

Town of Upton, MA  
Stormwater Management Program (SWMP):  
Volume 3  
NPDES Phase II Small MS4 General Permit  
June 2020

GOOD HOUSEKEEPING & POLLUTION  
PREVENTION

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# Stormwater Management Program (SWMP):

## Volume 3

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NPDES Phase II Small MS4 General Permit

## GOOD HOUSEKEEPING & POLLUTION PREVENTION

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Prepared for: Town of Upton, Ma

June 2020



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## 1.0 INTRODUCTION

This Good Housekeeping and Pollution Prevention Plan has been developed by the Town of Upton (the Town) to prevent and/or reduce pollutants in stormwater runoff from being discharged to the water of the United States in accordance with the 2016 MS4 general permit (the Permit). The Permit requires a Stormwater Management Program (SWMP), which is comprised of four volumes. This Good Housekeeping and Pollution Prevention Plan is Volume 3 of 4.

- SWMP Volume 1: Stormwater Management Program
- SWMP Volume 2: Illicit Discharge Detection and Elimination (IDDE) Plan
- SWMP Volume 3: Good Housekeeping and Pollution Prevention Plan
- SWMP Volume 4: Annual Reports

## 2.0 OBJECTIVE

The objective is to protect water quality from all permittee-owned operations by preventing or reducing pollutant runoff from town-owned facilities and maintaining town-owned MS4 infrastructure.

## 3.0 STATEMENT OF RESPONSIBILITIES

Upton Department of Public Works (DPW) is the lead municipal department responsible for implementing the Good Housekeeping program with assistance from other Town departments.

The Department of Public Works will conduct meetings involving persons with key roles from the departments listed above to review the responsibilities and coordinate Good Housekeeping efforts between the departments. The meetings will educate the different departments about Good Housekeeping and the roles of each in identifying and resolving illicit discharges.

## 4.0 DEFINITIONS

The following definitions are provided for terms used in this Plan.

Best Management Practices (BMPs) is schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Erosion is the removal of soil particles by wind and water. Often the eroded debris (silt or sediment) becomes a pollutant via stormwater runoff. Erosion occurs naturally but can be intensified by human activities such as farming, development, road-building, and timber harvesting.

Hazardous materials are common everyday products that are used in and around homes and municipal facilities including paint, paint thinner, herbicides, and pesticides-that, due to their chemical nature, can be hazardous if not properly disposed.

An illicit discharge is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Municipal Separate Storm Sewer is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Municipal Separate Storm Sewer System (MS4) means all separate storm sewers that are defined as "large" or "medium" or "small" municipal storm sewer systems pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). For the purposes of this permit "MS4" may also refer to the permittee with jurisdiction over the sewer system.

Pollutants are contaminants existing at a concentration high enough to endanger the environment or the public health or to be otherwise objectionable.

Sediment is solid material, both mineral and organic, that is being transported or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface. Soil, sand, and minerals washed from land into water, usually after rain.

SWPPP stands for "Stormwater Pollution Prevention Plan." It is a plan of practices specific to a facility or site to make sure that the stormwater discharged from the site is clean and not polluted. The plan



describes all the site operator's activities to prevent stormwater contamination, control sedimentation and erosion, and comply with the requirements of the Clean Water Act.

## 5.0 INVENTORY OF MUNICIPAL OWNED FACILITIES

The Town has developed an inventory of all permittee owned facilities where drainage infrastructure is present and/or where pollutants may be exposed to stormwater within the following three categories: (1) parks and open space, (2) buildings and facilities and (3) vehicle and equipment storage. An inventory table and map of permittee owned facilities is provided in Appendix A.

## 6.0 MUNICIPAL FACILITIES OPERATION AND MAINTENANCE PROGRAMS

The following are Operation and Maintenance (O&M) procedures and best management practices (BMPs) for the three categories of municipally owned facilities identified in Section 5.0 to be implemented at each facility as applicable. Inspection logs for these facilities are included in Appendix B.

### 6.1 PARKS AND OPEN SPACE

Parks and open space operations and maintenance activities commonly involve the operation of equipment such as mowers and tractors; disposal of waste from mowing, planting, weeding, raking, pruning, and trash collection; application of pesticides, herbicides, and fertilizers; cleaning and maintenance of park amenities such as play equipment, restrooms, and structures; and snow removal. These activities have the potential to generate contaminants such as sediments and toxic chemicals that may be picked up by rainwater, thereby entering the storm drainage system and receiving waters.

#### Pesticides, Herbicides and Fertilizers

The Town maintains its public spaces and parks utilizing the DPW. Town employees apply fertilizers, lime, pesticide and herbicide on open spaces and public parks as needed and employs 2 staff with pesticide application licenses. When these chemicals are needed, use shall be in strict accordance with the manufacturer's instructions and with local regulations and use shall be minimized. The Town stores all fertilizers, pesticides and herbicides at the DPW building located at #100 Pleasant Street.

#### Lawn Maintenance and Landscaping Activities

Lawn maintenance and landscaping activities in town are minimal and limited to mowing, tree-trimming and general landscaping on Town-owned land. The Town allows some lawn clippings to remain on mowed areas to (re)fertilize the soils and biodegrade. Anything that is removed is taken to the DPW yard for compost and is removed by a contractor who disposes of the material at their facility.

The use of landscaping equipment with small engines such as lawn mowers and weed whackers requires the transport and use of gasoline and oil, which provides a risk of spills. Spills may occur while fueling vehicles or equipment and poorly maintained equipment may leak during use.

Best management practices for lawn and landscaping activities include the following:

- All vehicles and equipment receive regular maintenance and are inspected for leaks or defective parts.
- Fueling activities should occur on impervious surfaces when possible with proper containment and a spill response kit in close proximity.

- Vehicles transporting landscaping equipment, pesticides, fertilizer, or paint shall be equipped with a spill response kit in case a spill or leak does occur.
- Personnel involved in fuel or oil handling are familiar with the spill response kit and spill response and cleanup procedures” and are properly trained to efficiently respond to spill and leak events.
- Never wash debris from parking lots into the storm drain.
- Leave clippings on grassy areas or dispose of them in the trash or by composting.
- Collect grass clippings and leaves after mowing. Do not blow or wash them into the street, gutter, or storm drains. Properly recycle or dispose of organic waste after mowing, weeding, and trimming.
- Brush off mowers (reels and decks) and tractors over grassy areas or in contained washout areas. Do not hose off mowers over paved areas that drain into the MS4 or directly to surface waters.
- Repair broken sprinkler heads as soon as possible.
- Only irrigate at a rate that can infiltrate into the soil to limit run-off and avoid irrigating close to impervious surfaces such as parking lots and sidewalks.
- When establishing new plantings, use alternative landscaping materials, such as drought resistant or native plants to reduce the need for irrigation and extensive application of fertilizers and pesticides.

#### Water Fowl

The Town does not currently have issues with waterfowl in specific areas. If needed to address waterfowl congregation areas and prevent droppings from entering the MS4, best management practices for waterfowl management include the following:

- Install signage discouraging the feeding waterfowl.
- Using good landscaping practices to discourage waterfowl. Plant low-growing bushes near the water's edge and avoid lawn areas around surface water, instead opt for more natural landscaping.

#### Pet Waste and Trash Management

Most parks in Town have trash barrels that are available year round. Dog waste stations are not provided at town properties. The DPW collects from trash receptacles throughout Town on Monday and Friday every week and the day before a holiday if it falls on Monday or Friday.

The Town’s General Bylaw Chapter 16 Canine Control regulates pet owners responsibilities including proper removal and disposal of pet waste on both public and private property. The following site provides advice and recommendations on installation, servicing, signage, location and quantity of dog waste stations: <http://www.zerowasteusa.com/advice.asp>

Best management practices for pet waste and trash management include the following:

- Provide pet waste stations with bags and trash receptacles where pets are permitted. Post signs describing the proper disposal of pet waste.
- All waste and recycling containers must be leak-tight with tight-fitting lids or covers.
- Place waste and recycling containers indoors or under a roof or overhang whenever possible.
- Clean and sweep up around outdoor waste containers regularly.
- Arrange for waste and recyclables to be picked up regularly and disposed of at approved disposal facilities.
- Do not wash out waste or recycling containers outdoors or in a parking lot.
- Conduct periodic inspections of waste areas to check for leaks and spills.
- Ensure there are enough trash and recycling containers at appropriate areas and monitor waste and recycling containers at heavily-used sites and on holidays to ensure that there is no overflow.

#### Erosion Control

Parks and open space maintenance activities include erosion control, specifically in regards to poor vegetation cover and particularly within 50 feet of surface water. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.
- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect sites regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.
- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around surface waters. No fertilizers or pesticides should be applied in the buffer/filter strip except where necessary.

## 6.2 BUILDINGS AND FACILITIES

Municipal buildings and facilities (schools, municipal offices, police and fire stations, municipal pools, parking garages, etc.) often house various chemicals, such as petroleum products and hazardous materials. As a result, these buildings and facilities are potential sources of pollutant discharges to the storm drainage system. The goal of these procedures is to provide guidance to municipal employees on the use, storage, and disposal of chemicals and other stormwater pollutants to reduce the discharge of pollutants from the MS4.

#### Use Storage and Disposal of Potential Pollutants

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling areas should be covered or enclosed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used at each specific building or facility should be easily accessible, and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Establish separate storage areas for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person should be responsible for these areas.
- The storage area should be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.
- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Ensure that the washwater does not flow into the storm system. Containment or filtering systems should be provided.

#### Spill Prevention Plans

The Town has spill kits and prevention and control plans in place for all buildings and facilities where hazardous wastes are stored or used. These are coordinated with the fire department as necessary.

Per the Massachusetts Clean Water Toolkit Fact Sheet for Spill Prevention and Control Plans, it is recommended that Spill Prevention and Control Plans (SPCP) clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to

prevent and control future spills. The SPCP should define material handling procedures and storage requirements and outline actions necessary to reduce spill potential and impacts on stormwater quality. The plan can be a procedural handbook or a poster placed in several locations at the site.

### Waste Management

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.
- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

### Sweeping and Cleaning of Parking Lots

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Parking lot sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need for specific sites. Procedures for sweeping parking lots are included in Section 7.2 Streets and Parking Lots.

#### Catchbasin and Stormwater Management BMP Maintenance

DPW is in charge of maintenance for CB and BMPs. All catchbasin on town-owned sites are included in the Town catchbasin inspection and cleaning optimization program described in Section 7.1. Stormwater BMPs for facilities are included in the Town Stormwater Treatment Structures BMP Inspection and Maintenance program described in Section 7.5 and maintained as necessary to provide optimum treatment of stormwater runoff.

### 6.3 VEHICLES AND EQUIPMENT

Regular maintenance of both municipal and contracted vehicles and heavy equipment not only prolongs the life of municipal assets but also helps reduce the potential for leaking of fluids associated with normal wear and tear. Potential pollutants include fuels, oil, antifreeze, brake fluid, solvents, and battery acid. The goal of this procedure is to provide guidance to municipal employees to help reduce the discharge of pollutants from the MS4 as a result of leaks from vehicles and equipment.

#### Storage

Rainfall on vehicles and equipment storage areas has the potential to collect pollutants and result in high loads of nutrients, metals, and hydrocarbons in stormwater runoff. To prevent this, best management practices include the following:

- All vehicles, equipment and hazardous waste storage containers should receive regular maintenance and be inspected for leaks or defective parts.
- Vehicles and equipment should be stored on a covered slab or within a building with a common drain that discharges to an oil/water separator.
- Outdoor storage of vehicles and equipment should not occur in areas that drain to the storm drain system unless adequate devices are in place to remove oil, sediment and other pollutants.
- Vehicles with fluid leaks should be stored indoors or containment be provided until repaired.

