double as the Emergency Operations Center for the City.

The new office layout encompasses approximately two-thirds of the square footage in the original DPW Facility building. Within this area, there are storage areas for City files, plans and archives and signs; an electrical room; a lunch room for DPW field staff; men's and women's bathrooms; and a kitchen/break room.

Garage and Equipment Storage. At the north end of the Administration Building, there is a garage and equipment storage area that is utilized for carpentry, electrical, and minor maintenance activities. Small equipment, signage, and tools as well as spray paint and similar products are stored in this area. The garage and equipment storage area contains no floor drains and is fully enclosed. In addition, all items are properly stored to eliminate the potential for spills or other accidents.

Maintenance & Vehicle Storage Building Addition

The Maintenance & Storage Building addition at the DPW Facility is used to provide City personnel with heated, covered areas in which to complete minor maintenance, oil changes and preparation of vehicles, equipment and tools for use at locations around the City. The building is physically connected to the original DPW Administration Building by a link constructed along the north side of the DPW Building. The addition consists of five bays that are divided into three distinct areas as follows:

Maintenance Area. A 1-1/2 bay vehicle maintenance area is located beyond the link structure connecting the two buildings. This area includes one full bay where vehicles can enter either the front or rear of the building. The bay is equipped with a four-post surface mounted lift and a shallow pit lift for larger vehicles. The half bay is located on the front side (east) of the addition and is equipped with a two-post surface mounted lift. Trench drains are provided in the floor at each garage door which discharge to an oil/water separator prior to entering the sanitary sewer service.

The vehicle maintenance area is equipped with a rack mounted hose reel system for fluids, including anti-freeze, engine and hydraulic oils, engine coolant, and windshield washer fluid. The rack system is supplied by pumping from bulk storage containers located in the fluids storage room in the southwest corner of the full bay area. Both the rack system and the fluids storage room are provided with spill containment. The fluids storage room also contains a waste oil unit for on-site storage and subsequent removal and disposal by others.

The maintenance area is also equipped with a small workshop, men's and women's bathrooms, and an office for the mechanic along the south side of the full bay area. In addition, there is a mezzanine level along the south end of the addition which is used for additional bin, cabinet and rack storage as well as equipment such as a compressor and air dryer.

Wash Bay Area. A vehicle wash bay area is located west of the half bay to the maintenance area. The wash bay area is fully-enclosed with a trench drain that runs down the middle of the bay that discharges to the same oil/water separator as the maintenance area. A high-pressure, hot water washer system is provided in this area for vehicle washing.

Vehicle Storage Area. A three-bay vehicle storage area is located at the north end of the building addition. This area is equipped with ceiling mounted radiant heaters and trench drains in the floor at each garage door entrance/exit. These trench drains all discharge to the aforementioned oil/water separator.

Storage of Deicing Materials

As previously noted, a new sand/salt storage shed was constructed as part of the building addition completed in 2014. The sand/salt storage shed is located in the northeast corner of the site, and consists of a concrete block foundation with a high-arched membrane fabric roof. The City's supply of road salt, sand, and sand/salt mix are fully contained within this structure. The good housekeeping measure used to minimize the exposure resulting for adding to or removing stored materials include sweeping the loading/unloading area regularly or when salt has accumulated on the paved surface.

Liquid deicing materials are stored in two aboveground, double-walled, polyethylene tanks located along the east side of the salt/storage shed. The tanks supply deicing materials to a small pump system just inside the salt/storage shed. A small electrical panel with hose piping for filling vehicles is located outside the shed opposite the pump system.

Storage of Road Deicing Equipment

The City utilizes a variety of salt spreaders, sanders, and snow plows on its vehicles to adequately maintain roads. While not in use, these devices are stored along the west edge of pavement behind the Maintenance & Vehicle Storage Building. The salt spreaders and sanders are placed on jersey barriers so that can easily be cleaned, inspected, and maintained while the plows are placed directly on pavement in a neat and orderly fashion.

2.5.1 Additional Site Features

Emergency Generator

An 250 kilowatt (kW) emergency generator is located on a concrete pad outside the northwest corner of the Administration Building and provides backup power to the DPW Facility during electrical outages. The generator, manufactured by Kohler, is fully enclosed and is equipped with 110% containment of its 900-gallon diesel fuel belly tank. The generator is not located on a pervious surface.

Oil/Water Separator

An oil/water separator is located underground outside of the southeast corner of the building addition. This pretreatment structure has a cleanout manhole, and is pumped on an annual basis. The DPW is responsible for contracting this work, and maintains records on the pump-out activities. This oil/water separator provides treatment of discharges from the maintenance, wash bay, and vehicle storage areas of the building addition. All of the trench drains within areas of the building addition where oil materials are used and/or where vehicles are stored receive pretreatment via this oil/water separator.

Solid Waste Management

The DPW utilizes two dumpsters for the removal and disposal of solid waste material. The dumpsters are located on a concrete pad beyond the paved area east of the front side of the Maintenance & Vehicle Storage Building. These dumpsters are kept closed when not in use. No inappropriate materials were observed in or around the dumpsters during the facility inspection.

Materials Storage Bins

The DPW maintains several bins for storage of materials that are regularly used by field personnel, including gravel, recycled asphalt paving (RAP), sand, and stone. The materials storage bins are located beyond the paved area to the north of the Maintenance & Vehicle Storage Building. The bins are covered by a shed roof and the materials in each bin are fully contained.

Parking Areas

There are two designated parking areas at the DPW Facility, each of which is an impervious surface. The parking lot located in front of the Administration Building is used primarily for visitors to the DPW Facility and employees' personal vehicles. City owned trucks and/or heavy equipment are not kept in this parking lot. This parking lot contains parking for 33 vehicles, including two handicap accessible parking spaces.

Parking for an additional 16 vehicles was provided behind the Maintenance & Vehicle Storage Building along the west side of the paved area. However, due to the ample parking lot in front of the Administration Building, the DPW has used this parking area for storage of salt and sand spreaders and snow plow equipment.

Materials Laydown Areas

There are two materials laydown areas within the DPW Facility site. The first area is located in the northwest corner of the property adjacent to the materials storage bins. This area is used to store construction materials such as concrete blocks and catch basin and drain manhole structures; used tires; and traffic cones and barrels. In addition, there are two semi-trailer storage containers and a MDM Rhino type shelter for storage of paving equipment.

The second materials laydown area is located on the east side of the property adjacent to the dumpster area. Another semi-trailer storage container has been placed in this area to provide additional storage for miscellaneous DPW equipment.

2.6 Site Drainage

No stormwater from adjacent properties impacts the DPW Facility property. Site drainage from impervious surfaces is directed to either the original site drainage system or the new system constructed as part of the construction for the Maintenance & Vehicle Storage Building.

Original Site Drainage System

The original site drainage system consisted of several catch basins installed within the parking lot and entrance driveway for the Administration Building. These catch basins direct stormwater runoff to manholes located on either end of an underground recharge system and retention pond located along the east side of the property. The piping between the various catch basin and drain manhole structures is all 12-inch HDPE pipe.

The system above also receives a portion of the stormwater runoff from the roof of the Administration Building via 6-inch HDPE drain pipe. The remaining runoff from the roof was directed to a small retention pond located near the northwest corner of the building.

New Site Drainage System

As part of the building addition, the small retention pond noted above was filled in and replaced with Infiltration Basin No. 2 located along the west side of the property. This basin receives stormwater runoff from portions of each building roof and a yard drain located between the two buildings. The infiltration basin is equipped with a raised catch basin as well as a subdrain controlled by a valve. Both the catch basin and drain valve are connected to the new engineered drainage system for the site. In the event of saturated conditions, excess runoff can flow to the site drainage system either passively through the overflow catch basin or manually by opening the drain valve.

Site drainage from the remaining impervious surfaces, including the paved areas surrounding the three sides (east, west and north) of the Maintenance & Vehicle Storage Building and a portion of the roof are directed to Infiltration Basin No. 1 at the rear of the property. This basin includes a sediment forebay located at the west end that receives the discharge from the engineered site drainage system. The sediment forebay is followed by a large recharge area that includes an overflow spillway and subdrain controlled by a drain valve located at the east end of the basin. Similar to Infiltration Basin No. 1, excess runoff can discharge from Infiltration Basin No. 2 to the adjacent wetland area either passively or manually.

In addition to the two infiltration basins, there is an underground water quality unit (WQU) installed at the edge of pavement adjacent to Infiltration Basin No. 2. The WQU provides treatment (i.e., removal of total suspended solids) of any rinse water resulting from the wash down of vehicles performed prior to entering the wash bay area. Flow received by the WQU discharges to a nearby catch basin and Infiltration Basin No. 1 beyond.

The engineered site drainage system for the Maintenance & Vehicle Storage Building consists of a series of catch basin and manhole structures connected by either HDPE or RCP drains ranging in size from 8- to 24-inch diameter. Maintenance of all drainage structures, including sediment removal, is completed by the DPW.

2.6.1 Receiving Waters

The final point of discharge for stormwater from the DPW Facility site is to the adjacent wetland area/unnamed tributary at the northeast corner of the property. Since this receiving water has not been identified as impaired, the good housekeeping practices, preventative maintenance and Best Management Practices implemented at the facility are appropriate and adequate controls.

2.7 Site Activities

The following activities occur at the Amesbury DPW Facility:

- Facility or Building Maintenance
- Landscaping
- Chemical unloading, handling, and storage (including paint, flammables, and deicing liquids)
- Painting
- Paving
- Sand storage

- Salt storage
- Solid waste management
- Tool storage
- Vehicle and equipment storage
- Vehicle and equipment maintenance/repair (including oil changes)
- Vehicle and equipment washing
- Waste Handling and Disposal
- Waste oil storage.

Below is a discussion of site activities and the potential pollutant sources associated with each, as well as measures taken to minimize pollution. Locations of each activity are shown on the Site Plan (**Figure 2-2**).

The DPW Facility does not store hazardous materials other than those noted previously, and no obsolete vehicles or other potential sources of pollutants are kept in any structure at the facility. Further, no solvent-based parts washers were observed in any structure at the DPW Facility. Any hazardous materials are either collected by a third-party vendor contracted by the City of Amesbury on an annual basis, or collected at the annual Household Hazardous Waste Day (HHHD) that is hosted for the benefit of Amesbury residents. Finally, the DPW does not apply or utilize fertilizers, herbicides, or pesticides at any facility owned or managed by the City. As such, no fertilizers, herbicides, or pesticides are stored at the DPW Facility.

2.7.1 Compost Production or Storage

Potential Sources of Stormwater Pollution

Compost production and storage locations present the threat to contaminate stormwater with pathogens, including bacteria and viruses, nutrients, including phosphorus and nitrogen, fertilizers, pesticides and sediments.

Pollution Prevention

Compost storage areas shall be located and properly labeled within a designated stockpile area that is covered and contained to prevent exposure to precipitation. If the storage area is unable to be covered it should be contained within an area contained by silt fence or concrete barriers and located in an area that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody. The compost shall be kept in neat, separate piles from all other materials.

As previously noted, the City owns and operates a compost and brush disposal site at 56 South Hunt Road which is approximately 0.4 miles down the street from the DPW Facility. The site is encompassed by haybales and silt fencing as the composting operation is not covered. While the site is relatively flat and not subject to stormwater runoff from upland areas, the southwest corner of the site has been graded to direct snowmelt from the City's snow dump operations during the winter months to the adjacent wetland area.

2.7.2 Stockpiles and Sand Storage

Potential Sources of Stormwater Pollution

Sand stored in piles for use during construction and during winter plowing and deicing activities represents a potential source to stormwater pollution. Stockpiled materials such as gravel, loam, and crushed rock represent a similar source of pollution. When stored unprotected outdoors, sand piles and material stockpiles are exposed to precipitation. When the resulting eroded material enters the

stormwater system, the sediment can quickly fill the sumps of catch basin structures, rendering them ineffective.

Mixing sand and salt for use in deicing activities poses an additional element of stormwater pollution, particularly if the mixing area is not fully enclosed and protected from the elements.

Pollution Prevention

To avoid contamination of stormwater by sand and other stockpiled materials, erosion and sediment control measures should be implemented at each storage site. When planning a location for a stockpile, a relatively level site away from slopes and water features should be selected.

Stockpiles can be stabilized by seeding or mulching if they are to remain exposed for more than two weeks, or can be covered with impermeable sheeting to protect the material from rainwater. If the stockpile location becomes a permanent storage site for sand, a roofed structure should be considered to reduce erosion.