#### Vehicle and Equipment Maintenance

Vehicle and equipment maintenance shall be conducted in a manner to reduce the discharge of pollutants by following these best management practices:

- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Use drip pans as needed until repairs can be performed and when drip pans are used, avoid overtopping.
- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.

- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.
- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.

#### Fueling Areas

Vehicle fueling activities can result in gasoline and diesel fuel entering the storm drain system. Spills can occur by topping off fuel tanks and during deliveries. If possible, fueling areas are to be places under cover in order to minimize exposure. Best management practices for fueling areas include the following:

- Deliveries to fuel tanks and fueling of vehicles and equipment should occur on impervious surfaces with proper containment and that spill response kits be readily accessible at fueling and maintenance areas.
- Fueling areas owned or operated by the municipality should be covered.

#### Parts Cleaning

Cleaning of parts can transport pollutants into the municipal system storm drain system or surface waters. The Permit does not authorize these types of discharges. Best management practices to avoid this include the following:

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.

#### Vehicle and Equipment Wash Waters

Washing down of maintenance and fueling areas and vehicles can transport pollutants into the municipal system storm drain system or surface waters. The Permit does not authorize these types of

discharges. Best management practices to ensure that vehicle wash waters are not discharged to the municipal system or surface waters include the following:

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- 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 should not be used within wellhead protection areas or within other protected resources.
- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale)
- Do not use solvents except in dedicated solvent parts washer systems.
- Wash vehicles with non-toxic, phosphate-free, biodegradable cleaners
- Wash vehicles on an asphalt lot using a collection system with containment berms and discharge to water quality devices that will remove pollutants. Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.



## 7.0 MUNICIPAL INFRASTRUCTURE OPERATION AND MAINTENANCE

The Permit requires a written program detailing the activities and procedures the Town will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. This program includes operation and maintenance of stormwater infrastructure such as catch basins and treatment structures and the impervious surfaces, streets and parking lots that are tributary to them.

### 7.1 CATCH BASIN INSPECTION AND MAINTENANCE OPTIMIZATION

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 Town has established this procedure to optimize routine inspections, cleaning and maintenance of catch basins with a goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full.

For the purposes of this part, an excessive sediment or debris loading is a catch basin sump more than 50 percent full. 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.

#### Optimization Procedure:

As part of routine inspections/cleaning events, debris levels in catchbasins will be recorded prior to cleaning in one of three conditions (<25% full, 25-50% full, and >50%) – See Catchbasin Inspection Form in Appendix C.

Records from consecutive inspections/cleaning events will be compared to identify basins that may be cleaned every other period, basin that need clean each period and basins that will require additional interim cleaning.

Inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) will be prioritized. Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.

If a catch basin sump is more than 50 percent full during two consecutive cleanings the Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, and abate contributing sources. The Town will describe any actions taken in its annual report.

In the tributary areas of West River (MA51-12), prioritize inspection and maintenance for catch basins to target high pollutant load areas to address solids, oil and grease, and metals impairments.

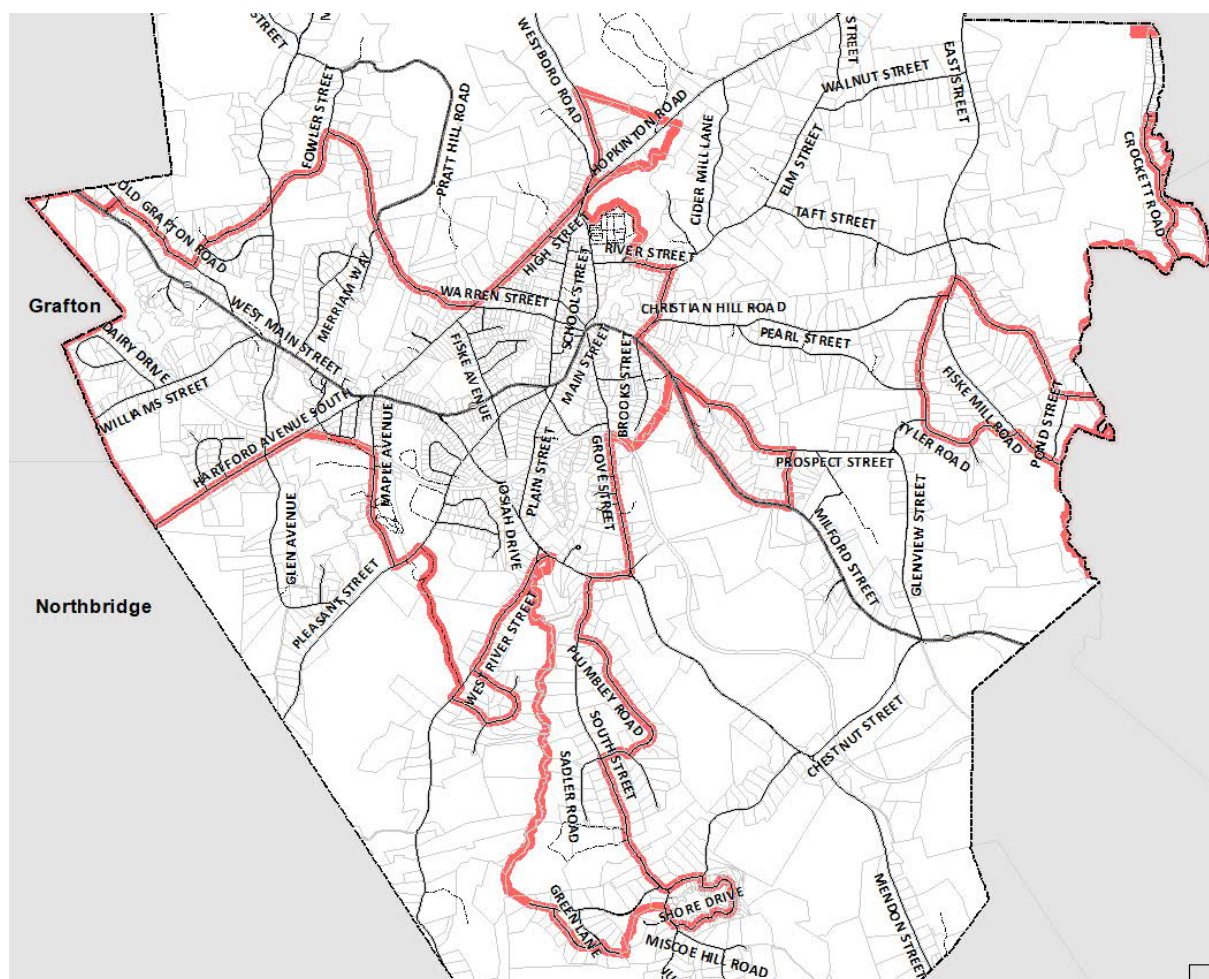
#### Record Keeping

The Town will keep a log of catch basins cleaned or inspected and report in each annual report the total number of catch basins inspected and cleaned, and the total volume of material removed from catch basins. Record keeping forms can be found in Appendix C.

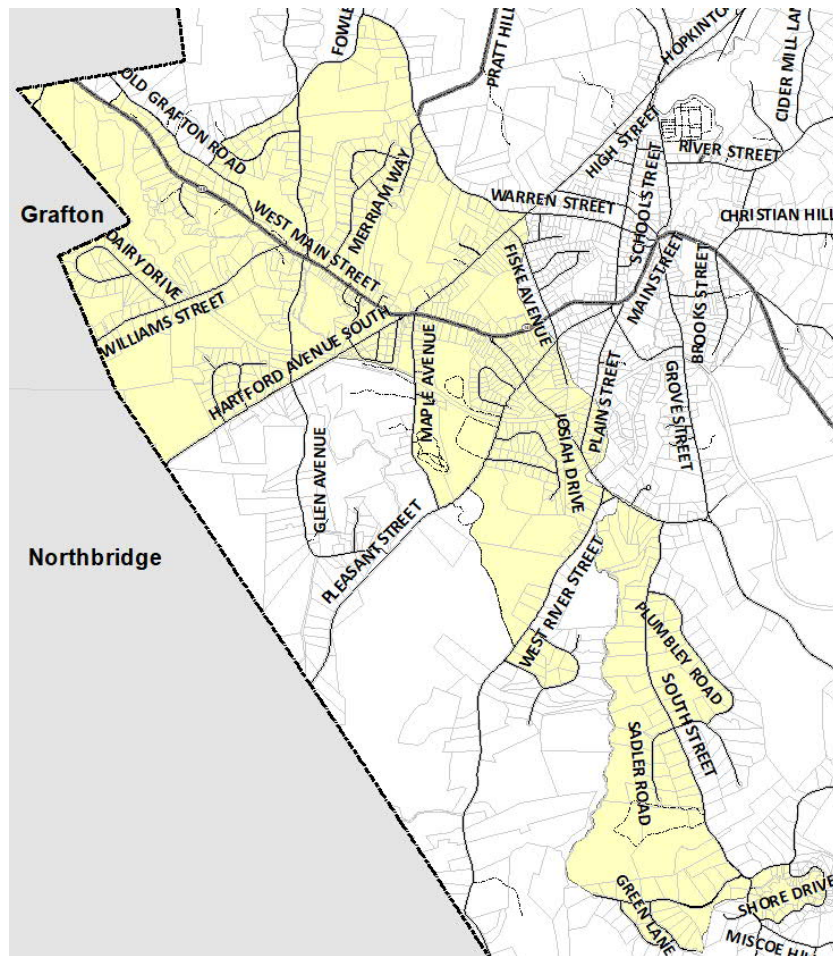
## 7.2 STREETS AND PARKING LOTS

Regular sweeping of streets and municipally-owned parking lots is important for maintaining clean and safe roadways. It also plays a vital role in keeping pollutants like sand, trash, and leaves out of the MS4. The Town's current practice includes sweeping all town owned streets and parking lots once per year in the spring (following winter activities such as sanding).

Sweeping frequency is to be increased as necessary to target areas as determined by the Town on the basis of pollutant load reduction, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, water quality limited or TMDL waters or other relevant factors. In Upton, Sweeping frequency is to be increased as necessary to target areas with potential for high pollutant loads for solids, oil and grease, and metals. See Map of MS4 area requiring once/year sweeping outlined in red (below).



In areas that discharge to certain nutrient-impaired waters, sweeping must be performed a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall). In Upton this applies to tributary areas of the West River (MA51-11 & MA51-12) due to phosphorus impairment. The West River is a tributary to the Blackstone River. See Map of area requiring twice/year sweeping in yellow (below).



#### Record Keeping

The Town will report in each annual report the number of miles cleaned and/or volume of material removed. Record keeping forms can be found in Appendix D.

### 7.3 STORAGE AND DISPOSAL OF CATCH BASIN CLEANINGS AND STREET SWEEPINGS

The Town ensures proper storage of catch basin cleanings and street sweepings prior to disposal or reuse so that they do not discharge to receiving waters, in compliance with current MassDEP policies. The policies as listed in Section 2.3.7.a.iii.4 of the Permit include the following:

- 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 disposal shall follow:  
<http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.html>
- Street Sweepings disposal shall follow Mass DEP Policy #BWP-94-092: Reuse & Disposal of Street Sweepings:  
<http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf>

## 7.4 WINTER ROAD MAINTENANCE

The purpose of this policy is to provide information to meet MS4 Permit requirements on the procedures followed by the Highway Division during any snow or ice event throughout the winter season on Town owned roads. The DPW reserves the right to modify any plan as needed to adjust to various circumstances that a storm might present and provides detailed plowing information and snowstorm procedures on their website. The DPW Director will be responsible for carrying out this policy to satisfy the Permit. Parking during snow removal shall comply with Upton's winter parking ban as referenced and described on the Highway Division website.

### Priorities

1. The first priority is to ensure that police, fire and medical emergency equipment can move safely on streets.
2. The second priority is to open main and secondary roads for use by the public.
3. The third priority is to open residential streets.
4. The fourth priority is to open all schools, public facilities, and clear sidewalks used to walk to schools/businesses/public transportation.

### Materials Used

With safety as the priority, the Town's goal is to minimize the use of salt and sand through optimization of application. This is achieved through the use, where practicable, of automated application equipment, anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. The types of materials used by the Department of Public Works are detailed below.

- Rock Salt (Sodium Chloride): Salt is used to expedite the melting of snow and ice from the street surface and also to keep the ice from forming a bond to the street surface.
- Sand: Sand is used as an abrasive for traction on slick roadways.
- Other Materials: The Town may choose to use alternative chloride-containing materials used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

### Materials Storage

All salt, sand and deicing compounds are properly stored under cover to ensure they are not exposed to precipitation or otherwise carried to a catch basin, resource area or waterbodies. Diversion berms and good housekeeping practices shall be used to minimize runoff from storage areas.

### Application and Equipment Calibration

Each piece of application equipment owned by the Town is calibrated prior to the winter season. Salt application shall be calibrated to dispense at minimum rates while maintaining safety rates (EPA guidance recommends 200 pounds per mile lane). Trucks equipped with pre-wetting brine tanks are calibrated to dispense at minimum rates while maintaining safety rates (EPA guidance recommends 8 gallons of pre-wet liquid to 1 ton of salt, to be varied based on temperature).



#### Snow Disposal

The MS4 Permit prohibits snow disposal into waters of the United States. Snow disposal activities, including selection of appropriate snow disposal sites, will adhere to the Massachusetts Department of Environmental Protection Snow Disposal Guidance, Guideline No. BWR G2015-01 (Effective Date: December 21, 2015).

#### Record Keeping

The Town maintains records of prioritized plow routes, miles of roads plowed annually, the quantity of salt and other materials used annually, and equipment calibration records.

## 7.5 STORMWATER TREATMENT STRUCTURES (STRUCTURAL BMPs) INSPECTION AND MAINTENANCE

Stormwater treatment structures, also referred to as structural BMPs, include water quality swales, retention/detention basins, infiltration structures, proprietary treatment devices or other similar structures. The Town has established and implemented inspection and maintenance frequencies and procedures for all structural BMPs. Inspection frequency for all permittee-owned stormwater treatment structures (excluding catch basins) shall be determined at initial and subsequent inspections based on observed conditions. Structures that are routinely observed with accumulated sediment or other performance issues will be inspected at least annually and Records from consecutive inspections/cleaning events will be compared to identify structures that may need to be cleaned more or less frequently than once per year.

If a structure proves to be problematic during two consecutive inspections the Town will document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, address the source. Actions taken will be described in the annual report.

The Town will keep a log of stormwater management structures inspected and report on the condition and maintenance performed in each annual report. BMPs in the MS4 area are included on the inventory in Appendix B and identified on the stormwater infrastructure map in Appendix A. An inspection and maintenance guide is provided in Appendix E. The following are maintenance activities and procedure for each category of BMP based on the Massachusetts Stormwater Handbook:

### STRUCTURAL PRETREATMENT BMPs

#### WATER QUALITY UNIT (OIL/GRIT SEPARATOR)

Water quality units, also referred to as oil/grit separators, are underground storage tanks with chambers designed to remove heavy particles, floating debris and hydrocarbons from stormwater. These units are typically considered a pretreatment BMP for land uses with higher potential pollutant loads and risk of petroleum spills. Cleaning these units is important to prevent sediment from re-suspending and discharging during future storm events. Inspection and maintenance should include the following:

- Inspect and clean unit – cleaning includes removal of accumulated oils and grease and sediment using a vacuum truck or other ordinary catch basin cleaning device
- Polluted water or sediments removed from an oil grit separator unit should be disposed of in accordance with all applicable local, state and federal laws and regulations including M.G.L.c. 21C and 310 CMR 30.00.

#### PROPRIETARY SEPARATOR

A proprietary separator is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments. Some rely solely on gravity separation and contain no swirl chamber. These units are typically considered a pretreatment BMP for land uses with higher potential pollutant loads and risk of petroleum spills. Vactor trucks are typically used to clean these units. Clamshell buckets typically used for cleaning catch basins are almost never allowed by

manufacturers. Sometimes it will be necessary to remove sediment manually. Inspection and maintenance should include the following:

- Inspect and clean these units in strict accordance with manufacturers' recommendations and requirements

#### Treatment BMPs

##### BIORETENTION AREAS & RAIN GARDEN

Bioretention areas and rain gardens are shallow depressions filled with sandy soil, topped with a thick layer of mulch and planted with dense native vegetation. Bioretention areas require careful attention while plants are being established and seasonal landscaping maintenance thereafter. Regular inspection and maintenance for sediment build-up, structural damage and standing water can extend the life of the soil media and prevent against premature failure of the system. Snow should never be stored or plowed into bioretention areas or rain gardens. Annual Inspection and maintenance should be conducted in the spring and include the following:

- Inspect and remove trash and sediment build-up
- Mow and/or Mulch
- Remove and replace dead vegetation
- Prune and remove invasive species as needed
- Upon failure, replace entire media and all vegetation

##### EXTENDED DRY DETENTION BASIN

Extended dry detention basins are designed to control both stormwater quantity and quality. These BMPs are designed to hold stormwater for at least 24 hours, allowing solids to settle and to reduce local and downstream flooding. Potential maintenance problems requiring immediate repairs include: erosion within the basin and banks, tree growth on the embankment, damage to the emergency spillway and sediment accumulation around the outlet. Annual Inspection and maintenance should be conducted in the spring and include the following:

- Inspect basin – examine outlet structure for clogging or high outflow release velocities
- Mow upper stage, side slopes, embankment and emergency spillway
- Remove trash and debris
- Remove sediment from basin

#### Conveyance BMPs

##### WATER QUALITY SWALE

Water quality swales are vegetated open channels designed to treat a required water quality volume and incorporate specific features to enhance pollutant removal. Inspection and maintenance should be conducted annually and include the following:



- Inspection – make sure vegetation is adequate and slopes are not eroding, check for rilling and gullying, ponding and sedimentation
- Manually remove sediment and debris
- Mow swale depending on vegetation type – if grass, now when height reaches 6 inches but do not cut shorter than 3 inches
- Repair eroded areas and re-vegetate if needed
- Re-seed as necessary

### Infiltration BMPs

#### INFILTRATION BASIN

Infiltration basins are stormwater runoff impoundments that are constructed over permeable soils. Infiltration basins are prone to clogging and failure so pretreatment BMPs are typically included to reduce maintenance requirements for the basin itself. Runoff is stored until it exfiltrates through the soil of the basin floor. Inspection and maintenance should be conducted annually and include the following:

- Inspection to ensure proper functioning – look for signs of settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
- Preventative maintenance
- Mow the buffer area, side slopes, and basin bottom if grassed floor, rake if stone bottom
- Remove trash and debris, remove grass clippings and accumulated organic matter
- Remove sediment as necessary – use light equipment and caution so as not to compact underlying soils
- Inspect and clean pretreatment devices associated with the basin

#### INFILTRATION TRENCH

Infiltration trenches are shallow excavations filled with stone capturing sheet flow or piped inflow. The stored runoff gradually exfiltrates through the bottom and/or sides of the trench into the subsoils. The visible surface of the trench may be either stone or grassed. Infiltration trenches always require a pretreatment BMP such as a vegetated filter strip for sheet flow or a sediment forebay for piped flow. Inspection and maintenance should be conducted annually and include the following:

- Inspect – inspect the trench 24 hours or several days after a rain event to look for ponded water indicating that the trench is clogged or has failed
- Mow top of trench if it is grassed
- Remove accumulated sediment, trash, debris, leaves and grass clippings and tree seedlings
- Inspect and clean pretreatment BMPs –check inlets and outlets for clogging

### INFILTRATION CHAMBERS (SUBSURFACE STRUCTURES)

Infiltration chambers, more generally referred to as subsurface structures, are underground systems that capture runoff and gradually infiltrate it into the groundwater through rock and gravel. The most common types include pre-cast concrete or plastic pits, chambers (manufactured pipes), perforated pipes, and galleys. Pretreatment is required for stormwater runoff from land uses or activities with the potential for high sediment or pollutant loads. Structural pretreatment BMPs for these systems include deep sump catch basins, proprietary separators, and oil/grit separators. Because they are underground, subsurface structures are difficult to maintain with inspection of water levels through an observation well pipe at grade. Inspection and maintenance should include the following:

- Inspect inlets
- Remove any debris that might clog the system
- Remove sediment from pretreatment BMPs

### LEACHING CATCH BASINS

A leaching catch basin is a pre-cast concrete barrel and riser with an open bottom that allows runoff to infiltrate into the ground. These can be configured as a stand alone structure or combined with a deep sump catch basin to provide pretreatment. Leaching basins are typically set in an excavation lined with a geotextile liner to prevent fine soil particles from migrating into the void spaces of the stone surrounding it. Inspection and maintenance should include the following:

- Inspect unit and remove debris
- Remove sediment when the basin is 50% full
- Rehabilitate the basin as needed if it fails due to clogging

### Other BMPs

#### POROUS PAVEMENT

Porous pavement is a permeable paving technique that allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil and receive water quality treatment. Permeable paving techniques include porous asphalt, pervious concrete, paving stones and manufactured “grass pavers” made of concrete or plastic. The systems consist of a durable, load-bearing pervious surface overlying a stone bed that stores rainwater before it infiltrates into the underlying soil. Inspection should be conducted annually and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the paving surface drains properly

- For porous asphalts and concrete, clean the surface using power washer to dislodge trapped particles and then vacuum sweep the area. For paving stones, add joint material (sand) to replace material that has been transported
- Re-seed grass pavers to fill in bare spots

#### STONE CHIP OR GRAVEL DRIVEWAYS AND PARKING AREAS

Stone chip or gravel surfaces allows parking lot, driveway and/or roadway runoff to infiltrate directly into the soil. They need to be designed and constructed with a base similar to a traditional road in order to prevent ponding of water and washout. Inspection should be conducted annually and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the surface drains properly without ponding
- Remove debris (leaves, sticks, weeds, etc) on a weekly basis
- Regrade surface for proper drainage and add new stone/gravel where necessary to fill holes and ruts
- Apply a fresh layer of gravel to the surface every 1-2 years

Additional guidance for Structural BMP operations and maintenance can be found in the latest version of the Massachusetts Department of Environmental Protection Stormwater Handbook, Volume 2, Chapter 2, located at: <http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>

## 8.0 STORMWATER POLLUTION PREVENTION PLANS (SWPPP)

The permit requires a Stormwater Pollution Prevention Plan (SWPPP) be developed and implemented 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 Town has these types of facilities located at a single property, the Upton Public Works Department & Highway Garage at 100 Pleasant Street. The SWPPP that has been developed and is being implemented is included in Appendix F.

## 9.0 TRAINING

The MS4 permit requires employee training be provided as necessary so that those responsible for use, storage, and disposal of petroleum products and other potential stormwater pollutants know proper procedures outlined in this plan. The Town will provide training to employees involved in the Good Housekeeping program as follows:

- Employees who perform maintenance or other applicable work at municipal buildings and facilities shall be trained on the handling of products and the proper operation of related equipment that has the potential to cause stormwater pollution.
- DPW employees are also trained annually on stormwater pollution prevention, illicit discharge detection and elimination (IDDE) procedures, and spill and response procedures. Employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team are to be trained regularly. Training shall cover both the specific components and scope of the SWPPP and the control measures required, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc.
- Employees involved in hazardous waste handling will be made familiar with the spill response kit and spill response and cleanup procedures as outlined in the spill prevention and control plans for the building or facility.
- If outside services are contracted, the contractor should be given a copy of this and any applicable standard operating procedures to ensure compliance with MS4 regulations.