Sediment barriers should be placed around the perimeter of the storage site to prevent any runoff carrying sand from entering storm drains and surface waters. If the weather becomes dry and windy, regular light watering of the stockpile and surrounding area will provide effective dust control. Please refer to SOP 6, "Erosion and Sedimentation Control," included in Appendix B for more information.

Sand that has been mixed with salt for use during winter plowing and deicing activities should always be stored in an enclosed and covered salt shed. Salt sheds should be constructed on level ground with an impervious base on which to store the salt/sand mixture. Under no circumstances should loose salt/sand mix be stored outside and unprotected. All mixing of salt and sand should take place within the salt shed or other covered, enclosed area.

Ensuring that the storage area is regularly swept and kept clean is an important good housekeeping practice.

2.7.3 Salt Storage

Potential Sources of Stormwater Pollution

Salt stored in piles for use during winter plowing and deicing operations represents a potential major contributor to stormwater pollution. When stored unprotected outdoors, salt is exposed to precipitation, causing leachate with high chloride that can be discharged to the receiving water. Salt delivery and loading activities can contribute pollutants to stormwater if the material is not handled with care, and if spills from handling operations are not promptly cleaned up.

Pollution Prevention

To prevent stormwater pollution, all salt piles should be enclosed and covered in sheds to prevent exposure to precipitation. Salt sheds should be constructed on level ground with an impervious base on which to store the salt. The shed should prevent disturbance or migration of the salt by wind.

During delivery and loading activities, salt should be transferred to and from vehicles within the salt shed, whenever possible. Any spills during unloading and loading events should be tended to without delay. Ensuring that the salt storage area is regularly swept and kept clean is an important good housekeeping practice.

If it is not feasible to fully enclose the salt pile, the salt should be stored on an impervious base and covered with an impermeable membrane material. Under no circumstances should loose salt be stored outside and exposed to precipitation.

The area should not be hosed down to a storm drain as a cleaning method. To further limit stormwater pollution, an independent runoff collection system may be installed in the area of the salt storage to collect and convey runoff either directly to a treatment best management practice or to a sanitary sewer system, with approval from the operator of the sanitary sewer system.

2.7.4 Solid Waste Management

Potential Sources of Stormwater Pollution

Solid waste production and storage locations present the threat to contaminate stormwater with pathogens, including bacteria and viruses, nutrients, including phosphorus and nitrogen, metals and sediments.

Solid waste may be classified as both hazardous and non-hazardous waste consisting of agricultural, construction and demolition, dead animals, industrial, municipal, and tire waste.

Pollution Prevention

To prevent or reduce the potential for stormwater pollution from solid waste management practices the following preventative maintenance procedures are recommended:

1. All staff shall be properly trained in correct solid waste management practices, including waste disposal and spill prevention and response. All employees shall also be knowledgeable of the potential hazards associated with solid waste handling and storage.
2. Each waste storage location shall be properly labeled and all significant sources of pollution shall be kept in a secure, covered and contained area.
3. The facility and storage containers shall remain locked at all times other than during normal hours of operation.
4. All waste storage containers and waste handling equipment shall be routinely inspected for signs of spills, leaks, corrosion or general deterioration.
5. The facility shall maintain spill response materials in accordance with SOP 4, "Spill Response and Cleanup", a copy of which is included in Appendix B.

2.7.5 Snow Dump

Potential Sources of Stormwater Pollution

Snow collected from plowing and road clearing activities and managed in snow dumps can contaminate engineered storm drain systems and receiving waters if disposal sites are not properly selected and maintained. As snow is removed from roadways, parking lots, sidewalks, and other paved areas, contaminants such as sand, salt, litter, and automotive oil are collected along with the snow. These pollutants are ultimately transported to the storage site and eventually to receiving waters once the snow melts.

Infiltration of pollutants in snow, such as chlorides from road salt, can impact groundwater, including drinking water aquifers.

When snow, including sand and debris contained within it, is stored directly on top of catch basins, when combined with sand and debris, discharge to the engineered drainage system can be blocked, causing localized flooding.

Pollution Prevention

To avoid contamination of stormwater and drinking water supplies by snow dumps, storage sites should be selected and prepared before the snow season begins. The snow dump should be located on a pervious surface in an upland area away from water resources and wells, so that meltwater can be filtered through the soil.

Selected sites should have a combined capacity large enough to cope with the estimated snowfall totals for the season. Snow should not be dumped within a Zone II or Interim Wellhead Protection Area of a public water supply, or within 75 feet of a private well. Sanitary landfills are not appropriate locations for snow dumps because the infiltration of meltwater will result in greater amounts of contaminated leachate. High groundwater levels also make gravel pits poor sites for snow storage.

Proper preparation and maintenance of snow disposal sites will also prevent stormwater pollution. Before winter begins, a silt fence or sediment barrier should be placed on the down-gradient side of the snow dump to collect any sediment in snow meltwater. If the site is located near a body of water, a 50-foot vegetated buffer strip (at minimum) should be maintained during the growth season to filter pollutants out of meltwater. Prior to using the site for snow disposal, all debris should be cleared.

Debris and litter left after the snow has melted should be cleared and disposed of at the end of the snow season, no later than May 15th of each year.

Except under the most extraordinary of circumstances, when all land-based snow disposal options have been exhausted, snow should not be dumped into any body of water. When this option is necessary, requirements of "Snow Disposal Guidance" (BRPG01-01) issued by MassDEP on March 8, 2001, shall be followed.

As previously noted, the City utilizes the Compost and Brush Facility located at 56 South Hunt Road for dumping snow during the winter months. DPW staff are responsible for maintaining the site, including clearing and disposing of any debris left at the end of each snow season.

2.7.6 Use or Storage of Pesticides or Fertilizers

Potential Sources of Stormwater Pollution

Improper use and storage of fertilizers and pesticides can contribute to loadings of nutrients and toxic compounds to stormwater. Applying fertilizers and pesticides in quantities exceeding the manufacturer's recommendations does not make the product more effective. Rather, excess fertilizer and pesticide will be washed away during precipitation events, entering directly into stormwater and surface waters. The risk of incorrect use or spilling of fertilizers and pesticides increases when the chemicals are not handled by properly trained personnel. Contamination of stormwater can also occur during storage, when the pesticides and fertilizers are not being directly used. Leaks and spills from faulty containers can migrate to the storm drain system if not promptly controlled. Fires may break out if pesticides and fertilizers are not stored in the appropriate facilities.

Pollution Prevention

To avoid contamination of stormwater by fertilizers and pesticides during application, all products should be used in strict accordance with the manufacturer's instructions and with local regulations. Soil testing should be performed before evaluating and selecting a fertilizer. Using the right type and amount of fertilizer for the location will help ensure that the proper nutrients are absorbed by the plants and will reduce runoff. Efficient use of pesticides is maximized when pesticides are applied at the life stage when the pest is most vulnerable. Pesticides must be handled and applied by individuals licensed with the Massachusetts Department of Agricultural Resources.

Fertilizers and pesticides should always be stored indoors in well-ventilated, dry locations. Floors of storage areas should be water tight, impervious, and provide spill containment. In case a spill or leak does occur, storage areas and any vehicles transporting fertilizers and pesticides should be equipped with a spill response kit. For more information, please refer to SOP 4 "Spill Response and Cleanup Procedures," and SOP 12 "Storage and Use of Pesticides and Fertilizer," both included in Appendix B.

2.7.7 Vehicle and Equipment Storage

Potential Sources of Stormwater Pollution

Vehicle and equipment storage activities are a potential source of pollution due to the diesel fuel, gasoline, oil, hydraulic fluid, antifreeze and similar hazardous material or fuel the machinery may contain. In addition, vehicles or machinery may pick up pollutants during the course of offsite activities or at other facilities, and then deposit these pollutants at the storage facility.

Pollution Prevention

Regular visual inspection and maintenance of vehicles and equipment can greatly reduce the potential for pollution by finding and addressing leaks before pollution of the environment occurs. When in storage, vehicles and equipment should be kept on a covered slab or within a building with a common drain. Discharge to this drain shall be managed by an oil/ water separator (refer to SOP 11, "Oil/Water Separator Maintenance", included in Appendix B) to remove oils and gasoline. Vehicle washing activities shall not be completed in areas served by an oil/water separator.

No equipment should be kept in an area where leaks could result in pollutants entering catch basins, channels leading to outfalls, or the engineered storm drain system. If vehicles and equipment are stored outdoors, catch basins or engineered drainage system structures should include devices intended to remove oils and sediments prior to entering the system. These treatment devices should be inspected and replaced at the frequency recommended by the manufacturer.

2.7.8 Vehicle and Equipment Maintenance/Repair

Potential Sources of Stormwater Pollution

Vehicle and equipment maintenance and repair often requires the use of harmful liquids such as fuels, oils, and lubricants, and has the potential for producing dust, scrap and by-products that may contain pollutants. Both accidental and purposeful spillage, i.e., a leaky oil pan needing repair vs. draining the pan during an oil change, can lead to situations where pollutants can potentially enter stormwater runoff if the situations are not approached properly. Although there is little potential for effecting stormwater, it should be noted that hazardous gases can be produced during maintenance and repair as well.

Pollution Prevention

Proper maintenance and repair for vehicles and equipment shall include a preliminary assessment of potential pollutant sources. This assessment shall be used to determine the best means of containing any potential spills or by-products of the situation at hand. Approved containers shall be used to capture hazardous liquids to then be disposed of according to applicable MassDEP and USEPA guidelines. If the project may produce hazardous dust that could come in contact and mix with any liquids, the proper containment shall be utilized.

Due to heavy metal accumulation in antifreeze, brake fluid, transmission fluid, and hydraulic oils, it is not recommended that any of these liquids are disposed of in the sanitary sewer system. Contaminated parts removed or replaced on any vehicles or equipment shall be disposed of properly.

All work shall take place on a covered slab or within a building with a common drain. Discharge to this drain shall be managed by an oil/ water separator (refer to SOP 11, "Oil/Water Separator Maintenance", included in Appendix B) to remove oils and gasoline.

Maintenance and repairs shall not take place in areas prone to stormwater runoff or where pollutants could enter catch basins, channels leading to outfalls, or an engineered storm drain system. All catch basins or engineered drainage systems on site that could be affected by accidental spills should include devices intended to remove oils and sediments prior to entering the system. These treatment devices should be inspected and replaced at the frequency recommended by the manufacturer.

2.7.9 Vehicle and Equipment Washing

Potential Sources of Stormwater Pollution

Vehicle and equipment washing activities are a potential source of pollution not only from petroleum products and pollutants deposited on the exterior of the equipment, but also from nutrients and sediment being washed into water bodies from the act of washing itself. Although some cleaning agents are becoming environmentally friendly, many still contain regulated contaminants. Due to the possibility for multiple types of pollutants, vehicle and equipment washing activities have a high potential for degrading stormwater quality.

Pollution Prevention

Outdoors, the use of a tight tank or other similar structure that can contain the wash water is ideal. If the wash water cannot be contained, it shall not be allowed to directly enter water bodies. Use phosphate free detergents that do not contain regulated contaminants, and avoid using solvents where the wash water may enter a sanitary sewer. Impervious surfaces may be used to promote infiltration and treatment before wash water enters the groundwater, but wash water coming from impervious pavement shall be treated to remove nutrients and petroleum products before entering an engineered storm drain system. Infiltration shall not be used within wellhead protection areas or other protected resource areas. Power washing, steam cleaning and engine and undercarriage washing shall not occur outdoors. Heavily soiled or vehicle dirtied from salting shall not be washed outdoors. All adjacent catch basins shall have a sump and be cleaned periodically, (refer to SOP 3, "Catch Basin Inspection and Cleaning", included in Appendix B). All debris and particulate accumulation shall be removed and swept clean in all outdoor washing areas.

Washing vehicles and equipment indoors in the proper facilities is preferred over washing outdoors whenever possible. Indoor facilities shall have a common drain and it shall utilize a tight tank or other

containment device to hold the wash water. The use of detergents shall be avoided and when the use of detergents cannot be avoided, use detergents free from phosphates and regulated contaminants. Detergents shall not be used when the discharge of this drain is controlled by an oil/ water separator (refer to SOP 11, "Oil/Water Separator Maintenance", included in **Appendix A**). All drains that discharge directly to a water body of engineered storm drain system shall be plugged or abandoned. Dry clean-up methods such as vacuuming and sweeping shall be used whenever possible to avoid washing down floors with water.