The DPW shall document the following information for each training:

- The training date, title and training duration;
- List of municipal attendees;
- Subjects covered during training

## 10.0 RECORDS AND REPORTING

The progress and effectiveness of the Good Housekeeping program will be evaluated and reported on in each annual report. The success of the Good Housekeeping program will be measured by the activities completed within the required Permit timelines.

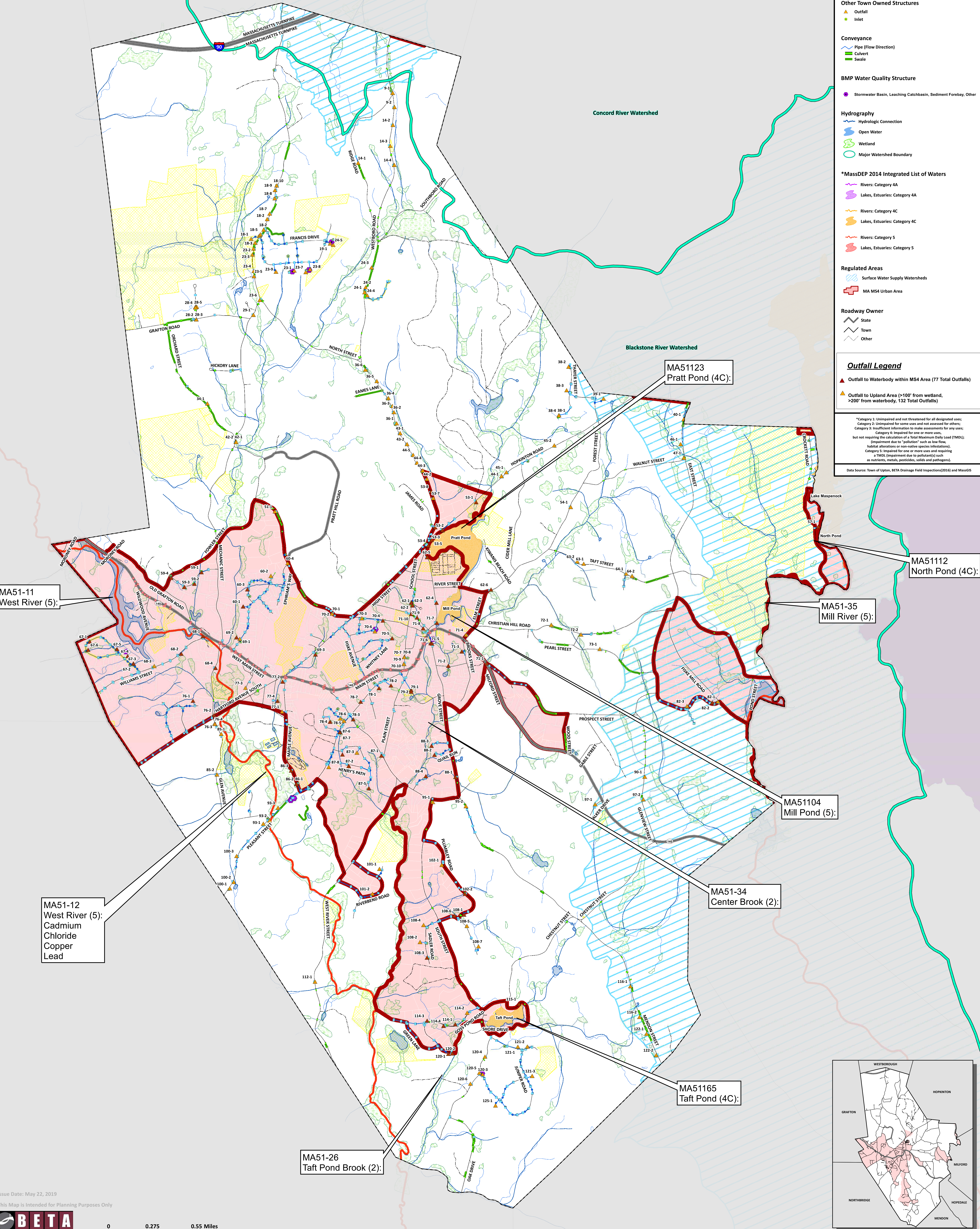
# APPENDIX A – Town-owned Facilities, BMPs and Stormwater Infrastructure Map

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# Town of Upton, Massachusetts

## Town-owned Facilities, BMPs and MS4 Stormwater Infrustructure Map



**Map Legend**

**Catch Basin Owner**

- Town
- State

**Manhole Owner**

- Town
- State

**Other Town Owned Structures**

- Outfall
- Inlet

**Conveyance**

- Pipe (Flow Direction)
- Culvert
- Swale

**BMP Water Quality Structure**

- Stormwater Basin, Leaching Catchbasin, Sediment Forebay, Other

**Hydrography**

- Hydrologic Connection
- Open Water
- Wetland
- Major Watershed Boundary

**\*MassDEP 2014 Integrated List of Waters**

- Rivers: Category 4A
- Lakes, Estuaries: Category 4A
- Rivers: Category 4C
- Lakes, Estuaries: Category 4C
- Rivers: Category 5
- Lakes, Estuaries: Category 5

**Regulated Areas**

- Surface Water Supply Watersheds
- MA MS4 Urban Area

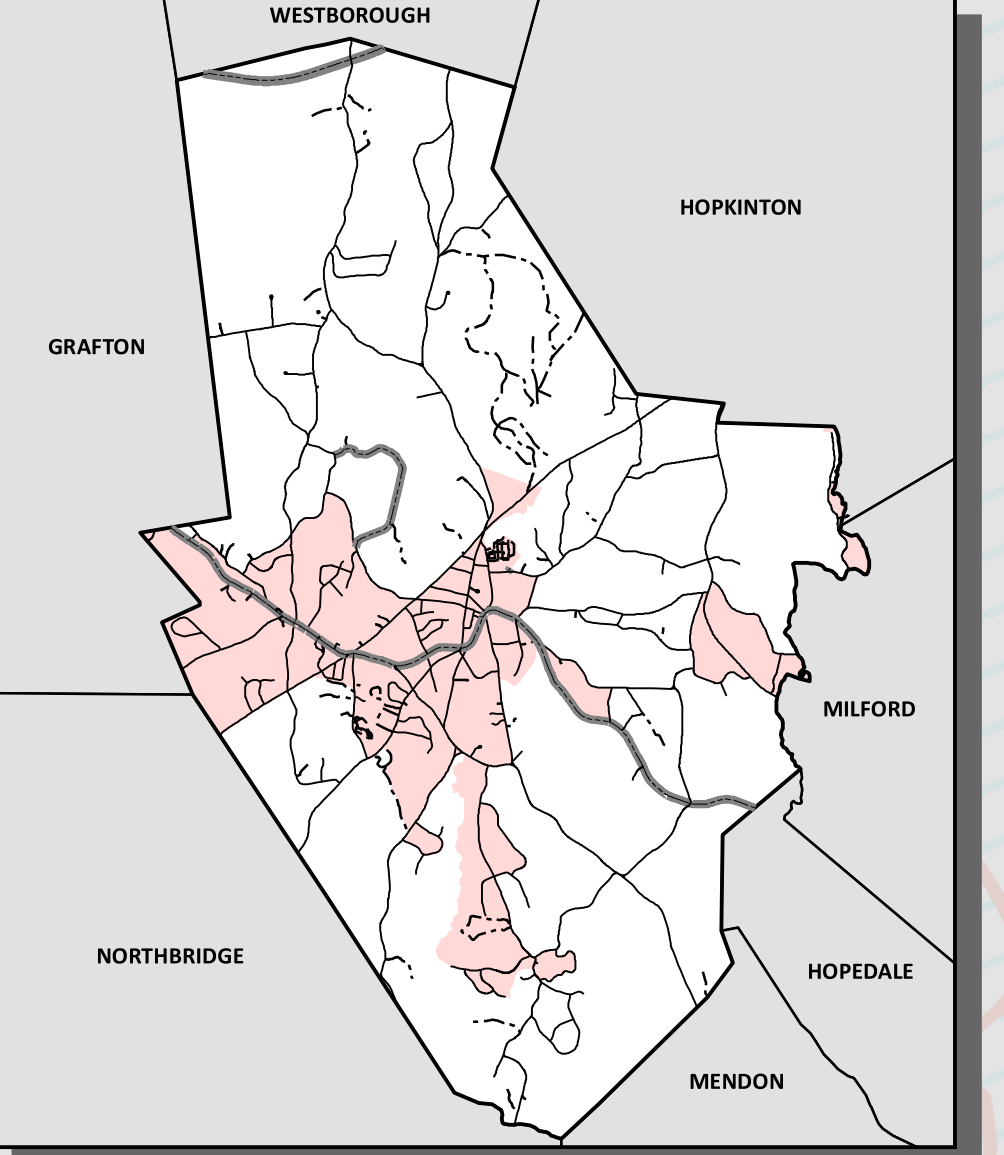
**Roadway Owner**

- State
- Town
- Other

**Outfall Legend**

- Outfall to Waterbody within MS4 Area (77 Total Outfalls)
- Outfall to Upland Area (>100' from wetland, >200' from waterbody, 132 Total Outfalls)

\*Category 1: Unimpaired and not threatened for all designated uses;  
Category 2: Unimpaired for some uses and not assessed for others;  
Category 3: Insufficient information to make assessments for any uses;  
Category 4: Impaired for one or more uses, but not requiring the calculation of a Total Maximum Daily Load (TMDL);  
Category 5: Impaired for one or more uses and requiring a TMDL (impairment due to pollutants such as nutrients, metals, pesticides, solids and pathogens).  
Data Source: Town of Upton, BETA Drainage Field Inspection(2016) and MassGIS





# APPENDIX B – Town-owned Facilities O&M Inventory and Inspection Log

---

Town of Upton, MA  
Municipal Stormwater Operations and Maintenance Program  
Permittee Owned Facilities Inventory



Notes:

- 1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
- 2) Inventory includes facilities and site within or directly adjacent to the designated MS4 area
- 3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan

Parks and Open Space			
Facility Name	Location	BMP/Feature Description	Standard Maintenance/Inspection Items
Town Common	Main Street at Church and Grove	Maintained Lawn and Landscaping	Inspect for erosion or bare soils conditions, Re-seed as necessary
Kiwanis Beach	99 Kiwanis Beach Road	1 baseball field, 2 tennis courts, 1 basketball court, and maintained lawn areas	Inspect for erosion or bare soils conditions, Re-seed as necessary
		Paved parking lot (≈69 spaces) and driveways	Sweep
		1 catch basin near beach	Remove sediments and debris
Leland Field (at Memorial Elementary School)	69 Main Street	2 basketball courts, 1 baseball field and a maintained grass field	Inspect for erosion or bare soils conditions, Re-seed as necessary
		1 catch basin	Remove sediments and debris
VFW Playground	15 Milford Street	Playground structure with mulch	Refresh mulch
		Paved parking lot (≈75 spaces)	Sweep
		1 Rip Rap Swale on west side of parking lot	Remove sediments & debris, inspect for erosion
Lakeview Cemetery	39 North Main Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary
		Vegetated buffer along pond	Inspect for erosion or bare soils conditions
		Vegetated Swale off N. Main St.	Remove sediments and debris, inspect for erosion, mow
		Shed for grounds maintenance equipment and supplies storage	Check for leaks and proper storage
Cemetery	Maple Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary



Town of Upton, MA  
Municipal Stormwater Operations and Maintenance Program  
Permittee Owned Facilities Inventory



Notes:

- 1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
- 2) Inventory includes facilities and site within or directly adjacent to the designated MS4 area
- 3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan

Buildings and Facilities			
Facility Name	Location	BMP/Feature Description	Standard Maintenance/Inspection Items
Upton Public Works Department & Highway Garage - See SWPPP for this facility in Appendix F	100 Pleasant Street	Drainage swale	Inspect for erosion and stabilize, mow, and remove sediments and debris
		Paved parking and driveway areas	Sweep, check for leaks and spills
		Gravel/earthen parking and driveway areas	Check for erosion, replace gravel or regrade as necessary
		Materials stockpile areas	Check for covers or stabilization of materials
		Floordrains to a tight-tank inside maintenance bldg	Inspect and Pump regularly
		3 infiltrating catch basins	Remove sediments and debris
Memorial Elementary School	69 Main Street	Maintained Lawn areas	Inspect for erosion or bare soils conditions, Re-seed as necessary
		Playground structure with mulch	Refresh mulch
		Paved parking lot (≈118 spaces) and driveways	Sweep
		23 catch basins	Remove sediment and debris
		1 trench drain at loading dock under dumpster	Remove sediment and debris
		Dumpsters	Check for leaks and spills, covers in place
Wastewater Treatment Facility	46 Maple Ave	Stockpile of construction materials	Inspect for proper containment
		Paved Parking lot and driveway	Sweep
		Vegetated buffer along stream	Inspect for erosion or bare soils conditions
Fire Department	20 Church Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary
		Water Quality Unit	Remove accumulated oils, grease and sediments
		1 trench drain outside garage	Remove sediment and debris
		3 catch basins	Remove sediment and debris
		Paved parking lot (≈39 spaces)	Sweep
		Vehicle, equipment and supplies storage	Check for leaks and proper storage
Police Department	30 School Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary
		1 catch basin	Remove sediment and debris
		Paved parking lot (≈21 spaces)	Sweep
Town Hall	1 Main Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary
		Paved parking lot (≈14 spaces)	Sweep
		Stone chips against front of building	Refresh stone chips
Library/Risteen Building	2 Main Street	Maintained Lawn	Inspect for erosion or bare soils conditions, Re-seed as necessary
		1 Main and 1 Auxiliary Paved Parking lot (≈22 spaces)	Sweep
		1 CB & 1 Sediment Forebay (aux. parking lot)	Remove sediment and debris

Town of Upton, MA  
Municipal Stormwater Operations and Maintenance Program  
Permittee Owned Facilities Inventory



Notes:

- 1) There are no separate facilities for Vehicles and Equipment storage, these are included under Buildings and Facilities Sites
- 2) Inventory includes facilities and site within or directly adjacent to the designated MS4 area
- 3) Recommended maintenance to be conducted in accordance with the Operation and Maintenance (O&M) procedures and best management practices described in the Good Housekeeping and Pollution Prevention Plan

MS4 System Drainage BMPs			
Facility Name	Location	BMP/Feature Description	Standard Maintenance/Inspection Items
Roadway Stormwater Management System	9 Dairy Drive	Stormwater Basin	Inspection for settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
			Mow the buffer area, side slopes, and basin bottom if grassed floor
			Inspect and clean pretreatment devices associated with the basin
			Remove sediments & debris
Roadway Stormwater Management System	Laurel Lane	Stormwater Basin	Inspection for settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation
			Mow the buffer area, side slopes, and basin bottom if grassed floor
			Inspect and clean pretreatment devices associated with the basin
			Remove sediments & debris

## APPENDIX C –Catch Basin Inspection Log

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## MCM 6: GOOD HOUSEKEEPING - CATCH BASIN CLEANING

### CATCH BASIN CLEANING LOG

Reporting Period: \_\_\_\_\_ - \_\_\_\_\_

Date Range	Location(s)	# CBs Cleaned	Volume of Cleaning

RECORD OF CATCH BASINS FOUND TO BE MORE THAN 50% FULL AT CLEANING

Reporting Period: \_\_\_\_\_ - \_\_\_\_\_

Inspector: \_\_\_\_\_

Sheet \_\_\_\_\_ of \_\_\_\_\_

CB ID	Date	Address	Location Description

## APPENDIX D – Street and Parking Lot Sweeping Log

---

## MCM 6: GOOD HOUSEKEEPING - STREET AND PARKING LOT SWEEPING

### STREET AND PARKING LOT SWEEPING LOG

Reporting Period: \_\_\_\_\_ - \_\_\_\_\_

#### SPRING

Date Range	Location	Volume of Cleaning	# lots

#### FALL

Date Range	Location	Volume of Cleaning	# lots

#### OTHER

Date Range	Location	Volume of Cleaning	# lots

# APPENDIX E – Stormwater Treatment Structures Inspection and Maintenance Guide

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## MCM 6: GOOD HOUSEKEEPING - STORMWATER TREATMENT STRUCTURES INSPECTION & MAINTENANCE

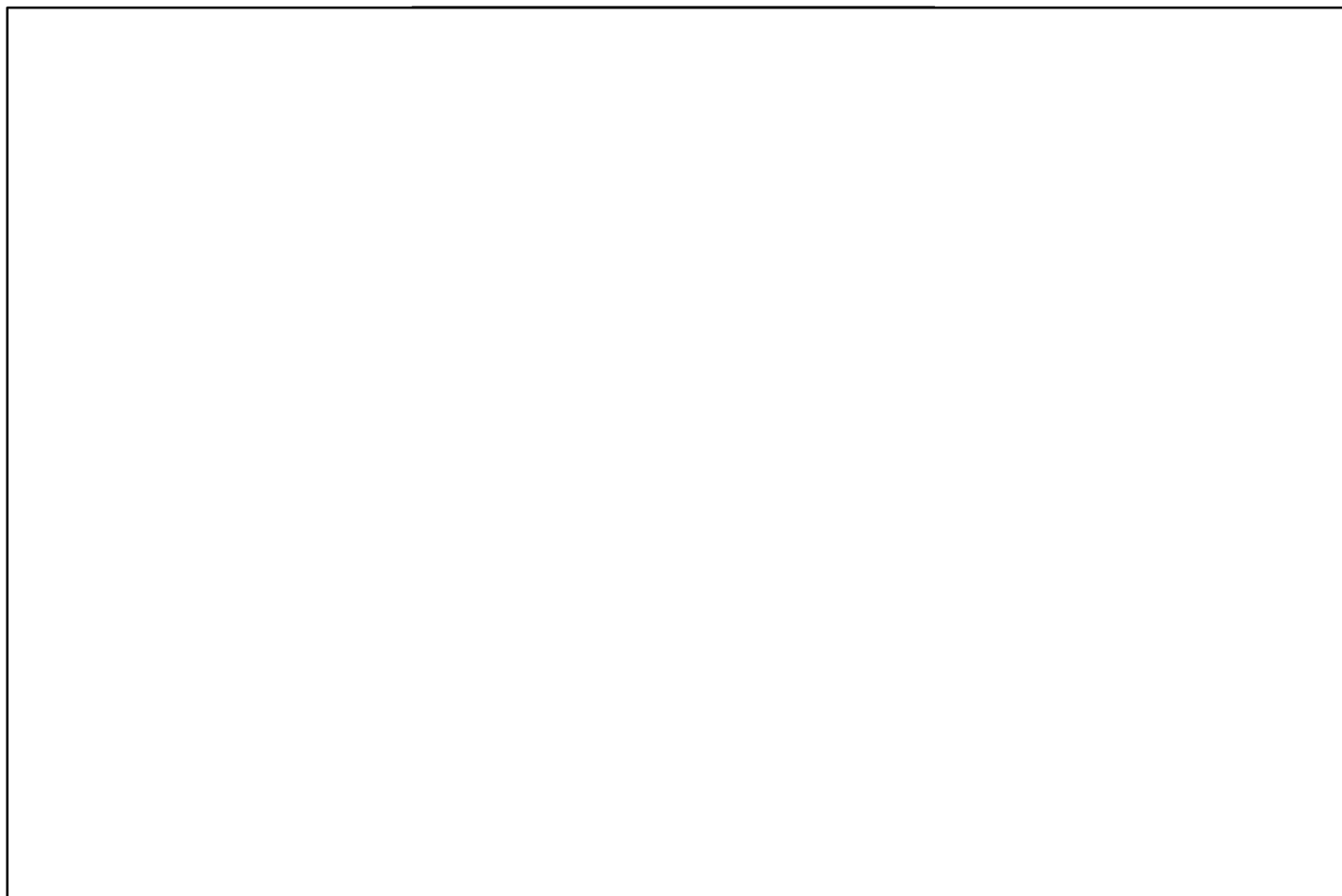
The following establishes inspection and maintenance actions for permittee-owned stormwater treatment structures to be used in conjunction with BMP inspection forms and the Permittee Owned Facilities Inspection Log

#	BMP Description	Required Action
1	Water Quality Unit (Oil/Grit Separator)	a) Remove accumulated oils, grease and sediments
2	Proprietary Separator	a) Inspect and clean units according to manufacturers' recommendations b) Remove sediments & debris
3	Leaching Catch Basin	a) Remove sediments & debris b) Rehabilitate the basin if it fails due to clogging
4	Bio-retention Areas & Rain Garden	a) Remove sediments & debris b) Mow and/or mulch c) Replace vegetation if needed d) Remove Invasive species as needed
5	Extended Dry Detention Basin	a) Inspect outlets b) Mow upper stage, sides slopes, embankment & spillway c) Remove trash and debris d) Remove sediments from basin
6	Water Quality Swale	a) Make sure vegetation is adequate and slopes are not eroding, check for rilling and gullyng, ponding and sedimentation b) Mow 3"-6" c) Remove sediments & debris d) Repair eroded areas if needed e) Re-seed as necessary
7	Infiltration Basin	a) Inspection for settlement, erosion, tree growth on embankments, condition of riprap and turf, ponding and sedimentation b) Mow the buffer area, side slopes, and basin bottom if grassed floor c) Inspect and clean pretreatment devices associated with the basin d) Remove sediments & debris
8	Infiltration Trench	a) Inspect the trench 24 hours or several days after a rain event b) Mow top of trench if is grassed c) Inspect and clean pretreatment BMPs, check inlets and outlets for clogging d) Remove sediments & debris
9	Infiltration Chamber	a) Inspect Inlets b) Remove sediment from pretreatment BMPs c) Remove sediments & debris
10	Porous Pavement	a) Vacuum sweep or Power wash surface
11	Maintained Lawn	a) Re-seed as necessary

## STORMWATER BMP INSPECTION FORM – SURFACE STRUCTURES

BMP ID:					
Location:		Length	±ft.	Depth	±ft.
Description:		Top Width	±ft.	Bot Width	±ft.
Type:	<input type="checkbox"/> <b>Detention</b>	<input type="checkbox"/> <b>Retention</b>	<input type="checkbox"/> <b>Infiltration</b>	<input type="checkbox"/> <b>Bioretention</b>	
	<input type="checkbox"/> <b>Swale</b>	<input type="checkbox"/> <b>Infiltration Trench</b>	<input type="checkbox"/> <b>Other</b>		
Inspector:				Date:	
Recent Rainfall:					
Notes:					

### LOCATION MAP



MAINTENANCE REQUIRED: ☐ YES ☐ NO

(Inspect for all problems listed – provide information for required maintenance only)

Problem	Description	Quantity (±)	Completed (personnel)	Date
<input type="checkbox"/> Sediment/Debris			<input type="checkbox"/>	
<input type="checkbox"/> Vegetation			<input type="checkbox"/>	
<input type="checkbox"/> Erosion			<input type="checkbox"/>	
<input type="checkbox"/> Water Pond			<input type="checkbox"/>	
<input type="checkbox"/> Sediment Forebay			<input type="checkbox"/>	
<input type="checkbox"/> Outlet Struct			<input type="checkbox"/>	
<input type="checkbox"/> Intlet			<input type="checkbox"/>	
<input type="checkbox"/> Outlet			<input type="checkbox"/>	
<input type="checkbox"/> Riprap			<input type="checkbox"/>	
<input type="checkbox"/> Check Dam			<input type="checkbox"/>	
<input type="checkbox"/> Access			<input type="checkbox"/>	
<input type="checkbox"/> Fence			<input type="checkbox"/>	
<input type="checkbox"/> Other			<input type="checkbox"/>	