For both outdoor and indoor washing, maintain absorbent pads and drip pans to collect spills and leaks observed during washing activities. Refer to SOP 4, "Spill Response and Cleanup Procedures" included in Appendix B for more information.

Washing of all facility vehicles is completed in the wash bay area of the Maintenance & Vehicle Storage Building. In addition, salt and sand spreaders stored at the DPW Facility are occasionally pressure washed within the wash bay area. Wastewater from vehicle washing operations is discharged to an oil/water separator that is maintained by the DPW,

2.7.10 Waste Handling and Disposal

Potential Sources of Stormwater Pollution

Waste handling and disposal facilities and activities present a potential to contaminate stormwater with pathogens (including bacteria and viruses), nutrients, including phosphorus and nitrogen, fertilizers, pesticides and sediments.

There are several classifications of waste which contribute to stormwater pollution, including:

1. Solid Waste
2. Hazardous Materials and Waste
3. Pesticides and Fertilizers
4. Petroleum Products
5. Detergents

Pollution Prevention

A variety of measures are considered appropriate to prevent pollution from waste handling and disposal activities, based on the waste classifications noted previously.

Solid Waste:

1. Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a receiving water.
2. Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
3. Schedule waste collection to prevent the containers from overflowing.

4. Clean up spills immediately and in accordance with SOP 4, "Spill Response and Cleanup Procedures" included in Appendix B.

Hazardous Materials and Wastes:

1. To prevent leaks, empty and clean hazardous waste containers before disposing of them.
2. Never remove the original product label from the container. Follow the manufacturer's recommended method of disposal, printed on the label.
3. Never mix excess products when disposing of them, unless specifically recommended by the manufacturer.
4. Clean up spills immediately and in accordance with SOP 4 "Spill Response and Cleanup".

Pesticides, Fertilizers and Petroleum Products:

1. Do not handle the materials more than necessary.
2. Store materials in a dry, covered, contained area.
3. Clean up spills immediately and in accordance with SOP 4, "Spill Response and Cleanup".

Detergents:

1. Never dump wastes containing detergents to a storm drain system. All wastes containing detergents shall be directed to a sanitary sewer system for treatment at a wastewater treatment plant.

In addition to the pollution prevention requirements a waste management plan is recommended. The plan shall include employee training and signage informing individuals of the hazards associated with improper storage, handling and disposal of wastes. It is imperative that all employees are properly trained and follow the correct procedures to reduce or eliminate stormwater pollution. Routine visual inspection of storage and use areas is critical. The visual inspection process shall include identification of containers or equipment which could malfunction and cause leaks or spills. The equipment and containers shall be inspected for the following:

1. Leaks
2. Corrosion
3. Support or Foundation Failure
4. Other Deterioration

In the case a defect is found, immediately repair or replace.

2.7.11 Waste Oil Storage

Potential Sources of Stormwater Pollution

When not stored properly, waste oil can be a potential source of petroleum in stormwater. Waste oil containers can leak, and spills can occur while during transportation activities.

Pollution Prevention

All waste oil containers should be properly labeled and stored with secondary containment. Containers should be regularly inspected for rust, leaks, or other signs of deterioration. Defective containers should be promptly removed and replaced. A spill response kit should be located wherever waste oil is stored. Facility personnel should know where the spill kit is located and be familiar with the procedures outlined in SOP 4 “Spill Response and Cleanup Procedures” in Appendix B. Used oil filters should also be properly disposed.

Care should be taken when transferring used oil to and from storage containers. For additional information see SOP 7 “Fuel and Oil Handling Procedures” found in Appendix B.

Waste oil should be stored indoors or under a covered structure to prevent exposure to precipitation. Floor drain in waste oil storage areas should drain to an oil/water separator rather than the storm drain system. See SOP 11 “Oil/Water Separator Maintenance” in Appendix B for further information.

When possible, steps should be taken to recycle waste oil or reduce the amount generated.

2.8 Vehicle and Equipment Inventory

Vehicles and major equipment stored and maintained at the DPW Facility are listed on the following page in Table 2-1.

2.9 Location of Leak and Spill Cleanup Materials

Leak and spill cleanup materials are stored at the Amesbury DPW Facility in order to facilitate rapid response. Locations and types of leak and spill cleanup materials are identified in Table 2-2.

2.10 Allowable Non-Stormwater Discharges

A non-stormwater discharge is defined as any discharge or flow to the engineered storm drain system that is not composed entirely of stormwater runoff.

Allowable non-stormwater discharges that occur at this facility include:

- Water line flushing
- Rising ground water
- Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20))
- Discharge from potable water sources
- Foundation drains
- Air conditioning condensation

It has been determined that the above non-stormwater discharges at the Amesbury DPW Facility do not represent a significant contribution of pollution to the MS4 or the waters of the United States. Therefore, these are considered to be authorized under the current MS4 permit.

Table 2-1. Vehicle Inventory

Year	Make	Model	ID#
1958	Homemade	Trailer (hwy)	Homemade
1985	John Deere	950	Tractor
1989		Long Haul	Trailer
1990	John Deere	Backhoe 710	Backhoe
1992	Tarco	Leaf Machine	Tarco
1995	Kabota	Lawn Mower	Kabota
1995	Ford	Super Duty	TPC #5
1997	Ford	F450	Hwy #11
1997	Beever	Chipper	Beever
1998	Ford	E350	G.Cyr
1999	GMC	3500	
2000	Sterling	7501	Hwy #17
2000	Sterling	7501	Hwy #18
2000	John Deere	Backhoe 410	Hwy #38
2000	Bombardier	Tractor	Tractor 1
2000	Ingersoll-Rand	Compressor	Ingersoll-Rand
2001	Ford	F450	TPC #23
2002	Ford	F450	Hwy #9
2002	Chevrolet	Van	Maint Van
2003	Homemade	LE4000	Trailer
2003	Homemade	LE4000 (tpc)	Trailer
2003	Ford	E350	
2005	Snowbear	Utility Trailer	
2006	Chevrolet	Colorado Pickup	
2006	John Deere	544J 4WD	Loader
2006	Peterbilt	Dump Truck	
2006	Ford	F350	Swr #25
2007	GMC	Sierra 3500 (PU)	Hwy #15 -M96561
2008	Ford	F450 - Dump	Hwy #7
2008	Trackless MT6	Off Road Vehicle	SW Plow
2008	GMC	Sierra 3500	Hwy #8
2008	Ford	Taurus	
2012	Cross Country	Flat Bed	Trailer
2012	Peterbilt	6WH Dump Truck	Hwy #19
2012	Ford	F550 Dump Truck	Hwy #6
2012	RPM Tech	Snow Blower Att	Model# 217
2013	Chevrolet	Silverado 3500	
2015	Load Trail LLC	Utility Trailer	
2016	Ford	F250 Pickup	
2016	Ford	F150 Pickup	
2016	Trackless MT6	Tractor / SW Plow	ID# TR0829
2016	Homesteader	Trailer	
2016	Morbark	M12R Chipper	Beever
2018	Chevrolet	Silverado 3500	
2019	Falcon RME	Hot Box	Trailer
2019	Quality Steel	Low Profile	Trailer
2019	Ford	F550 Dump Truck	

Table 2-2. Leak and Spill Cleanup Materials

Building or Area	Location	Materials Available

2.11 Existing Stormwater Monitoring Data

There are no existing stormwater monitoring data currently available for the Amesbury DPW Facility.

2.12 Significant Material Inventory

Materials stored include those specified earlier in Section 2.7, "Site Activities". An inventory of these materials at the DPW Facility is included in Table 2-3, which also reviews the likelihood for each identified material to come in contact with stormwater. The type of container has also been identified. Oil, gasoline, and other petroleum-based materials are listed separately in the table.

The locations of these material storage areas are provided on the Site Plan in Figure 2-2.

2.13 Applicability of Spill Prevention, Control and Countermeasure (SPCC) Requirements

Under federal regulations 40 CFR Part 112 (and Amendments), a Spill Prevention, Control, and Countermeasure (SPCC) Plan is required when a facility has an aboveground oil storage capacity greater than 1,320 gallons, when including containers with a capacity of 55 gallons or more. The Amesbury DPW Facility does not have aboveground oil storage capacity that exceeds 1,320 gallons.

2.14 Description of Significant Material Storage Areas

Many activities at the DPW Facility which involve the materials included in Table 2-3 occur within contained garages or bays. These activities may include minor equipment/vehicle repair, oil changes, repainting, lubrication, and parts replacement.

Fueling of all City vehicles occurs off-site at a locally owned gas station. The DPW Facility's emergency generator is fueled with diesel fuel roughly six to eight times a year. The diesel fuel is delivered to the storage tank which is located behind the Maintenance & Vehicle Storage Building. All bulk delivery of fuel to the emergency generator is monitored by a DPW employee.

Table 2-3. Significant Material Inventory

Material	Storage Location	Quantity	Potential Pollutant	Covered (C) or Enclosed (E)	Likelihood of Contact with Stormwater
Petroleum-Based Compounds					
Diesel fuel			Petroleum hydrocarbons		
Gasoline			Petroleum hydrocarbons		
Hydraulic Fluid			Petroleum hydrocarbons		
Motor Oil			Petroleum hydrocarbons		
Fuel Oil, No. 2			Petroleum hydrocarbons		
Fuel Oil, No. 6			Petroleum hydrocarbons		
Lubricants			Petroleum hydrocarbons		
Transmission Fluid			Petroleum hydrocarbons		
Waste Oil			Petroleum hydrocarbons		
Other:					
Total Volume of Oil at Facility =					
Non-Petroleum Significant Materials					
Antifreeze			Ethylene glycol; potential source of BOD		
Spray Lubricant			Petroleum hydrocarbons		
Sodium Hypochlorite			Chlorides; pH adjustment		
Sodium Bisulfite			pH adjustment		
Acid			pH adjustment		
Adhesives and sealants			Volatile and semivolatile organic compounds		
Aggregates			Sediments		
Animal Wastes			Fecal		
Asphalt			Sediments		
Batteries, Used Lead Acid			Lead, sulfuric acid; possible particulate matter and residual oil		
Brake Fluid			Volatile organic compounds; non-petroleum based oil		
Coolant (new or used)			Volatile organic compounds		

Table 2-3 (Continued). Significant Material Inventory

Material	Storage Location	Quantity	Potential Pollutant	Covered (C) or Enclosed (E)	Likelihood of Contact with Stormwater
Deicer- Calcium Chloride (liquid)			Chlorides		
Deicer- Road Salt			Chlorides		
Detergents			Surfactants		
Fertilizers			Nutrients		
Paint, Latex			Petroleum constituents, including volatile and semivolatile organic compounds		
Paint, Oil-Based			Petroleum constituents, including volatile and semivolatile organic compounds		
Paint, Spray			Petroleum constituents, including volatile and semivolatile organic compounds		
Pesticides			Volatile and semivolatile organic compounds		
Herbicides			Volatile and semivolatile organic compounds		
Sand			Sediments		
Solvents			Volatile organic compounds		
Solid Waste, Recyclable			Miscellaneous debris/solids, particulate matter, metals		
Solid Waste, for Disposal			Particulate matter, solids, metals		
Solid Waste, C&D			Particulate matter, solids, metals		
Spill response material (Speedi Dri or similar)			Particulate matter, solids, residual oil.		

Lubricants and other vehicle fluids are stored within the fluids storage room located in the maintenance area of the Maintenance & Vehicle Storage Building. These fluids are stored in either tanks or drums, all of which have internal containment or are located on appropriate containment pallets. All delivery of vehicle fluids to the facility occurs within the maintenance area and is monitored by a DPW employee. Waste oil is stored in a separate container within the fluids storage room, and is removed and disposed of by others whenever the unit is approaching full.

Deicing materials, including road salt, sand, sand/salt mix, and liquid deicing chemicals are stored in and around the sand/salt storage shed. Delivery of deicing materials to the sand/salt storage shed is monitored by a DPW employee.

2.15 List of Significant Leaks or Spills

No significant leaks or spills have occurred at the DPW Facility in the last three years. However, in the event of a leak or spill, the forms included in Appendix C will be used to document any spill or leak that occurs at the facility in the future.

2.16 Structural BMPs

Structural BMPs include onsite constructed systems that provide pretreatment or treatment of stormwater flows. The following structural BMPs are presently used at the Amesbury DPW Facility to maintain water quality.