BMP PHOTOS

## STORMWATER BMP INSPECTION FORM – SUBSURFACE STRUCTURES

BMP ID:					
Location:		Cover/Grate size	±ft.	Cover/Grate shape	±ft.
Description:		Structure Diameter	±ft.	Depth	±ft.
		Structure Material			
Type:	<input type="checkbox"/> Oil-Grit Separator	<input type="checkbox"/> Proprietary Structure	<input type="checkbox"/> Leaching CB		
	<input type="checkbox"/> Infiltration Chamber/Pipe	<input type="checkbox"/> Sand Filter	<input type="checkbox"/> Other		
Inspector:			Date:		
Recent Rainfall:					
Add. Info:					

### LOCATION MAP

MAINTENANCE REQUIRED: ☐ YES ☐ NO

(Inspect for all problems listed – provide information for required maintenance only)

Problem	Description	Quantity (±)	Completed (personnel)	Date
<input type="checkbox"/> Grate/Cover			<input type="checkbox"/>	
<input type="checkbox"/> Structure			<input type="checkbox"/>	
<input type="checkbox"/> Hood/Trap/Insert			<input type="checkbox"/>	
<input type="checkbox"/> Pipes & Joints			<input type="checkbox"/>	
<input type="checkbox"/> Ladder			<input type="checkbox"/>	
<input type="checkbox"/> Sediment/Debris			<input type="checkbox"/>	
<input type="checkbox"/> Vegetation/Roots			<input type="checkbox"/>	
<input type="checkbox"/> Contaminants/Pollution			<input type="checkbox"/>	
<input type="checkbox"/> Infiltration Capability			<input type="checkbox"/>	
<input type="checkbox"/> Discharge			<input type="checkbox"/>	
<input type="checkbox"/> Fence			<input type="checkbox"/>	
<input type="checkbox"/> Access			<input type="checkbox"/>	
<input type="checkbox"/> Other			<input type="checkbox"/>	

BMP PHOTOS

## APPENDIX F – SWPPP

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Upton, Massachusetts

# **Stormwater Pollution Prevention Plan (SWPPP)**

*June 2020*

**DEPARTMENT OF PUBLIC WORKS  
100 PLEASANT STREET**

---



315 Norwood Park South  
2nd Floor  
Norwood, Massachusetts 02062  
781.255.1982  
[www.BETA-Inc.com](http://www.BETA-Inc.com)

# Stormwater Pollution Prevention Plan (SWPPP)

Upton, Massachusetts

## DEPARTMENT OF PUBLIC WORKS 100 PLEASANT STREET

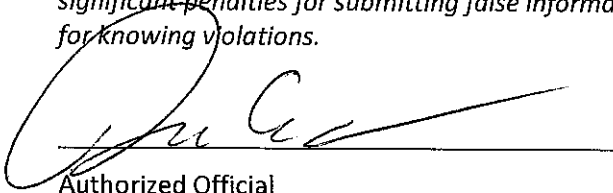
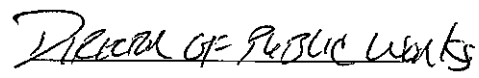
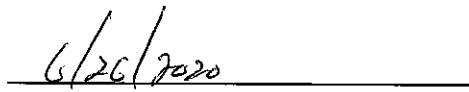
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Prepared by: BETA GROUP, INC.  
Prepared for: Town of Upton

June 2020

### 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



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## INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been developed by BETA Group, Inc. (BETA) on behalf of the Town of Upton (the Town), Massachusetts, Department of Public Works (DPW) to address the requirements of the United States Environmental Protection Agency (EPA) 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 PERMIT. This SWPPP is outlined as follows:

1. *Pollution Prevention Team*
2. *Description of Facility*
3. *Identification of Stormwater Controls*
4. *Management Practices*
5. *Site Inspections*

## 1.0 POLLUTION PREVENTION TEAM

The Upton DPW has assigned a Pollution Prevention Team (PPT) for this SWPPP. PPT team members and contact information are summarized below. The role of the PPT is to develop, implement, maintain, and revise as necessary, this SWPPP. The PPT also has the following responsibilities:

Name:	Dennis Westgate	Title:	Director	Department	Department of Public Works
Phone:	508.529.3067	Email:	<a href="mailto:DWestgate@uptonma.gov">DWestgate@uptonma.gov</a>		
Responsibilities: MS4 Coordinator, IDDE Program, Good Housekeeping, Reporting & Record Keeping					

Name:	John Johnson	Title:	Highway Supervisor	Department:	Department of Public Works
Phone:	508.529.3067	Email:	<a href="mailto:JJohnson@uptonma.gov">JJohnson@uptonma.gov</a>		
Responsibilities: MS4 Co-Coordinator IDDE Program, Good Housekeeping, SWPPP Training, Reporting & Record Keeping					

Name:	Mike Hornig, PE	Title:	Project Manager	Company	BETA Group
Phone:	781-255-7980	Email:	<a href="mailto:MHornig@beta-inc.com">MHornig@beta-inc.com</a>		
Responsibilities: MS4 Consultant to the Town					

## 2.0 DESCRIPTION OF FACILITY

### 2.1 FACILITY SUMMARY

The Town of Upton DPW facility is located at 100 Pleasant Street in Upton, Massachusetts (the site) and is owned and operated by the Town. Information provided in this, and the following sections is based on observations made during a site visit on April 15, 2020. During the site visit, BETA personnel were escorted by Mr. John Johnson, Highway Supervisor for the Upton DPW. Mr. Johnson provided a general overview and layout of facility operations, activities performed and material storage information.

The site consists of an approximate rectangular-shaped parcel that includes 10.93 acres of land improved with five buildings (one being a temporary mobile office trailer). The site buildings are located along the northern portion of the property, which is paved. The remainder of the site has an earthen or gravel surface. A pond is located on the southern portion of the parcel, which is wooded, along with the remainder of the parcel. An unnamed stream flows southwest of the pond, through marsh and wetland areas, to its confluence with the West River, approximately 1,500 feet southwest of the site. The area surrounding of the site is largely undeveloped, with wooded areas (Upton Town Forest) located to the west, south and southeast of the site. Open space is located to the north of the site, beyond Pleasant Street. Nipmuc Regional High School is located to the northeast of the site. The site's location is depicted on the **Site Map** included in **Appendix A**. Pertinent site details, including layout, location of any stormwater outfalls, receiving waters and structural controls, are depicted on the **Site Map**.

### 2.2 SITE MAP

The facility consists of approximately 10.93 acres and contains the structures and other features identified above, shown on the **Site Map** and described in detail in the following sections.

Components shown on the site map include as applicable:

- Location of the engineered drainage system, including catch basins, ditches, drain manholes, and treatment BMPs
- Outfalls to a receiving water, and the name of the receiving water
- Direction of surface water flow
- Structural stormwater pollution control measures
- Vehicle fueling areas
- Aboveground storage tanks (indoors and outdoors)
- Salt storage areas
- Materials stockpiles
- Waste disposal areas

### 2.2.1 INVENTORY OF BUILDING

The site includes the following buildings and structures and their use:

**Table 2.1 - Inventory of Buildings**

No.	Use	Floor Drain
1	Vehicle Maintenance and Storage	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
2	Vehicle Storage	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
3	Salt Storage	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
4	Vehicle Fueling	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
5	Administration Building	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

### 2.2.2 PARKING AREAS

Employee parking is provided on the northeast portion of the site, near the Administration building (Building 5).

### 2.2.3 INVENTORY OF VEHICLES & EQUIPMENT

The Town maintains an inventory of vehicles and heavy equipment. A copy of the inventory is included in **Appendix B**.

## 2.3 SITE DRAINAGE & RECEIVING WATERS

Drainage at the site generally flows to the northeast over paved and earthen areas. Three leaching catchbasins collect runoff on the northern portion of the site. Runoff also flow towards low-lying areas on the eastern site perimeter. These areas are generally earthen, and infiltration of some runoff is expected. A swale located along on the southern portion of the site diverts runoff north, away from the pond. Floor drains in the maintenance garage (Building 1) are connected to a tight tank, the contents of which are routinely pumped and removed from the site. Sanitary waste is handled by an on-site septic tank and leaching fields, located on the northern portion of the site. Surface runoff flow direction, drainage structures and features are indicated on the **Site Map**.

## 2.4 POTENTIAL POLLUTANT SOURCES

An inventory of activities performed at the site and associated potential stormwater pollutants is provided in **Appendix C**. Locations of activities and potential stormwater pollutants are indicated in on the **Site Map**.

### 3.0 STORMWATER CONTROLS

Structural stormwater controls including drainage structures, pipes and conveyances; stormwater best management practices (BMPs) and outfall(s) are shown on the **Site Map**. These controls, used and maintained in accordance with good engineering practices, manufacturer's specifications and management practices detailed in **Section 4.0** below, address the quality of discharges from the site.

## 4.0 MANAGEMENT PRACTICES

The following sections summarize the management practices (non-structural stormwater controls) to be implemented at the site to mitigate the potential for potential pollutants to impact stormwater.

### 4.1 MINIMIZE OR PREVENT EXPOSURE

To the extent practicable, either locate materials and activities inside or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.

#### Fueling Areas

Vehicle fueling activities can result in gasoline and diesel fuel entering the storm drain system. Spills can occur by topping off fuel tanks and during deliveries. If possible, fueling areas should be placed under cover in order to minimize exposure. Best management practices for fueling areas include the following:

- Deliveries to fuel tanks and fueling of vehicles and equipment should occur on impervious surfaces with proper containment. Spill response kits should be readily accessible at fueling and maintenance areas.
- Fuel dispenser containment features (grooves in concrete pad perimeter) should be kept free of debris.
- Fueling areas owned or operated by the municipality should be covered.

#### Vehicle Storage<sup>1</sup>

Rainfall on vehicles and equipment storage areas has the potential to collect pollutants and result in high loads of nutrients, metals, and hydrocarbons in stormwater runoff. To prevent this, best management practices include the following:

- All vehicles, equipment and hazardous waste storage containers should receive regular maintenance and be inspected for leaks or defective parts.
- Vehicles and equipment should be stored on a covered slab or within a building with a common drain that discharges to an oil/water separator.
- Outdoor storage of vehicles and equipment should not occur in areas that drain to the storm drain system unless adequate devices are in place to remove oil, sediment and other pollutants.
- Vehicles with fluid leaks should be stored indoors or containment be provided until repaired.

#### Vehicle and Equipment Maintenance<sup>1</sup>

Vehicle and equipment maintenance shall be conducted in a manner to reduce the discharge of pollutants by following these best management practices:

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<sup>1</sup> Buildings 1 is used for vehicle storage and maintenance. Floor drains in this building is connected to a tight tank, the contents of which are routinely pumped and removed from the site

**Stormwater Pollution Prevention Plan (SWPPP)**Upton, Massachusetts

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- Conduct routine inspections of heavy equipment and vehicles to proactively identify maintenance needs or potential leaks.
- Use drip pans as needed until repairs can be performed and when drip pans are used, avoid overtopping.
- Drain fluids from leaking or wrecked vehicles and parts as soon as possible. Dispose of fluids properly.
- Perform routine preventive maintenance to ensure heavy equipment and vehicles are operating optimally.
- Recycle or dispose of waste properly and promptly.
- Conduct all body repair and painting work indoors.
- Minimize waste from paints and thinners. Calculate paint needs based on surface area.
- Do not wash or hose down storage areas unless there is prior approval to collect and discharge the water into the sanitary sewer. Use dry cleanup methods (vacuum, sweep) to clean up metal filings and dust and paint chips from grinding, shaving and sanding. Sweep debris from wet sanding after allowing it to dry overnight on the shop floor. Dispose of waste properly; never dump waste into storm or sanitary sewers.
- Do not dump any liquids or other materials outside, especially near or in storm drains or ditches.
- Store materials and waste in labeled containers under cover and in secondary containment.
- Chemicals should not be combined in containers.
- Carefully transfer collected fluids from containers into designated storage areas as soon as possible.
- Waste liquids (oil, antifreeze, etc.) should be properly stored on-site and routinely disposed by licensed waste haulers at licensed disposal facilities.
- Store new and used batteries securely to avoid breakage. Store indoors or in secondary containment to contain potential acid leaks. Recycle used batteries.