2.16.1 Pretreatment Structural BMPs

- Deep sump catch basins
- Oil/Grit Separators
- Sediment Forebays
- Level Spreader
- Proprietary Water Quality Unit

2.16.2 Treatment Structural BMPs

- Retention Pond
- Subsurface Infiltration/Recharge Basin
- Infiltration berm & retentive grading

2.17 Sediment and Erosion Control

Site topography at the Amesbury DPW Facility prevents drainage of stormwater and any associated sedimentation from entering the City's storm drain system or discharging directly to a water body.

3 NON-STRUCTURAL CONTROLS

3.1 Good Housekeeping

Good housekeeping practices are activities, often conducted daily, that help maintain a clean facility and prevent stormwater pollution problems. The following is a list of good housekeeping measures that are practiced at the facility:

- All washing of vehicles is performed within the designated vehicle wash bay.
- All fluid products and wastes are kept indoors.
- Fueling of small equipment is completed indoors.
- All floor drains present within garage bays drain to an oil/water separator.
- Spill materials and cleanup kits are maintained at all locations where oil materials are used, stored, or may be present.
- Used spill cleanup materials are disposed of properly.
- Materials are stored indoors or in covered areas to minimize exposure to stormwater.
- No fertilizers, herbicides, or pesticides are stored or used at the facility.
- Lead-acid batteries are stored indoors and within secondary containment.
- Hazardous materials storage lockers with spill containment are used. Storage areas are located away from vehicle and equipment paths to reduce the potential of accident related leaks and spills.
- Storage drums and containers are not located close to storm drain inlets.
- All hazardous material storage areas and containers have proper signage, labels, restricted access, locks, inventory control, overhead coverage, and secondary containment.
- All materials, waste oil storage containers, and gas cans are properly labeled.
- Oil/water separators and catch basins are maintained regularly and properly.
- Speedi Dri (or similar absorbent) is readily available and used for appropriate spills.
- Spill kits are located in areas where fluids are stored or where activities may result in a spill.
- Tools and materials are returned to designated storage areas after use.
- Waste materials are properly collected and disposed of.
- Different types of wastes are separated as appropriate.
- Regular waste disposal is arranged.
- Work areas are clean and organized.
- Work areas are regularly swept or vacuumed to collect metal, wood, and other particulates and materials.
- Obtain only the amount of materials required to complete a job.
- Materials are recycled when possible.
- Staff is familiar with manufacturer directions for proper use of materials and associated Material Safety Data Sheets (MSDSs).
- Staff is familiar with proper use of equipment.
- Bollards, berms, and containment features are in place around areas and structures where fluids are stored.
- Drip pans are used for maintenance operations involving fluids and under leaking vehicles and equipment waiting repair.

The facility maintains a supply of spill cleanup materials at many buildings on site, and will maintain this inventory. An inventory of spill containment, control, and cleanup materials and spill kits maintained at the DPW Facility was shown in Table 2-2.

3.2 Preventative Maintenance

Preventative Maintenance can minimize the occurrence of stormwater pollution by addressing issues before they become problems. Vehicles and equipment should be regularly inspected to prevent leaks of fuel, oil, and other liquids. Structural stormwater controls should be regularly maintained to prevent inadequate performance during storm events.

The following is a list of preventative maintenance procedures practiced at the facility

- All staff members are aware of spill prevention and response procedures.
- All staff members have received formal spill prevention and response procedure training.
- All equipment fueling procedures are completed by qualified personnel trained in spill response procedures.
- Hydraulic equipment is kept in good repair to prevent leaks.
- Vehicle storage areas are inspected frequently for evidence of leaking oil.
- Material storage tanks and containers are regularly inspected for leaks.
- All material and bulk deliveries are monitored by facility employees.
- All waste oil is fully contained and the containers are inspected regularly.

3.2 Best Management Practices

In a SWPPP, existing and planned BMPs are identified that will prevent or reduce the discharge of pollutants in stormwater runoff for each area of concern listed in Section 2.

To prevent or reduce the potential of stormwater contamination from petroleum products, the following BMPs shall continue to be followed:

1. Follow Standard Operating Procedures (s) during delivery of waste oil to the equipment/waste oil storage bay. These SOPs are included in Appendix B.
2. Follow Standard Operating Procedures during delivery of bulk oil to the emergency generator and bulk fuel to the Fuel Island. These SOPs are included in Appendix B.
3. Minimize the volume of gasoline stored within the buildings and on the site.
4. Clean up any oil spills observed in the parking lot, garages, or other surfaces in a timely manner.
5. Monitor all material deliveries.
6. Inspect all storage tanks prior to filling activities for spills, leaks and corrosion.

3.4 Spill Prevention and Response

The following procedures apply to the facility:

- All personnel are instructed in location, use, and disposal of spill response equipment and supplies maintained at the site such as oil absorbent materials.
- The Pollution Prevention Team leader will be advised immediately of all spills of hazardous materials or regulated materials, regardless of quantity.
- Spills will be evaluated to determine the necessary response. If there is a health hazard, fire or explosion potential, 911 will be called. If a spill exceeds five gallons or threatens surface waters, including the storm drain system, state or federal emergency response agencies will be called.
- Spills will be contained as close to the source as possible with oil-absorbent materials. Additional materials or oil-absorbent socks will be utilized to protect adjacent catch basins.

4 PLAN IMPLEMENTATION

4.1 Employee Training

Regular employee training is required for employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP, including all members of the Pollution Prevention Team.

The Director of Public Works is responsible for stormwater management training of DPW employees. This position coordinates training related to stormwater management on at least an annual basis to review specific responsibilities for implementing this SWPPP, what and how to accomplish those responsibilities, including BMP implementation.

Additionally, general awareness training is provided regularly (preferably annually) to all employees whose activities may impact stormwater discharges. The purpose of this training is to educate workers on activities that can impact stormwater discharges and to help implement BMPs.

All employees responsible for the fueling or lubrication of vehicles or equipment stored at the facility will be trained regularly (preferably annually). The topics below will be covered at employee training sessions.

1. Spill prevention and response.
2. Good housekeeping.
3. Materials management practices.

Pollution Prevention Team members will meet at least twice a year to discuss the effectiveness of and improvement to the SWPPP. Appendix D contains copies of training documentation from these training activities including attendance sheets, instructor name and affiliation, date, time, and location of the training.

4.2 Site Inspection Requirements

It is required that the entire DPW Facility be inspected at least once each calendar quarter when the facility is in operation (at least one inspection must be conducted during a period when stormwater discharge is occurring). The Director of Watershed & Infrastructure is responsible for completing this inspection.

The inspection must check for evidence of pollution, evaluate non-structural controls in place at the site, and inspect equipment. The site inspection report must include:

- The inspection date and time
- The name of the inspector
- Weather information and a description of any discharge occurring at the time of the inspection
- Identification of any previously unidentified discharges from the site
- Any control measures needing maintenance or repair
- Any failed control measures that need replacement
- Any SWPPP changes required as a result of the inspection

- Signed certification statement.

The inspection form for these inspections, and copies of completed inspection forms, are included in Appendix A.

Corrective actions may be required based on evidence of past stormwater pollution or the high potential for future stormwater pollution to occur. Information about any issues and the respective corrective actions must be included in a Compliance Evaluation report. The permittee must repair or replace control measures in need of repair or replacement before the next anticipated storm event if possible, or as soon as practicable. In the interim, the permittee shall have back-up measures in place. The Compliance Evaluation report must be kept with the SWPPP and must state the problem, the solution, and when the solution was implemented.

4.3 Recordkeeping and Reporting

The permittee must keep a written record (hardcopy or electronic) of all activities required by the SWPPP including but not limited to maintenance, inspections, and training for a period of at least five years.

This SWPPP shall be kept at the DPW Administrative Office, and shall be updated if any of the conditions in Section 4.4 below occur. The SWPPP and records shall be made available to state or federal inspectors and the general public upon request.

The 2016 Massachusetts MS4 Permit requires that each permittee report on the findings from Site Inspections in the annual report to USEPA and MassDEP.

Inspections of the DPW Facility should be performed at least quarterly (at least one during stormwater discharge) and described in the Annual Report, including any corrective actions taken, to demonstrate that operation of the DPW Facility is in compliance with the 2016 Massachusetts MS4 Permit.

4.4 Triggers for SWPPP Revisions

The City of Amesbury shall review this SWPPP regularly to determine if any update or revision is required. Changes that may trigger revision include:

- An increase in the quantity of any potential pollutant stored at the facility;
- The addition of any new potential pollutant (not already addressed in this SWPPP) to the list of materials stored or used at the facility;
- Physical changes to the facility that expose any potential pollutant (not presently exposed) to stormwater;
- Presence of a new authorized non-stormwater discharge at the facility; or
- Addition of an activity that introduces a new potential pollutant.

Changes in activity may include an expansion of operations, or changes in any significant material handling or storage practices which could impact stormwater.

The amended SWPPP will describe the new activities that could contribute to increased pollution, as well as control measures that have been implemented to minimize the potential for pollution.

This SWPPP will be amended if a state or federal inspector determines that it is not effective in controlling stormwater pollutants discharged to waterways.

5 SWPPP CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Official

Title

Date

APPENDIX A

Facility Inspection Forms

Includes a copy of the Stormwater Site Inspection Report completed during the preparation of this SWPPP and a blank copy of the report form to be completed in future inspections.

Areas of Materials or Activities exposed to stormwater

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Equipment operations and maintenance areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Outdoor vehicle and equipment washing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Waste handling and disposal areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Erodible areas/construction	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	Non-stormwater/ illicit connections	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Salt storage piles or pile containing salt	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Dust generation and vehicle tracking	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures or changes to the SWPPP needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

Print inspector name and title: _____

Signature: _____ Date: _____

Quarterly Visual Assessment Form– additional form when stormwater discharge is occurring

(Complete a separate form for each outfall you assess)

Name of Facility:

Outfall Name: "Substantially Identical Outfall"? No Yes (describe):

Person(s)/Title(s) collecting sample:

Person(s)/Title(s) examining sample:

Date & Time Discharge Began (approx.):

Date & Time Visual Sample Collected:

Date & Time Visual Sample Examined:

Nature of Discharge: Rainfall Snowmelt

Parameter

Color None Other (describe):

Odor None Musty Sewage Sulfur Sour Petroleum/Gas _____
 Solvents Other (describe):

Clarity Clear Slightly Cloudy Cloudy Opaque Other

Floating Solids No Yes (describe):

Settled Solids* No Yes (describe):

Suspended Solids No Yes (describe):

Foam (gently shake sample) No Yes (describe):

Oil Sheen None Flecks Globs Sheen Slick
 Other (describe):

Other Obvious Indicators No Yes (describe):
of Stormwater Pollution

* Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions taken below (attach additional sheets as necessary).

A. Name:

B. Title:

C. Signature:

D. Date Signed:

APPENDIX B

Standard Operating Procedures

Includes copies of the various Standard Operating Procedures referenced throughout this SWPPP together with their respective report/inspection forms.

3 CATCH BASIN INSPECTION & CLEANING SOP

3.1 Introduction

Catch basins help minimize flooding and protect water quality by removing trash, sediment, decaying debris, and other solids from stormwater runoff. These materials are retained in a sump below the invert of the outlet pipe (older catch basins may not have a sump). Catch basin cleaning reduces foul odors, prevents clogs in the storm drain system, and reduces the loading of trash, suspended solids, nutrients, bacteria, and other pollutants to receiving waters. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on catch basin inspection and cleaning to reduce the discharge of pollutants from the MS4. If services are contracted, this SOP should be provided to the contractor. The contract should specify that the contractor is responsible for compliance with all applicable laws.

This SOP can also be used for inspection of catch basins or manholes for the purpose of conducting catchment investigations as part of the municipality's Illicit Discharge Detection and Elimination program.

The DPW performs routine inspections, cleaning, and maintenance of the approximately 2,000 catch basins that are located within the MS4 regulated area. An optimization plan for catch basin cleaning and inspection will be provided in the City's annual report.