**Parts Cleaning**

Cleaning of parts can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Best management practices to avoid this include the following:

- Use designated areas for engine, parts, or radiator cleaning. Do not wash or rinse parts outdoors. If parts cleaning equipment is not available, then capture parts cleaning fluids.
- Recycle cleaning solution. Never discharge waste to the sanitary sewer or storm sewer.
- Use steam cleaning or pressure washing of parts instead of solvent cleaning. Cleaning equipment must be connected to an oil/water interceptor prior entering the sanitary sewer.
- When using solvents for cleaning, drain parts over the solvent tank to avoid drips to the floor. Catch excess solutions and divert them back to tank. Allow parts to dry over the hot tank.



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**Vehicle and Equipment Wash Waters**

Washing down of maintenance and fueling areas, as well as equipment and vehicles can transport pollutants into the storm drain system or surface waters. The MS4 Permit does not authorize these types of discharges. Best management practices to ensure that vehicle wash waters are not discharged to the municipal system or surface waters include the following:

- Vehicles and equipment should be washed inside whenever possible to reduce runoff to the stormwater system.
- 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 should not be used within wellhead protection areas or within other protected resources.
- Avoid discharge of any wash water directly to the storm drainage system or surface water (e.g., stream, pond, or drainage swale)
- Do not use solvents except in dedicated solvent parts washer systems.
- Wash vehicles with non-toxic, phosphate-free, biodegradable cleaners
- Wash vehicles on an asphalt lot using a collection system with containment berms and discharge to water quality devices that will remove pollutants. Detergents should not be used in areas where oil/water separators provide pre-treatment of drainage.
- Floor drains should be connected to a sanitary sewer or tight tank. Floor drains discharging to adjacent surface water bodies or engineered storm drain systems should be permanently plugged or otherwise abandoned before any vehicle wash activities are completed.
- Designate separate areas for routine maintenance and vehicle cleaning. This helps prevent contamination of wash water by motor oils, hydraulic lubricants, greases, or other chemicals.

**Earth Material Stockpile Areas**

Stockpiling material on the site may be needed temporarily or permanently depending on the time or year or town projects. BMPs for protecting stockpiles include adequate cover or temporary stabilization as well as temporary sediment perimeter controls at the base of the stockpile.

- Divert stormwater runoff around stockpile areas.
- Cover stockpiles with plastic, geotextile or temporary seed.
- Temporary sediment perimeter controls, including silt fence, filters socks, or fiber rolls, may be placed a short distance from the base of the stockpile. Maintaining a short distance from the base of the stockpile to the perimeter control is important as it allows water to pond, if needed.

**4.2 GOOD HOUSEKEEPING**

All exposed areas that are potential sources of pollutants, shall be kept clean using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.

**Sweeping and Cleaning of Parking Lots**

Vehicle surfaces can collect a variety of contaminants such as sediments, oil, grease, and metals during daily activities. The MS4 permit requires that parking lots are swept, and surrounding areas of the facility are kept clean to reduce runoff of pollutants.

Parking lot sweeping and cleaning follows the same schedule as street sweeping, at least twice per year in Spring and Fall, with additional sweeping as need for specific sites.

**Waste Management**

All liquid and solid waste must be disposed of properly. Some of the most common sources of pollution at municipal facilities are a result of littering, improper collection of debris, and improper disposal of solid or liquid waste. Best management practices for handling, storage, transfer and disposal of trash and recyclables include the following:

- All waste and recycling receptacles must be leak-tight with tight-fitting lids or covers.
- Keep lids on dumpsters and containers closed at all times unless adding or removing material. If using an open-top roll-off dumpster, cover it and tie it down with a tarp unless adding materials.
- Place waste or recycling receptacles indoors or under a roof or overhang whenever possible.
- Locate dumpsters on a flat, paved surface and install berms or curbs around the storage area to prevent run-on and run-off.
- Do not locate dumpsters over or adjacent to catch basins.
- Prior to transporting waste, trash, or recycling, ensure that containers are not leaking (double bag if needed) and properly secure containers to the vehicle.
- Clean up any liquid leaks or spills with dry cleanup methods.
- Arrange for waste or recycling to be picked up regularly and disposed of at approved disposal facilities.
- Never place hazardous materials, liquids, or liquid-containing wastes in a dumpster or recycling or trash container.
- Do not wash trash or recycling containers outdoors or in parking lots.
- Conduct periodic inspections of solid and liquid waste storage areas to check for leaks and spills.
- Conduct periodic inspections of work areas to ensure that all wastes are being disposed of properly.
- In dumpster areas, regularly pick up surrounding trash and debris and regularly sweep the area.
- In compactor areas, regularly check the hydraulic fluid hoses and reservoir to ensure that there are no cracks or leaks. Regularly sweep the area.

**4.3 PREVENTATIVE MAINTENANCE**

All equipment and systems shall be regularly inspected, tested, maintained, and repaired to avoid situations that may result in leaks, spills, and other releases of pollutants to stormwater and receiving waters. Inspections shall occur at a minimum once per quarter.

**Use Storage and Disposal of Potential Pollutants**

Potential pollutants or hazardous wastes that may be used and stored in or around municipal building and facilities include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents. Careful handling and proper storage of these products are the best means of preventing spills and pollution to the environment. Best management practices include the following:

- Storage and handling areas should be covered or enclosed to reduce potential contact with stormwater and wind.
- Potential pollutants should be transported using approved methods and containers to minimize the chance of spillage, and by employees that have familiarity with the potential environmental and human health hazards of the products.
- Proper spill kits applicable to the products being used at each specific building or facility should be easily accessible and marked clearly so employees can follow procedures quickly and effectively. Leaks or spills should be cleaned up in a timely manner.
- Establish separate storage areas for these types of products with measures in place to contain any spill leaking out of the storage area.
- A designated person should be responsible for these areas.
- The storage area should be inspected frequently, kept clean and in good order with proper labels and signs, and consistent disposal practices.
- Floor drains in storage areas should be disconnected from the stormwater system.
- Routinely inspect buildings and facilities for areas of potential leaks.
- Paint and other chemicals should not be applied on the outside of buildings when it is raining or prior to expected rain.
- When sanding, painting, power washing, etc., ensure that sites are properly prepared (e.g., use tarps) and cleaned (e.g., use dry cleaning methods) especially if they are near storm drains. Protect catch basins when maintenance work is conducted upgradient of them.
- When painting, use a drop cloth and clean up any spills immediately.
- Do not leave open containers on the ground where they may accidentally tip over.
- Do not discharge chlorinated pool water into the stormwater system. Water must be properly dechlorinated and tested before it is discharged.
- Ensure that the washwater does not flow into the storm system. Containment or filtering systems should be provided.

**4.4 SPILL PREVENTION AND RESPONSE**

The permittee shall minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:

- Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.

- Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
- Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.

### **Spill Prevention Plans**

The Town has spill kits and prevention and control plans in place for all buildings and facilities where hazardous wastes are stored or used. These are coordinated with the fire department as necessary.

Per the Massachusetts Clean Water Toolkit Fact Sheet for Spill Prevention and Control Plans, it is recommended that Spill Prevention and Control Plans (SPCP) clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills. The SPCP should define material handling procedures and storage requirements and outline actions necessary to reduce spill potential and impacts on stormwater quality. The plan can be a procedural handbook, or a poster placed in several locations at the site.

## **4.5 EROSION AND SEDIMENT CONTROL**

Structural and non-structural control measures shall be used at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Efforts to achieve this may include the use of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion.

### **Erosion Control**

Site maintenance activities include erosion control, specifically with respect to poor vegetation cover and particularly within 50 feet of surface water. Best management practices include the following:

- Prevention of erosion and sedimentation is preferable to installing treatments devices.
- Protect vegetated and wooded buffers and leave vegetated areas undisturbed to the extent possible.
- Inspect sites regularly for locations of poor vegetation cover, erosion and sedimentation and channelization. If stabilization is required, corrective actions should be identified and implemented as soon as possible.

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- If exposed, soils should be stabilized by mulching, seeding with fast-growing native grass and/or planted with native tree and shrubs. Use erosion control blankets when seeding slopes.
- If necessary, slow stormwater runoff velocities with conveyance measures such as riprap channels or vegetated swales, check dams, level spreaders and outlet protection, etc.
- A buffer/filter strip should be left around surface waters. No fertilizers or pesticides should be applied in the buffer/filter strip except where necessary.

**4.6 MANAGEMENT OF RUNOFF**

The permittee shall manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.

**Catchbasin Cleaning Program**

All catchbasins on the site are to be included in the catchbasin inspection and cleaning optimization program.

**Stormwater Management BMP Maintenance**

Stormwater BMPs for this facility (excluding catch basins) are to be inspected quarterly and maintained as necessary to provide optimum treatment of stormwater runoff. The Town will keep a log of stormwater management structures inspected and report on the condition and maintenance performed. BMPs are included in the SWPPP inspection form provided in **Appendix D**.

The following are maintenance activities and procedures for each type of BMP on the site based on the Massachusetts Stormwater Handbook:

**Conveyance BMPs****WATER QUALITY SWALE**

Water quality swales are vegetated open channels designed to treat a required water quality volume and incorporate specific features to enhance pollutant removal. Inspection and maintenance should be conducted annually and include the following:

- Inspection – make sure vegetation is adequate and slopes are not eroding, check for rilling and gullyng, ponding and sedimentation
- Manually remove sediment and debris
- Mow swale depending on vegetation type – if grass, now when height reaches 6 inches but do not cut shorter than 3 inches
- Repair eroded areas and re-vegetate if needed
- Re-seed as necessary

### **Infiltration BMPs**

#### **LEACHING CATCH BASINS**

A leaching catch basin is a pre-cast concrete barrel and riser with an open bottom that allows runoff to infiltrate into the ground. These can be configured as a stand-alone structure or combined with a deep sump catch basin to provide pretreatment. Leaching basins are typically set in an excavation lined with a geotextile liner to prevent fine soil particles from migrating into the void spaces of the stone surrounding it. Inspection and maintenance should include the following:

- Inspect unit and remove debris
- Remove sediment when the basin is 50% full
- Rehabilitate the basin as needed if it fails due to clogging

### **Other BMPs**

#### **STONE CHIP OR GRAVEL DRIVEWAYS AND PARKING AREAS**

Stone chip or gravel surfaces allow parking lot, driveway and/or roadway runoff to infiltrate directly into the soil. They need to be designed and constructed with a base similar to a traditional road in order to prevent ponding of water and washout. Inspection should be conducted annually, and maintenance as needed including the following:

- Inspect the surface annually for deterioration and assess exfiltration capacity- monitor after a storm to ensure the surface drains properly without ponding
- Remove debris (leaves, sticks, weeds, etc.) on a weekly basis
- Regrade surface for proper drainage and add new stone/gravel where necessary to fill holes and ruts
- Apply a fresh layer of gravel to the surface every 1-2 years

Additional guidance for Structural BMP operations and maintenance can be found in the latest version of the Massachusetts Department of Environmental Protection Stormwater Handbook, Volume 2, Chapter 2, located at: <http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>

## **4.7 SALT STORAGE PILES OR PILES CONTAINING SALT**

For storage piles of salt or piles containing salt used for deicing or other purposes (including maintenance of paved surfaces) for which the discharge during precipitation events discharges to the permittee's MS4, any other storm sewer system, or to a Water of the US, the permittee shall prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. As of July 1, 2020, such piles shall be enclosed or covered. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. The permittee is encouraged to store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.

#### **4.8 EMPLOYEE TRAINING**

The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP, and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration
- List of municipal attendees
- Subjects covered during training

#### **4.9 MAINTENANCE OF CONTROL MEASURES**

The permittee shall maintain all control measures, required by the permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

## 5.0 SITE INSPECTIONS

Inspect all areas that are exposed to stormwater and all stormwater control measures. Inspections shall be conducted at least once each calendar quarter (winter, spring, summer and fall). The quarters begin on January 1, April 1, July 1 and October 1. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. At least one of the quarterly inspections shall occur during a period when a stormwater discharge is occurring.

The permittee shall document the following information for each facility inspection:

- 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

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

A SWPPP inspection form is provided in **Appendix D**. The permittee shall report the findings from the Site Inspections in the annual report.



## 6.0 RECOMMENDATIONS

Based on BETA's April 15, 2020 site visit, we are providing the following recommendations to attain or maintain compliance with the MS4 permit requirements.

1. Stormwater runoff at the site generally flows to the northwest over paved surfaces and discharges leaching catchbasins and low-lying areas at the perimeter of the site. Stormwater runoff is controlled via a swale on the southern portion of the site. We suggest that these stormwater structures be routinely inspected and maintained (mowing, cleared of debris, sedimentation, etc.) to maintain their effectiveness as summarized in **Section 4.6**.
2. Vehicle washing is currently performed outside on paved areas and washwater flows to the leaching catchbasins. We suggest continuing to inspect the leaching catchbasins routinely and clean out as necessary.
3. There are several uncovered material stockpiles on the southeastern portion of the property. These are generally on earthen cover where stormwater runoff would be expected to infiltrate the ground. We recommend following BMPs summarized in **Section 4.1** to address any potential impacts to stormwater runoff resulting from these stockpiles.

## APPENDIX A – Site Map

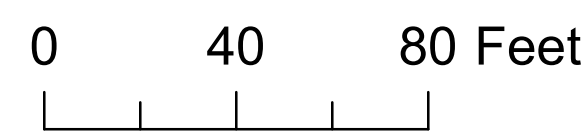
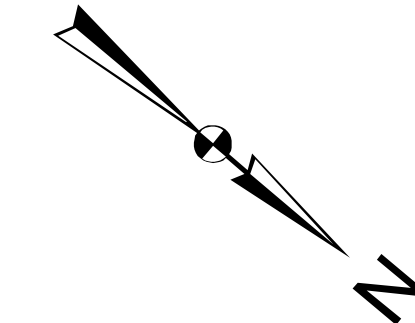
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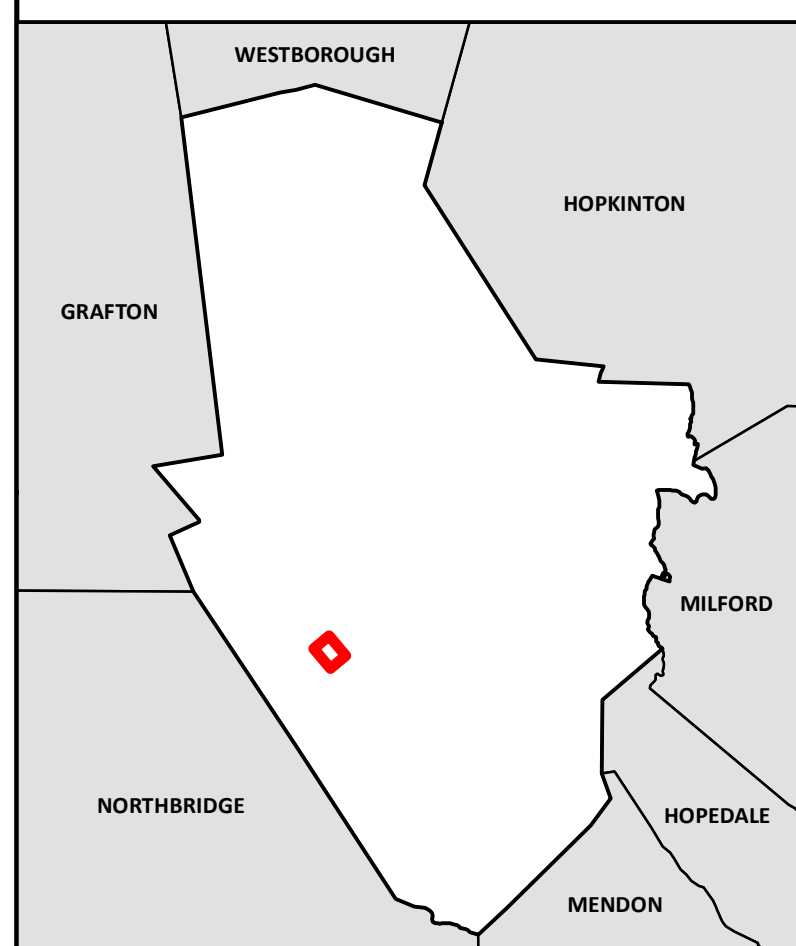
Stormwater Legend

- Town-Owned DMH
- Ⓛ Town-Owned Leaching CB
- Town-Owned CB
- Pipe
- ▬ Swale
- ➡ Surface Water Flow Direction



Plot Date: 6/29/2020

Map Location





## APPENDIX B – Vehicle Inventory

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## APPENDIX C –Summary of Site Activities and Potential Stormwater Pollutants

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APPENDIX C: Summary of Site Activities and Potential Stormwater Pollutants

Activity	Description	Building Reference	Material Inventory	Potential Stormwater Pollutants	Quantity	Potential Exposure to Stormwater	Management Practices	
							Structural	Non-structural
Vehicle Fueling	Fueling of Town-owned and operated vehicles	4	Diesel Fuel	Petroleum Hydrocarbons	1,000-gal AST	Low - covered storage	Covered storage	Spill Kit in Close Proximity
Vehicle Maintenance	Maintenance and Storage of Town-owned and operated vehicles and equipment	1	Motor Oil	Petroleum Hydrocarbons	Varies	Low - in covered bldg	Floor Drains are connected to a tight tank which is emptied routinely	Maintenance conducted inside building, good housekeeping and tight tank maintenance
			Hydraulic Fluid	Petroleum Hydrocarbons				
			Lubricants	Petroleum Hydrocarbons				
			Transmission Fluid	Petroleum Hydrocarbons				
			Waste Oil	Petroleum Hydrocarbons				
			Antifreeze	Ethylene glycol				
			Coolant	Ethylene glycol				
			Brake Fluid	Glycols				
Vehicle Washing	Washing of Town-owned and operated vehicles	1	Detergents	Surfactants	Varies	Low - vehicles washed primarily outdoors, washwater discharges to onsite leaching basins. If washed indoors, washwater discharges to floor drains that are connected to a tight tank	Catchbasin maintenance	Good housekeeping practices
				Wastewater				Regular sweeping
Construction Materials	Storage and handling of construction materials and miscellaneous maintenance products (gravel, loam, aggregates, etc.)	N/A	Asphalt	Petroleum Hydrocarbons	Varies	High - materials not covered but are generally stored on earthen areas and stormwater runoff is expected to infiltrate the ground. Runoff to other areas is diverted via a swale to low-lying areas and leaching basins	Swale and leaching basins	Routine inspection and maintenance, good housekeeping practices
			Aggregate	Sediment				
			Loam	Sediment				
			Paint	Sediment, debris				
			Brush/Compost	Nutrients, debris				
			Castings, blocks	Metals				
			Scrap Metal	Metals				
Sand/Salt Storage and Handling	Storage and handling of sand/salt for winter roadway applications	3	Sand	Sediment	100 cy (approx.)	High - not covered, discharge to on-site leaching basins or earthen areas	Covered storage for salt	Routine sweeping
			Salt	Chlorides	1,500 ton (approx.)	Low - covered storage		Good housekeeping practices
Above Ground Storage Tanks	Deicing	2	Calcium chloride	Chlorides	2,500-gal	Low - stored in covered area	Covered storage	Good housekeeping practices
	Building 1 heating	1	Fuel oil	Petroleum Hydrocarbons	1,000-gal			
	Waste oil	1	Waste Oil	Petroleum Hydrocarbons	275-gal			
Emergency Generators	Facility back-up generator	1	Diesel Fuel	Petroleum	100-gal	Low - petroleum products are stored in generator in a covered building	Covered storage	Spill Kit on-site
Solid Waste Management	Dumpsters located on-site	N/A	Solid waste	Debris, metals	Varies	Low - potential pollutants are covered and contained. Routinely removed	Covered storage	Solid waste removal
								Good housekeeping practices
Parking Areas	Parking for Town employees at the Administration Building and DPW Yard	N/A	N/A	Sediment, oil from vehicles	Varies	Low - stormwater runoff from parking areas discharges to a leaching basin	Catchbasin maintenance	Routine sweeping
								Good housekeeping practices
Administration	Town administrative offices (temporary office trailer)	5	N/A	N/A	N/A	Low - potential pollutants, if present are covered and consist of minor quantities	Covered storage	Good housekeeping practices

## APPENDIX D – SWPPP Inspection Form

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## STORMWATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTION FORM

Report No. \_\_\_\_\_

Location:	Department of Public Works: 100 Pleasant St.	Date:		Last Insp:	
		Arrive:		Leave:	
Inspector:					
Recent Rainfall:		Current Weather:			
Unidentified Discharges? Spills?					
Add. Info:					

CONTROL MEASURES/ACTION REQUIRED: ☐ YES ☐ NO  
(INSPECT FOR ALL APPLICABLE CONTROLS LISTED)

Control	Condition	Required Action	Completed (by)	Date
<input type="checkbox"/> Fuel Dispensing Area BMPs			<input type="checkbox"/>	
<input type="checkbox"/> Vehicle Washing Area BMPs			<input type="checkbox"/>	
<input type="checkbox"/> Vehicle Repair Indoors			<input type="checkbox"/>	
<input type="checkbox"/> Pavement Sweeping			<input type="checkbox"/>	
<input type="checkbox"/> Trash Management			<input type="checkbox"/>	
<input type="checkbox"/> Spill Prevention & Response			<input type="checkbox"/>	
<input type="checkbox"/> Erosion & Sediment Controls			<input type="checkbox"/>	
<input type="checkbox"/> Manage Runoff			<input type="checkbox"/>	
<input type="checkbox"/> Salt Storage Area			<input type="checkbox"/>	
<input type="checkbox"/> Drainage Swale			<input type="checkbox"/>	
<input type="checkbox"/> Leaching Catch Basins			<input type="checkbox"/>	
<input type="checkbox"/> Other			<input type="checkbox"/>	

FAILED CONTROL MEASURES REQUIRE REPLACEMENT: ☐ YES ☐ NO

Control	Condition	Required Action	Completed (by)	Date
<input type="checkbox"/>			<input type="checkbox"/>	

SWPPP CHANGES: ☐ YES ☐ NO

Control	Change	Completed (by)	Date
<input type="checkbox"/>		<input type="checkbox"/>	



## MANAGEMENT PRACTICES

1. Minimize or Prevent Exposure: To the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.
2. Good Housekeeping: Keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.
3. Preventative Maintenance: Regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter.
4. Spill Prevention and Response: Minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:
  - a. Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
  - b. Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
  - c. Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.
5. Erosion and Sediment Control: Use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation.
6. Management of Runoff: Manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.
7. Salt Storage Piles or Piles Containing Salt: Prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. Such piles shall be enclosed or covered within two (2) years of the permit effective date. Implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.