3.2 Procedures

The DPW will implement the following catch basin inspection and cleaning procedures to reduce the discharge of pollutants from the MS4:

Inspection and Cleaning Frequency

- Each catch basin should be cleaned and inspected at least annually.
- Catch basins near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) or high-use areas should be inspected and cleaned more frequently if inspection finds excessive sediments or debris loadings.
- Catch basins should be cleaned to ensure that they are no more than 50 percent full¹ at any time. Establish inspection and maintenance frequencies needed to meet this "50 percent" goal. If a catch basin sump is more than 50 percent full during two consecutive inspections, document the findings, investigate the contributing drainage area for sources of excessive sediment loading, and, if possible, address the contributing sources. If no contributing sources are found, increase the inspection and cleaning frequencies of the sump.
- Street sweeping performed on an appropriate schedule will reduce the amount of sediment, debris, and organic matter entering the catch basins, which will in turn reduce the frequency with which they need to be cleaned. Reference SOP 16: Streets and Parking Lots for information on appropriate street sweeping frequencies. Street sweeping schedules should also be adjusted based on catch basin inspection findings, with more frequent sweepings for areas with higher catch basin loads.
- In accordance with impaired water requirements, the City will prioritize catch basin cleaning and inspection in catchments with impairments when creating their optimization schedule to ensure

¹ A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.

that these catch basins are no more than 50% full and reduce stormwater pollution to impaired waterbodies.

Inspection and Cleaning Procedures

Catch basin inspection and cleaning procedures should address both the grate opening and the catch basin structure, including the sump and any inlet and outlet pipes. Document any and all observations about the condition of the catch basin structure and water quality (an inspection form and log of catch basins cleaned or inspected are included in the attachments). Collect data on the condition of the physical basin structure, its frame, and the grate, as well as on the quality of stormwater conveyed by the structure. Observations like those below can indicate sources of pollution within the storm drain system:

- Oil sheen
- Discoloration
- Trash and debris

Both oil and bacteria can create a sheen on the water's surface. The source of a sheen can be differentiating by disturbing it (e.g., with a pole). A sheen caused by oil will remain intact and move in a swirl pattern, while a sheen caused by bacteria will separate and appear "blocky". The bacteria that cause this sheen are naturally occurring iron bacteria – they are not considered a pollutant but should be noted. Other types of bacteria, such as fecal bacteria, are considered pollutants and their discovery should be recorded.

Observations like those below can indicate a potential connection of a sanitary sewer to the storm drain system, which is an illicit discharge:

- Indications of sanitary sewage, including fecal matter or sewage odors
- Foaming, such as from detergent
- Optical enhancers, fluorescent dye added to laundry detergent

In general, adhere to the following procedures when inspecting and cleaning catch basins. Record the findings in the log in the attachments:

1. Implement appropriate traffic safety procedures (e.g., traffic cones) prior to and during the catch basin inspection and cleaning process.
2. Work upstream to downstream in a given drainage network.
3. Clean sediment and trash off of the grate.
4. Visually inspect the outside of the grate.
5. Remove the grate and visually inspect the inside of the catch basin to determine cleaning needs.
6. Inspect the catch basin for structural integrity.
7. Determine the most appropriate equipment and method for cleaning the basin:
 - a. Manually use a shovel to remove accumulated sediments.
 - b. Use a bucket loader to remove accumulated sediments.
 - c. Use a high-pressure washer to clean any remaining material out of the catch basin while capturing the slurry with a vacuum.
 - d. If necessary, after the catch basin is cleaned, use the rodder of the vacuum truck to clean the downstream pipe and pull back sediment that might have entered it.

8. If contamination is suspected, chemical analysis will be required to determine if the materials comply with the MassDEP Hazardous Waste Regulations, 310 CMR 30.000 (www.mass.gov/files/documents/2016/08/xl/310cr30_7883_54357.pdf). The chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label and note sample collection on the Catch Basin Inspection Form.

Handling and Disposal of Catch Basin Cleanings

- Properly dispose of collected sediments and catch basin cleanings (solid material, such as leaves, sand, and twigs removed from stormwater collection systems during cleaning operations).
- Cleanings from stormwater-only drainage systems may be disposed at any landfill that is permitted by MassDEP to accept solid waste. MassDEP does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.
- Screenings may need to be placed in a drying bed to allow water to evaporate before proper disposal. In this case, ensure that the screenings are managed properly to prevent pollution.
- Catch basin cleanings must be handled and disposed in accordance with compliance with the applicable MassDEP regulations, policies, and guidance (www.mass.gov/files/documents/2018/03/09/catch-basins.pdf).

Documentation and Reporting

The following information should be documented and included in the municipality's annual report – use the catch basin inspection log provided in the attachments to document the information to include in the report (alternatively, obtain records of volume of debris removed to include in the report):

- Metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4 (include in the SWMP and first annual report)
- Any action taken in response to excessive sediment or debris loadings
- Total number of catch basins
- Number of catch basins inspected
- Number of catch basins cleaned
- Total volume or mass of material removed from catch basins.

Employee Training

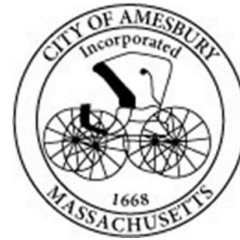
- Employees who perform catch basin cleaning and inspection are trained ##NUMBER times per year on these procedures and the proper operation of related equipment.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Catch Basin Inspection Form and Log
2. Catch Basin Inventory

Related Standard Operating Procedures

1. SOP 16: Streets and Parking Lots



Job No.: _____ Town: _____
 Inspector: _____ Date: _____

CATCH BASIN INSPECTION FORM

Catch Basin I.D.		Final Discharge from Structure? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, Discharge to Outfall No: _____		
Catch Basin Label:	Stencil <input type="checkbox"/>	Ground Inset <input type="checkbox"/>	Sign <input type="checkbox"/> None <input type="checkbox"/> Other _____	
Basin Material:	Concrete <input type="checkbox"/>	Catch Basin Condition:	Good <input type="checkbox"/> Poor <input type="checkbox"/>	
	Corrugated metal <input type="checkbox"/>		Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>	
Basin Material:	Stone <input type="checkbox"/>	Pipe Material:	Pipe Measurements:	
	Brick <input type="checkbox"/>			Inlet Dia. (in): d= _____
Basin Material:	Other: _____ <input type="checkbox"/>	Pipe Material:	Pipe Measurements:	
	Concrete <input type="checkbox"/>			Outlet Dia. (in): D= _____
Pipe Material:	HDPE <input type="checkbox"/>	Pipe Material:	Pipe Measurements:	
	PVC <input type="checkbox"/>			
Pipe Material:	Clay Tile <input type="checkbox"/>	Pipe Material:	Pipe Measurements:	
	Other: _____ <input type="checkbox"/>			
Required Maintenance/ Problems (check all that apply):				
<input type="checkbox"/> Tree Work Required <input type="checkbox"/> New Grate is Required <input type="checkbox"/> Pipe is Blocked <input type="checkbox"/> Frame Maintenance is Required <input type="checkbox"/> Remove Accumulated Sediment <input type="checkbox"/> Pipe Maintenance is Required <input type="checkbox"/> Basin Undermined or Bypassed		<input type="checkbox"/> Cannot Remove Cover <input type="checkbox"/> Ditch Work <input type="checkbox"/> Corrosion at Structure <input type="checkbox"/> Erosion Around Structure <input type="checkbox"/> Remove Trash & Debris <input type="checkbox"/> Need Cement Around Grate Other: _____		
Catch Basin Grate Type :	Sediment Buildup Depth :	Description of Flow:	Street Name/ Structure Location:	
Bar: <input type="checkbox"/> Cascade: <input type="checkbox"/> Other: _____ Properly Aligned: Yes <input type="checkbox"/> No <input type="checkbox"/>	0-6 (in): _____ 6-12(in): _____ 12-18 (in): _____ 18-24 (in): _____ 24 + (in): _____	Heavy <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Trickling <input type="checkbox"/>		
*If the outlet is submerged check yes and indicate approximate height of water above the outlet invert. h above invert (in): _____		Yes <input type="checkbox"/>	No <input type="checkbox"/>	
<input type="checkbox"/> Flow <input type="checkbox"/> Standing Water (check one or both)	Observations:		Circle those present:	
	Color: _____		Foam	Oil Sheen
Odor: _____		Sanitary Waste	Bacterial Sheen	
Weather Conditions :	Dry > 24 hours <input type="checkbox"/>	Wet <input type="checkbox"/>	Orange Staining	Floatables
Sample of Screenings Collected for Analysis? Yes <input type="checkbox"/> No <input type="checkbox"/>			Excessive sediment	Pet Waste
Comments:			Other: _____	Optical Enhancers

4 SPILL RESPONSE & CLEANUP SOP

4.1 Introduction

Municipalities are responsible for any contaminant spill or release that occurs on property that they own or operate. Particular areas of concern include any facilities that use or store chemicals, fuel oil, or hazardous waste, including schools, garages, and landfills. Implementation of proper spill response and cleanup procedures can help to mitigate the effects of a contaminant release. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of spills or releases.

The City of Amesbury undertakes various precautions with spill response and cleanup procedures.

4.2 Procedures

The DPW will implement the following spill response and cleanup procedures to reduce the discharge of pollutants from the MS4:

Responding to a Spill

Employees should be trained in proper spill response specific to the materials used at their site and appropriate personal protective equipment (PPE). In the event of a spill, follow these spill response and cleanup procedures:

- If the facility has a Stormwater Pollution Prevention Plan (SWPPP), notify a member of the facility's Pollution Prevention Team, the facility supervisor, and/or the facility safety officer (fill out the attached spill response contact list). If not, continue to follow the procedures outlined below.
- Assess the contaminant release site for potential safety issues and for direction of flow.
- Complete the following:
 - Stop the contaminant release.
 - Contain the contaminant release through the use of spill containment berms or absorbents.
 - Protect all drains and/or catch basins with the use of absorbents, booms, berms or drain covers.
 - Clean up the spill.
 - Dispose of all contaminated products in accordance with applicable federal, state and local regulations.
 - i. Soil contaminated with petroleum should be handled and disposed of as described in MassDEP policy WCS-94-400, Interim Remediation Waste Management Policy for Petroleum Contaminated Soils (<https://www.mass.gov/files/documents/2016/08/mq/94-400.pdf>).
 - ii. Products saturated with petroleum products or other hazardous chemicals require special handling and disposal by licensed transporters. Licensed transporters will pick up spill contaminated materials for recycling or disposal. Save the shipping records for at least three years.
 - iii. Waste oil contaminated industrial wipes and sorptive minerals:
 - 1. Perform the "one drop" test to ensure absorbents do not contain enough oil to be considered hazardous, as described in the MassDEP Waste Oil Management Guide (www.mass.gov/files/documents/2018/12/18/oilwiper.pdf).

2. Wring absorbents through a paint filter. If doing so does not generate one drop of oil, the materials are not hazardous.
 3. If absorbents pass the “one drop” test they may be discarded in the trash unless contaminated with another hazardous waste.
 - a. It is acceptable to mix the following fluids and handle them as waste oil:
 - i. Waste motor oil
 - ii. Hydraulic fluid
 - iii. Power steering fluid
 - iv. Transmission fluid
 - v. Brake fluid
 - vi. Gear oil
 - b. Do not mix the following materials with waste oil. Store each separately:
 - i. Gasoline
 - ii. Antifreeze
 - iii. Brake and carburetor cleaners
 - iv. Cleaning solvents
 - v. Other hazardous wastes
 4. If absorbents do not pass the “one drop” test they should be placed in separate metal containers with tight fitting lids, labeled “Oily Waste Absorbents Only.”
- If you need assistance containing and/or cleaning up the spill, or preventing it from discharging to a surface water (or an engineered storm drain system), contact your local fire department using the number listed below. **In the case of an emergency call 911.**
 - Amesbury Fire Department: 978-388-1333
 - Contact the MassDEP 24-hour spill reporting notification line, toll-free at **(888)-304-1133**;
 - The following scenarios **are exempt** from MassDEP reporting requirements (see the MassDEP factsheet on oil and hazardous materials handling for more information: <https://www.mass.gov/files/documents/2016/08/xm/spillmgm.pdf>).
 - i. Spills that are less than 10 gallons of petroleum and do not impact a water body
 - ii. Spills that are less than one pound of hazardous chemicals and do not present an imminent health or safety hazard
 - iii. Fuel spills from passenger vehicle accidents
 - iv. Spills within a vault or building with a watertight floor and walls that completely contain all released chemicals

Reporting a Spill

When contacting emergency response personnel or a regulatory agency, or when reporting the contaminant release, be prepared to provide the following information:

1. Your name and the phone number you are calling from.
2. The exact address and location of the contaminant release.
3. Specifics of release, including:
 - a. What was released;
 - b. How much was released, which may include:
 - i. Pounds
 - ii. Gallons
 - iii. Number of containers
4. Where was the release sent/what was contaminated, addressing:

- a. Pavement
 - b. Soil
 - c. Drains
 - d. Catch basins
 - e. Water bodies
 - f. Public streets
 - g. Public sidewalks
5. The concentration of the released contaminant.
 6. What/who caused the release.
 7. Is the release being contained and/or cleaned up or is the response complete.
 8. Type and amount of petroleum stored on site, if any.
 9. Characteristics of contaminant container, including:
 - a. Tanks
 - b. Pipes
 - c. Valves

Maintenance and Prevention Guidance

Prevention of spills is preferable to even the best response and cleanup. To mitigate the effects of a contaminant release, provide proper maintenance and inspection at each facility. To protect against contaminant release, adhere to the following guidance:

- Ensure all employees are properly trained to respond in the case of a spill, understand the nature and properties of the contaminant, and understand the spill control materials and personnel safety equipment. Maintain training records of current personnel on site and retain training records of former personnel for at least three years from the date last worked at the facility.
- Provide yearly maintenance and inspection at all municipal facilities, paying particular attention to underground storage tanks. Maintain maintenance and inspection records on site.
- Implement good management practices where chemicals and hazardous wastes are stored:
 - a. Ensure storage in closed containers inside a building and on an impervious surface wherever possible.
 - b. If storage cannot be provided inside, ensure secondary containment for 110 percent of the maximum volume of the storage container.
 - c. Locate storage areas near maintenance areas to decrease the distance required for transfer.
 - d. Provide accurate labels, Material Safety Data Sheets (MSDS) information, and warnings for all stored materials.
 - e. Regularly inspect storage areas for leaks.
 - f. Ensure secure storage locations, preventing access by untrained or unauthorized persons.
 - g. Maintain accurate records of stored materials.
- Replace traditional hazardous materials such as pesticides and cleansers with non-hazardous products such as bio-lubricants which can reduce response costs in the case of a spill.

Maintain appropriately stocked spill response kits at each facility and locations where oil, chemicals, or other hazardous materials are handled and stored.

Employee Training

- Employees who perform work with potential stormwater pollutants should receive annual training on proper spill procedures.
- Employees are also trained on stormwater pollution prevention and illicit discharge detection and elimination (IDDE) procedures.

- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Spill Response and Cleanup Contact List

**Spill Response and Cleanup Contact List
Amesbury, Massachusetts
(June 2021)**

Contact	Phone Number	Date and Time Contacted
Safety Officer: Peter Manor	(978) 204-0878	
Facility Supervisor: Robert Desmarais	(978) 265-8707	
Fire Department: Ch	(978) 388-8185	
MassDEP 24-Hour Spill Reporting	(888) 304-1133	
MassDEP Regional Offices:		
Northeast Regional Office	(978) 694-3200	
Southeast Regional Office	(508) 946-2700	
Central Regional Office	(508) 792-7650	
Western Regional Office	(413) 784-1100	
Hazardous Waste Compliance Assistance Line	(617) 292-5898	
Household Hazardous Products Hotline	(800) 343-3420	
Massachusetts Department of Fire Services	(978) 567-3100 or (413) 587-3181	
Licensed Site Professionals Association (Wakefield, MA)	(781) 876-8915	
Licensed Site Professionals Board	(617) 556-1091	

6 EROSION & SEDIMENTATION CONTROL SOP

6.1 Introduction

Erosion and sedimentation from land-disturbing human activities can be a significant source of stormwater pollution. This Standard Operating Procedure describes methods for reducing or eliminating pollutant loading from such activities.

6.2 Controlling Erosion & Sediment through Design and Planning

Prevention of erosion and sedimentation is preferable to installing treatment devices. Consistent application and implementation of the following guidelines during the design and review phases can prevent erosion and sedimentation:

1. Avoid sensitive areas, steep slopes, and highly erodible soils to the maximum extent possible when developing site plans.
2. Identify potential problem areas before the site plan is finalized and approved.
3. Plan to use sediment barriers along contour lines, with a focus on areas where short-circuiting (i.e., flow around the barrier) may occur.
4. Use berms at the top of a steep slopes to divert runoff away from the slope's edge.
5. Design trapezoidal or parabolic vegetated drainage channels, not triangular.
6. Use vegetated channels with rip rap check dams, instead of impervious pavement or concrete, to reduce the water velocity of the conveyance system.
7. Design a check dam or sediment forebay with level spreader at the exit of outfalls to reduce water velocity of the discharge and collect sediment.
8. Use turf reinforcement matting to stabilize vegetated channels, encourage vegetation establishment, and withstand flow velocities without scouring the base of the channel.
9. Plan open channels to follow land contours so natural drainage is not disrupted.
10. Use organic matting for temporary slope stabilization and synthetic matting for permanent stabilization.
11. Provide a stable channel, flume, or slope drain where it is necessary to carry water down slopes.

6.3 Controlling Erosion & Sediment on Construction Sites

During the construction phase, it is important to inspect active sites regularly to ensure that practices are consistent with approved site plans and the site's Stormwater Pollution Prevention Plan (SWPPP) or other document, as required by the municipality's legal authority. The following guidelines apply:

1. Erosion and sediment control features should be constructed before initiating activities that remove vegetated cover or otherwise disturb the site. These shall be installed consistent with the approved site plans and with manufacturer's instructions.
2. Erosion and sediment control devices shall be inspected by the contractor regularly, and maintained as needed to ensure function.
3. In the SWPPP or other document, the contractor shall clearly identify the party responsible for maintaining erosion and sediment control devices.

4. An inspection should be completed of active construction sites every month, at a minimum, to check the status of erosion and sedimentation controls. Refer to SOP 5, "Construction Site Inspection", for construction site stormwater inspection procedures.
5. Existing vegetation should be maintained on site as long as possible.
6. Construction should proceed progressively on the site in order to minimize exposed soil, and disturbed areas should be restored as soon as possible after work has been completed.
7. Stockpiles shall be stabilized by seeding or mulching if they are to remain for more than two weeks.
8. Disturbed areas shall be protected from stormwater runoff by using protective Best Management Practices (BMPs).
9. Clean water shall be diverted away from disturbed areas on construction sites to prevent erosion and sedimentation.
10. Sediment traps and sediment barriers should be cleaned out regularly to reduce clogging and maintain design function.
11. Vegetated and wooded buffers shall be protected.
12. Soils shall be stabilized by mulching and/or seeding when they would be exposed for more than one week during the dry season, or more than two days during the rainy season.
13. Vegetation shall be allowed to establish before introducing flows to channels.
14. Regular light watering shall be used for dust control, as this is more effective than infrequent heavy watering.
15. Excessive soil compaction with heavy machinery shall be avoided, to the extent possible.
16. Construction activities during months with higher runoff rates shall be limited, to the extent possible.

6.4 Controlling Erosion & Sediment by Proper Maintenance of Permanent BMPs

Many construction phase BMPs can be integrated into the final site design, but ongoing inspection and maintenance are required to ensure long-term function of any permanent BMP. Refer to SOP 9, "Inspection of Constructed Best Management Practices", for more information. The following guidelines summarize the requirements for long-term maintenance of permanent BMPs.

1. Responsibility for maintaining erosion and sediment control devices shall be clearly identified.
2. Erosion and sediment control devices shall be inspected following heavy rainfall events to ensure they are working properly.
3. Erosion control blankets shall be utilized when seeding slopes.
4. Vegetated and wooded buffers shall be protected, and left undisturbed to the extent possible.
5. Runoff shall not be diverted into a sensitive area unless this has been specifically approved.
6. Sedimentation basins shall be cleaned out once sediment reaches 50% of the basin's design capacity.
7. Snow shall not be plowed into, or stored within, retention basins, rain gardens, or other BMPs.
8. Easements and service routes shall be maintained, to enable maintenance equipment to access BMPs for regular cleaning.

Attachments

1. Erosion & Sedimentation Control Inspection Report

Related Standard Operating Procedures

1. SOP 5: Construction Site Inspection
2. SOP 9: Inspection of Constructed Best Management Practices



Job No.: _____ Town: _____
 Inspector: _____ Date: _____

EROSION AND SEDIMENTATION CONTROL INSPECTION REPORT

General Information

Project Name			
Project Location			
Inspector's Name			
Site Operator			
Date of Inspection		Date of Last Inspection	
Start Time		End Time	
Subject to USEPA Construction General Permit? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, has NOI been approved? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, attach approved NOI to this report. <p style="text-align: center;">If no, contact contractor immediately to determine status of NOI.</p>			
Type of Inspection: Regular <input type="checkbox"/> Pre-Storm Event <input type="checkbox"/> During Storm Event <input type="checkbox"/> Post-Storm Event <input type="checkbox"/>			
Describe the weather conditions at time of inspection			
Describe the current phase of construction			

Erosion and Sediment Control (ESC) on Construction Sites

Document any of the following issues found on the construction site, and the corrective action(s) required for each.

Issue	Status	Corrective Action Needed
Have all ESC features been constructed before initiating other construction activities?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is the contractor inspecting and maintaining ESC devices regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is existing vegetation maintained on the site as long as possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is construction staged so as to minimize exposed soil and disturbed areas?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are disturbed areas restored as soon as possible after work is completed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is clean water being diverted away from the construction site?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are sediment traps and sediment barriers cleaned regularly?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are vegetated and wooded buffers protected and left undisturbed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are soils stabilized by mulching and/or seeding when they are exposed for a long time?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Has vegetation been allowed to establish itself before flows are introduced to channels?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is regular, light watering used for dust control?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is excessive soil compaction with heavy machinery avoided, to the extent possible?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are erosion control blankets used when seeding slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Issue	Status	Corrective Action Needed
Are trees and vegetation that are to be retained during construction adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are areas designated as off-limits to construction equipment flagged or easily distinguishable?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If excavated topsoil has been salvaged and stockpiled for later use on the project, are stockpiles adequately protected?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are temporary slope drains or chutes used to transport water down steep slopes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Do all entrances to the storm sewer system have adequate protection?	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Non-Compliance Actions

The municipality shall provide the site operator with a copy of this report, and notice of the corrective action(s) to be taken. The site operator shall have thirty days from the receipt of the notice to commence curative action of the violation.

7 FUEL & OIL HANDLING SOP

7.1 Introduction

Spills, leaks, and overfilling can occur during handling of fuels and petroleum-based materials, representing a potential source of stormwater pollution, even in small volumes. The goal of this written Standard Operating Procedure (SOP) is to provide guidance to municipal employees on a variety of ways by which fuels and petroleum-based materials can be delivered, as well as steps to be taken when petroleum products (such as waste oil) are loaded onto vehicles for offsite disposal or recycling. Delivery, unloading, and loading of waste oils are hereafter referred to as “handling.” Attached is a fuel delivery form checklist.

The City of Amesbury undertakes various procedures and precautions in handling fuel and oil.

7.2 Procedures

The DPW will implement the following fuel and oil handling procedures to help reduce the discharge of pollutants from the MS4:

General Guidelines

For all manners of fuel and oil handling described below, a member of the facility’s Pollution Prevention Team (if the facility has a SWPPP) or another knowledgeable person familiar with the facility should be present during handling procedures. This person should ensure that the following are observed:

- There is no smoking while fuel handling is in process or underway.
- Sources of flame are kept away while fuel handling is being completed. This includes smoking, lighting matches, carrying any flame, or carrying a lighted cigar, pipe, or cigarette.
- The delivery vehicle’s hand brake is set and wheels are chocked while the activity is being completed.
- Catch basins and drain manholes are adequately protected.
- No tools are to be used that could damage fuel or oil containers or the delivery vehicle.
- No flammable liquid should be unloaded from any motor vehicle while the engine is operating, unless the engine of the motor vehicle is required to be used for the operation of a pump.
- Ensure that local traffic does not interfere with fuel transfer operations. If it does, make appropriate accommodations.
- The attending persons should watch for any leaks or spills:
 - Any small leaks or spills should be immediately stopped, and spilled materials absorbed and disposed of properly. Follow the procedures in SOP 4: Spill Response and Cleanup.
 - In the event of a large spill or one that discharges to surface waters or an engineered storm drain system, the facility representative should activate the facility’s Stormwater Pollution Prevention Plan (SWPPP) and report the incident as specified in the document.

Delivery by Bulk (Tanker) Truck

Procedures for the delivery of bulk fuel should include the following:

- The truck driver should check in with the facility upon arrival.

- The facility representative should ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP 4: Spill Response and Cleanup for examples of spill cleanup and response materials.
- The facility representative should check to ensure that the amount of delivery does not exceed the available capacity of the tank.
 - A level gauge can be used to verify the level in the tank.
 - If a level gauge is not functioning or is not present on the tank, the tank should be stick tested prior to filling.
- The truck driver and the facility representative should both remain with the vehicle during the delivery process.
- The truck driver and the facility representative should inspect all visible lines, connections, and valves for leaks.
- When delivery is complete and the hoses are removed, buckets should be placed underneath connection points to catch drippings.
- The delivery vehicle should be inspected prior to departure to ensure that the hose is disconnected from the tank.
- The facility representative should inspect the fuel tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned and disposed of properly.
- The facility representative should gauge tank levels to ensure that the proper amount of fuel is delivered, and collect a receipt from the truck driver.

Delivery of Drummed Materials

Drummed materials may include motor oil, hydraulic fluid, transmission fluid, or waste oil from another facility (as approved). Procedures for the delivery of drummed materials should include the following:

- The truck driver should check in with the facility upon arrival.
- The facility representative should ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer to SOP 4: Spill Response and Cleanup for examples of spill cleanup and response materials. The facility representative should closely examine the shipment for damaged drums.
 - If damaged drums are found, they should be closely inspected for leaks or punctures.
 - Breached drums should be removed to a dry, well-ventilated area and the contents transferred to other suitable containers.
 - Drums should be disposed of in accordance with all applicable regulations.
- Drummed materials should not be unloaded outdoors during wet weather events.
- The truck driver and the facility representative should both remain with the vehicle during the delivery process.
- Drums should be handled and unloaded carefully to prevent damage.
- Upon completion of unloading, the facility representative should inspect the unloading point and the drums to verify that no leaks have occurred, that any leaked or spilled material has been cleaned up and disposed of properly, and that the unloaded drums are not leaking.
- The facility representative should check to ensure that the proper amount of fuel or other material is delivered, and collect a receipt from the truck driver.

Removal of Waste Oil from the Facility

When waste oil or similar oil products need to be removed from the premises, only haulers certified to transport waste oil should be utilized. Procedures should include the following:

- The disposal truck driver should check in with the facility upon arrival.
- The facility representative should ensure that the appropriate spill cleanup and response equipment and personal protective equipment are readily available and easily accessible. Refer

to SOP 4: Spill Response and Cleanup for examples of spill cleanup and response materials. The truck driver and the facility representative should both remain with the vehicle during the tank draining process.

- When draining is complete and the hoses are removed, buckets should be placed underneath connection points to catch drippings.
- The facility representative should inspect the loading point and the tank to verify that no leaks have occurred, or that any leaked or spilled material has been cleaned up and disposed of properly.
- The facility representative should collect a receipt from the truck driver.
- When draining bulk oil tanks:
 - The facility representative should verify that the volume of waste oil in the tank does not exceed the available capacity of the disposal hauler's vehicle.
 - The disposal hauler vehicle should be inspected prior to departure to ensure that the hose is disconnected from the tank.

Employee Training

- Employees who handle or deliver fuel and/or oil are trained ##NUMBER times per year on proper procedures.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Attachments

1. Fuel Delivery Form

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup

FUEL DELIVERY FORM
Amesbury, Massachusetts

Date: _____

Time of Arrival: _____

Time of Departure: _____

Truck Number: _____

Name of Truck Driver: _____

Name of City Employee: _____

BEFORE UNLOADING:

Is all spill response equipment and personal protective equipment in place?

Yes **No**

In the case of bulk fuel delivery, does tank capacity exceed the amount of delivery?

Yes **No** **N/A**

In the case of drum fuel delivery, are all drums free of leaks and punctures?

Yes **No** **N/A**

COMMENCE UNLOADING. REMAIN WITH VEHICLE AT ALL TIMES.

AFTER UNLOADING IS COMPLETE:

Have all fuel containers, including the vehicle, been inspected for leaks?

Yes **No**

Has the ground at the unloading point been inspected for evidence of leaks?

Yes **No**

If there are any leaks or spills, has the material been properly cleaned?

Yes **No**

Has the correct amount of fuel been delivered?

Yes **No**

Has a receipt been collected?

Yes **No**

DELIVERY IS COMPLETE.

11 OIL/WATER SEPARATOR MAINTENANCE SOP

11.1 Introduction

Oil/water separators (OWS), also known as gas/oil separators, are structural devices intended to provide pretreatment of floor drain water from industrial and garage facilities. An OWS allows oils (and substances lighter than water) to be intercepted and be removed for disposal before entering the sanitary sewer system. Substances heavier than water settle into sludge at the bottom of the unit. The remaining water passes through the unit into the sanitary sewer system.

OWS units are generally required where petroleum-based products, wastes containing petroleum, or oily and/or flammable materials are used, produced, or stored. OWS units should not be used to manage stormwater or flow from vehicle washing facilities. High flow rates through an OWS will reduce the structure's ability to separate materials. Detergents and solvents can emulsify oil and grease, allowing the particles to enter the sewer, so these should not be disposed of in drains entering the OWS.

11.2 General OWS Maintenance Requirements

1. Each OWS at a facility may receive different materials in different quantities, so the cleanout schedule may not be the same for every OWS at a facility.
2. Employees performing inspections of an OWS must be properly trained and be familiar with the maintenance of that specific structure, since function can vary based on design. Third-party firms may be utilized to perform quarterly inspections.
3. Do not drain petroleum, oil, or lubricants directly to an OWS. The structures are designed to manage these materials at low and medium concentrations in sanitary sewage, not as slug loads.
4. Do not drain antifreeze, degreasers, detergents, fuels, alcohols, solvents, coolant, or paint to the OWS.
5. Separator compartment covers should be tightly sealed to ensure floor drainage only enters the first compartment of the OWS.
6. Drains should be kept free of debris and sediment to the maximum extent practicable.
7. Spill cleanup materials should be maintained in the area served by the OWS. For more information on spill cleanup and response materials, refer to SOP 4, "Spill Response and Cleanup Procedures".

11.3 OWS Inspection Procedures

Daily inspection of an OWS should include a visual examination of the area served by the OWS for evidence of spills or leaks.

Weekly inspections of an OWS should include the following:

1. Visually examine the area served by the OWS for evidence of spills or leaks.
2. Inspect the point of discharge (i.e., sewer manhole) for evidence of petroleum bypassing the OWS.
3. Inspect drains for any signs of unauthorized substances entering the OWS.
4. Examine the OWS for signs of leaks or any malfunction.

Quarterly inspections of an OWS should include the following:

1. Complete tasks noted as appropriate for daily and weekly inspection.
2. Complete the Quarterly OWS Inspection Checklist, attached, during the inspection.
3. Take the following measurements to benchmark function of the OWS:
 - A. Distance from rim of access cover to bottom of structure
 - B. Distance from rim of access cover to top of sludge layer
 - C. Depth of sludge layer ($C = A - B$)
 - D. Distance from rim of access cover to the oil/water interface
 - E. Distance from rim of access cover to the top of the liquid surface
 - F. Depth of oil layer ($F = D - E$)

11.4 OWS Cleaning Procedures

Cleaning of the OWS is required when there has been a spill to the OWS that exceeds ten gallons of oil, one gallon of detergent or solvent, or any material prohibited by the owner of the sanitary sewer. Cleaning is also required when the levels of accumulated sludge and/or oil meet the manufacturer's recommended levels for cleaning. This will vary based on the manufacturer of the OWS. If the manufacturer's recommendations are unknown, the following guidelines are appropriate for determining when to clean:

1. When sludge accumulates to 25% of the wetted height of the separator compartment; or
2. When oil accumulates to 5% of the wetted height of the separator compartment; or
3. When 75% of the retention capacity of the OWS is filled.

Cleaning should be performed a minimum of once per year. When cleaning is required, it shall be performed by licensed OWS maintenance companies. Materials removed from the OWS must be disposed of in accordance with Massachusetts Hazardous Waste Regulations, 310 CMR 30.00.

11.5 Documentation of Cleaning and Service

The operator of the premises where the OWS is located shall maintain a log describing the date and type of all inspections, service and maintenance performed in connection with the Separator. Documentation shall include the identity of the inspector (or the identity of the person or entity that performed the service and/or maintenance). Records shall also document the amount of residue removed from the OWS each time it was cleaned, and how removed materials were disposed. This documentation shall be maintained for a minimum of six years.

Attachments

1. Quarterly OWS Inspection Checklist

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup

**OIL/WATER SEPARATOR (OWS)
QUARTERLY INSPECTION CHECKLIST
Amesbury, Massachusetts**

Facility: _____

OWS Location: _____

Inspected By: _____

Date: _____



Visual Inspection	Are there any signs of spills or leaks in the general area?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Is there any evidence of petroleum bypassing the OWS?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Are there any unauthorized substances entering the OWS?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	Does the OWS exhibit any signs of leaks or malfunctions?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

If you answered "Yes" to any of the above questions, further inspection, repair, and/or cleaning may be necessary.

Measurements	A	Distance from rim of access cover to bottom of structure	
	B	Distance from rim of access cover to top of sludge layer	
	C = A - B	Depth of sludge layer	
	D	Distance from rim of access cover to the oil/water interface	
	E	Distance from rim of access cover to the top of the liquid surface	
	F = D - E	Depth of oil layer	

If the values for "C" and/or "F" are greater than those in the manufacturer's recommendations, the OWS must be cleaned by a licensed OWS maintenance company.

12 STORAGE & USE OF PESTICIDES AND FERTILIZER SOP

12.1 Introduction

The use and improper storage of pesticides, herbicides, and fertilizers can contribute to the discharge of nutrients and toxic compounds to the municipal storm drainage system and surface waters. The goal of this Standard Operating Procedure (SOP) is to provide guidance on municipal employees on proper handling and storage of pesticides, herbicides, and fertilizers to prevent the discharge of pollutants from the MS4.

12.2 General OWS Maintenance Requirements

Below are procedures for the storage and use of fertilizers, pesticides, and herbicides by municipal employees. In this section, the term “pesticide” includes products used as herbicides. Refer to SOP 4: Spill Response and Cleanup and SOP 17: Hazardous Materials Storage and Handling for information on and handling spills and hazardous materials.

Storage

- Store pesticides and fertilizers in high, dry locations in accordance with the manufacturer’s specifications.
- Store in cool, well-ventilated, and insulated areas to protect against temperature extremes.
- Store in areas that have been constructed in accordance with local fire codes for storing flammable or combustible materials.
 - Flammable products should be stored separately from non-flammable products, preferably in a fire-proof cabinet.
 - Small quantities (less than 500 lbs. or 220 gallons) of pesticides can be stored in cabinets constructed of double-walled 18-gauge sheet metal.
 - Large quantities (greater than 500 lbs. or 220 gallons) of pesticides can be stored in a prefabricated Hazardous Material Storage building or in a purpose-built storage facility. It is not anticipated that many municipal facilities will store quantities in excess of 500 lbs. or 220 gallons of pesticides.
 - Building walls should have a two-hour fire rating and be impervious to the stored materials.
 - Floors should be watertight, impervious, and provide spill containment.
- Store materials in an enclosed area or in covered, impervious containment, such as a locked cabinet. The cabinet should be located in a first story room or one that has direct access to the outdoors. Storage areas should be equipped with easily accessible spill cleanup materials and portable firefighting equipment. Regularly inspect storage areas for leaks and spills. Emergency eyewash stations and emergency drench showers should be located near the storage area.
- For pesticides, storage cabinets should be kept locked and the door to the storage area should contain a weather proof sign that warns of the existence and danger of the pesticides inside. The door should be kept locked. The sign should be visible at a distance of 25 feet and should read as follows:

**DANGER
PESTICIDE STORAGE AREA
ALL UNAUTHORIZED PERSONS KEEP OUT
KEEP DOORS LOCKED WHEN NOT IN USE**

The sign should be posted in both English and any other language used by maintenance workers.

- Pesticides should not be stored in the same place as ammonium nitrate fertilizer.
- Separate pesticides and fertilizers from other chemical storage and other flammable materials.
- Label all containers with date of purchase. Clearly label all secondary containers. Use older materials first.
- Order for delivery as close to the time of use as possible to reduce the amount of chemicals stored at the facility.
- Order only the amount of materials needed in order to minimize excess or obsolete materials, which require storage and disposal.
- Never leave unlabeled or unstable pesticides and fertilizers in uncontrolled locations.
- Maintain a current written inventory of all pesticides and fertilizers at the storage site.
- Ensure that contaminated waste materials are kept in designated containers and stored in labeled, designated, covered, and contained areas.
- Dispose of excess or obsolete pesticides/fertilizers and associated waste materials in accordance with the manufacturer's specification and all applicable regulations.

Use and Application of Fertilizers

- All fertilizer products manufactured or distributed in the State of Massachusetts must be registered with the Department of Agricultural Resources.
- Perform soil testing before choosing a fertilizer. The quantity of available nutrients already present in the soil will determine the type and amount of fertilizer that is recommended. The soil test will also determine the soil pH, humic matter, texture, and exchangeable acidity, which will indicate whether pH adjustment is required for fertilizer to work efficiently. A soil test should be completed at each facility, as soil type can vary widely within a single community.
 - Soil tests are recommended every 3-4 years for turf and plantings (more frequently for problem or newly planted areas) and every year for soil where phosphorus-containing fertilizers are used. Soil pH tests should be conducted every year for all sites.
 - When collecting soil samples, take multiple samples for each target area at a four-inch depth; mix the samples together in a container and properly label the sample with property information and site use type. Separately sample areas that have discoloration, abnormal plant growth, or other problems. Take the sample at approximately the same time every year. If the area has been fertilized, wait eight weeks after fertilizing to test the soil to ensure nutrients have been absorbed.
- When selecting the optimal type of fertilizer to use on an area, consider the soil test results, type of turf, and type of turf use. Slow-use fertilizer should be used for turf grass.
- Calibrate application equipment regularly to ensure proper application and loading rates.
- Mix fertilizers using clean application equipment under cover in an area where accidental spills will not enter surface water or groundwater and will not contaminate the soil.
- Fertilizers should only be applied by properly trained personnel.
- Never apply fertilizers in quantities exceeding the manufacturer's instructions. Instead, apply small amounts throughout the growing season.
- Time fertilizer application methods for maximum plant uptake, usually in the fall and spring (e.g., between April 15 and October 15). When applying at the beginning and end of planting season, take into consideration the slower uptake rate of fertilizer by plants and adjust the fertilizer application accordingly.
- Never apply fertilizer during a drought, when the soil is dry or frozen, when it is raining, or immediately before expected rain.
- Fertilizer should be applied when the ground temperature is above 55° F.
- Apply fertilizers in amounts appropriate for the type of vegetation to minimize losses to surface water and groundwater. Use the results of the soil test to determine optimal fertilizer timing and application rates.

- Where applicable, till fertilizers into the soil rather than dumping or broadcasting (proper application techniques will depend on the type of soil and vegetation).
- Do not hose down paved areas after fertilizer application if drainage will enter into an engineered storm drain system or drainage ditch.
- Limit irrigation after fertilizer application to prevent runoff (approximately ½ inch of water per application for a week following application).
- Turn off irrigation systems during periods of adequate rainfall.
- Do not over-apply fertilizer in late fall to “use it up” before winter. The effectiveness of fertilizer does not reduce when stored.
- If phosphorus fertilizer is used when re-seeding, mix the phosphorus into the root zone. Do not apply directly to the soil surface.
- Avoid combined products such as “weed and feed,” which do not target specific problems at the appropriate time.

Use and Application of Pesticides and Herbicides

The State of Massachusetts has a stringent program for registration of pesticides and certification of those authorized to apply them. Once a pesticide has been approved for use by the USEPA, it must be registered by the Massachusetts Pesticide Board Subcommittee prior to being distributed, purchased, or used in Massachusetts. Pesticide classification in Massachusetts is based on the potential adverse effects the pesticide may have on humans or the environment. “Restricted Use” pesticides can only be sold by Licensed Dealers to Certified Applicators, while “State Limited Use” pesticides may be restricted to use by certain individuals or require written permission from the Department of Agricultural Resources prior to use. Legal application of pesticides must be performed by an individual licensed or certified by the Massachusetts Department of Agricultural Resources. A Commercial Applicator License is required for applying general use pesticides, and a Commercial Applicator Certification is required for applying restricted and state limited use products.

Use and Application of Pesticides

- Pesticides should only be applied by licensed or certified applicators.
- Calibrate application equipment regularly to ensure proper application and loading rates.
- Ensure that pesticide application equipment is capable of immediate shutoff in case of emergency.
- Conduct spray applications according to specific label directions and applicable local regulations.
- Never apply pesticides in quantities exceeding the manufacturer’s instructions.
- Apply pesticides at the life stage when the pest is most vulnerable.
- Never apply pesticides if it is raining or immediately before expected rain.
- Establish setback distances from pavement, storm drains, and waterbodies, which act as buffers from pesticide application, with disease-resistant plants and minimal mowing.
- Do not apply pesticides within 100 feet of open waters or of drainage channels.
- Spot treat infected areas instead of the entire location.
- Mix pesticides and clean application equipment under cover in an area where accidental spills will not enter surface water or groundwater and will not contaminate soil.
- Do not hose down paved areas after pesticide application to a storm drain or drainage ditch.
- Recycle rinsate from equipment cleaning back into product.
- Choose the least toxic pesticide that is still capable of reducing the infestation to acceptable levels.
- Use alternatives to pesticides, such as manual weed control, biological controls, and Integrated Pest Management strategies (learn more at: <https://www.mass.gov/files/documents/2016/08/wk/ipm-kit-for-bldg-mgrs.pdf>).

- For the use of herbicides, reduce seed release of weeds by timing cutting and pesticide application at seed set. Select vegetation and landscaping that is low-maintenance in order to tolerate low levels of weeds without interfering with aesthetics.

Employee Training

- Employees who handle pesticides, fertilizers, and herbicides are trained ##NUMBER times per year on proper handling and storage procedures.
- Employees are also trained on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures.
- If services are contracted, the contractor should be given a copy of this and any applicable SOPs to ensure compliance with MS4 regulations.

Related Standard Operating Procedures

1. SOP 4: Spill Response and Cleanup
2. SOP 17: Hazardous Materials Storage and Handling

14 MUNICIPAL VEHICLE WASHING SOP

14.1 Introduction

Vehicle washing activities can result in the discharge of nutrients, sediment, petroleum products, and other contaminants to a surface water body or to an engineered drainage system.

Consistent with the 2003 USEPA NPDES Phase II Small Municipal Separate Storm Sewer System (MS4) Permit, municipal vehicle washing activities should not discharge pollutants to the MS4 system.

14.2 Outdoor Vehicle Washing Procedures

Outdoor washing of municipal vehicles should be avoided unless wash water is contained in a tight tank or similar structure. Where no alternate wash system is available, and full containment of wash water cannot be achieved, the following procedures shall be followed:

1. Avoid discharge of any wash water directly to a surface water (e.g., stream, pond, drainage swale, etc.)
2. Minimize use of water to the extent practical.
3. Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. Use of a biodegradable, phosphate-free detergent is preferred.
4. Do not use solvents except in dedicated solvent parts washer systems or in areas not connected to a sanitary sewer.
5. Do not power wash, steam clean or perform engine cleaning or undercarriage cleaning.
6. Grassy and pervious (porous) surfaces may be used to promote direct infiltration of wash water, providing treatment before recharging groundwater and minimizing runoff to an adjacent stormwater system. Pervious surfaces or other infiltration-based systems shall not be used within wellhead protection areas or within other protected resources.
7. Impervious surfaces discharging to engineered storm drain systems shall not discharge directly to a surface water unless treatment is provided. Treatment can include a compost-filled sock designed specifically for removal of petroleum and nutrients, such as the Filtrexx™ FilterSoxx product, or equal. The treatment device shall be positioned such that all drainage must flow through the device, preventing bypassing or short-circuiting.
8. All adjacent engineered storm drain system catch basins shall have a sump. These structures shall be cleaned periodically (refer to SOP 3, "Catch Basin Inspection and Cleaning").
9. Solids and particulate accumulation from the washing area shall be completed through periodic sweeping and/or cleaning.
10. Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Clean up any spills using the procedures described in SOP 4, "Spill Response and Cleanup Procedures".

Heavily soiled vehicles or vehicles dirtied from salting or snow removal efforts shall not be washed outside, without exception.

14.3 Indoor Vehicle Washing Procedures

Indoor vehicle washing procedures shall include the following:

1. Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. Use of a biodegradable, phosphate-free detergent is preferred.
2. Detergents shall not be used in areas where oil/water separators provide pre-treatment of drainage (refer to SOP 11, "Oil/Water Separator Maintenance", for more information).
3. Floor drains shall be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems shall be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
4. Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, etc.
5. Dry clean-up methods, such as sweeping and vacuuming, are recommended within garage facilities. Do not wash down floors and work areas with water.
6. Bring smaller vehicles to commercial washing stations.
7. Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Clean up any spills using the procedures described in SOP 4, "Spill Response and Cleanup Procedures".

14.4 Heavy Equipment Washing Procedures

Heavy equipment washing procedures shall include the following:

1. Mud and heavy debris removal shall occur on impervious pavement or within a retention area.
2. Maintain these areas with frequent mechanical removal and proper disposal of spoils.
3. All adjacent engineered storm drain system components shall have a sump. These structures shall be cleaned periodically (refer to SOP 3, "Catch Basin Inspection and Cleaning").
4. Impervious surfaces with engineered storm drain systems shall not discharge directly to a surface water.
5. Floor drains shall be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems shall be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
6. Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. Use of a biodegradable, phosphate-free detergent is preferred.
7. Detergents shall not be used in areas where oil/water separators provide pre-treatment of drainage (refer to SOP 11, "Oil/Water Separator Maintenance", for more information).
8. Maintain absorbent pads and drip pans to capture and collect spills or noticeable leaks observed during washing activities. Clean up any spills using the procedures described in SOP 4, "Spill Response and Cleanup Procedures".

14.5 Engine Washing & Steam Washing Procedures

Engine and steam washing procedures shall include the following:

1. Do not wash parts outdoors.
2. Maintain drip pans and smaller containers to contain motor oils, hydraulic lubricants, greases, etc. and to capture and collect spills or noticeable leaks observed during washing activities, to the extent practicable. Clean up any spills using the procedures described in SOP 4, "Spill Response and Cleanup Procedures".
3. Where use of detergent cannot be avoided, use products that do not contain regulated contaminants. Use of a biodegradable, phosphate-free detergent is preferred.

4. Avoid cleaning with solvents except in dedicated solvent parts washer systems. Make use of pressure washing and steam cleaning.
5. Recycle clean solutions and rinse water to the extent practicable.
6. Wash water shall discharge to a tight tank or a sanitary sewer via an oil/water separator. Detergents shall not be used in areas where oil/water separators provide pre-treatment of drainage (refer to SOP 11, "Oil/Water Separator Maintenance", for more information).

Related Standard Operating Procedures

1. SOP 3: Catch Basin Inspection and Cleaning
2. SOP 4: Spill Response and Cleanup
3. SOP 11: Oil/Water Separator Maintenance

APPENDIX C

Spill Documentation Forms

Includes copies of spill documentation forms to be completed in the event of any leak or spill that occurs at the facility in the future.

Significant Spills, Leaks or Other Releases

Instructions:

- Include the descriptions and dates of any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants to waters of the U.S., through stormwater or otherwise; the circumstances leading to the release and actions taken in response to the release; and measures taken to prevent the recurrence of such releases .
- Provide information, as shown below, for each incident, and attach additional documentation (e.g., photos, spill cleanup records) as necessary. Repeat as necessary by copying and pasting the fields below.

Date of incident: _____

Location of incident: _____

Description of incident: _____

Circumstances leading to release: _____

Actions taken in response to release: _____

Measures taken to prevent recurrence: _____

Date of incident: _____

Location of incident: _____

Description of incident: _____

Circumstances leading to release: _____

Actions taken in response to release: _____

Measures taken to prevent recurrence: _____

APPENDIX D

Training Documentation and Attendance Sheets

Includes copy of employee training form to document training provided and employees in attendance.

Employee Training

Instructions:

- Keep records of employee training, including the date of the training.
- For in-person training, consider using the tables below to document your employee trainings. For computer-based or other types of training, keep similar records on who was trained and the type of training conducted.

Training Date:	
Training Description (including duration and subjects covered):	
Trainer:	
Employee(s) trained	Employee signature

Training Date:	
Training Description (including duration and subjects covered):	
Trainer:	
Employee(s) trained	Employee signature

Training Date:	
Training Description (including duration and subjects covered):	
Trainer:	
Employee(s) trained	Employee signature