

**Appendix H: Pollution Prevention
and Good Housekeeping (P2/GH)
for the
CHARTER TOWNSHIP OF LANSING**



**Greater Lansing Regional Committee for
Stormwater Management**



REVISED: February 2025

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Section 1

1.0 Introduction

Stormwater runoff is part of a natural hydrologic process. Human activities particularly urbanization and agriculture, can alter natural drainage patterns and add pollutants to rivers, lakes, and streams as well as coastal bays, estuaries, and ultimately, the ocean. Numerous studies have shown urban runoff to be a significant source of water pollution, causing declines in fisheries, restricting swimming, and limiting our ability to enjoy many of the other benefits that water resources provide. Urban runoff in this context includes all flows discharged from urban land uses into stormwater conveyance systems and receiving waters and includes both dry weather non-stormwater sources (e.g., runoff from landscape irrigation, water line and hydrant flushing) and wet weather stormwater runoff. In this handbook, urban runoff and stormwater runoff are used interchangeably.

For many years, the effort to control the discharge of stormwater focused mainly on the quantity (e.g. drainage, flood control) and, only to a limited extent, on the quality of the stormwater (e.g. sediment and erosion control). In recent years, however, awareness of the need to improve water quality has increased. With this awareness, federal, state, and local programs have been established to reduce pollutants contained in stormwater discharges to our waterways. The emphasis of these programs is to promote the concept and the practice of preventing pollution at the source, before it can cause environmental problems. Where further controls are needed, treatment of polluted runoff may be required.

1.1 Manual Purpose and Scope

The Charter Township of Lansing, as a member of the Greater Lansing Regional Committee (GLRC) for Stormwater Management, has developed this manual to provide staff and management clear guidance on implementing Best Management Practices (BMPs) to reduce pollutants in runoff from municipal operations. Federal and state programs require selected municipalities to reduce the discharge of pollutants in their stormwater discharges to the maximum extent practicable (MEP) using an array of control measures including BMPs.

1.2 Method of BMP Selection

This manual has been developed using the GLRC Good Housekeeping and Pollution Prevention for Municipalities Handbook, which was primarily designed to assist municipal staff with incorporating pollution prevention controls into their overall stormwater management program and specifically publicly owned/operated facilities (fixed facilities) and field activities (field programs). Users include public and private sector engineers, planners, environmental specialists, and stormwater program managers. Managers and employees of the various municipal facilities and municipal field programs may find this handbook especially helpful when implementing and evaluating the effectiveness of these stormwater management efforts. It is important to note that all Township vendors or contractors and subcontractors are also required to utilize the SOPs described below. The Township

will clearly communicate and establish the SOPs as a baseline during the procurement process for labor related contracts. The Township will select contractors through an evaluation that will include their demonstrated accountability and ability to implement BMPs and follow the SOPs.

1.3 Stormwater Pollutants and Impacts on Water Quality

Stormwater runoff naturally contains numerous constituents; however, urbanization and urban activities (including municipal activities) typically increase constituent concentrations to levels that may impact water quality. Pollutants associated with stormwater include sediment, nutrients, bacteria and viruses, oil and grease, metals, organics, pesticides, and gross pollutants (floatables). In addition, nutrient-rich stormwater runoff is an attractive medium for vector production when it accumulates and stands for more than 72 hours.

Municipal Activities Generating Pollutants

Municipalities conduct various activities that are sources of pollutants in stormwater runoff. For the purpose of the manual, these activities are categorized according to whether they occur at a specific location (fixed facility) or across a broader and non-specific area (field programs). These activities must be addressed through the implementation of Standard Operating Procedures (SOPs) to minimize or eliminate the pollutants from entering the local water bodies or drainage system.

Lansing Township facilities include:

Township Offices, Police Department, and Westside Water

3209 W. Michigan Ave.

Lansing, MI 48917

Phone: 517-485-4063

The Police and Water Departments are both located in the Township Administration Building and all floor drains are plumbed to the sanitary sewer or internal storage.

Fire Station 1

3301 W. Michigan Ave.

Lansing, MI 48917

Phone: 517-485-5443

This is a fire station with bays for several emergency vehicles. Floor drains are plumbed to sanitary sewer or internal storage for offsite disposal.

Fire Station 2

2701 Hopkins

Lansing, MI 48912

Phone: 517-482-2088

This is a fire station with bays for several emergency vehicles. Floor drains are plumbed to sanitary sewer or internal storage for offsite disposal.

The Charter Township of Lansing also maintains 6 parks, the largest of which is 9 acres.

1.4 Pollutant Impacts on Water Quality

Sediment is a common component of stormwater, and can be a pollutant. Sediment can be detrimental to aquatic life (primary producers, benthic invertebrates, and fish) by interfering with photosynthesis, respiration, growth, reproduction, and oxygen exchange in water bodies. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.

Nutrients including nitrogen and phosphorous are the major plant nutrients used for fertilizing landscapes, and are often found in stormwater. These nutrients can result in excessive or accelerated growth of vegetation, such as algae, resulting in impaired use of water in lakes and other sources of water supply. For example, nutrients have led to a loss of water clarity in Lake Tahoe. In addition, un-ionized ammonia (one of the nitrogen forms) can be toxic to fish.

Bacteria and viruses are common contaminants of stormwater. For separate storm drain systems, sources of these contaminants include animal excrement and sanitary sewer overflow. High levels of indicator bacteria in stormwater have led to the closure of beaches, lakes, and rivers to contact recreation such as swimming.

Oil and grease includes a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Sources of oil and grease include leakage, spills, cleaning and sloughing associated with vehicle and equipment engines and suspensions, leaking and breaks in hydraulic systems, restaurants, and waste oil disposal.

Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater. Many of the artificial surfaces of the urban environment (e.g., galvanized metal, paint, automobiles, or preserved wood) contain metals, which enter stormwater as the surfaces corrode, flake, dissolve, decay, or leach. Over half the trace metal load carried in stormwater is associated with sediments. Metals are of concern because they are toxic to aquatic organisms, can bioaccumulate (accumulate to toxic levels in aquatic animals such as fish), and have the potential to contaminate drinking water supplies.

Organics may be found in stormwater in low concentrations. Often synthetic organic compounds (adhesives, cleaners, sealants, solvents, etc.) are widely applied and may be improperly stored and disposed. In addition, deliberate dumping of these chemicals into storm drains and inlets causes environmental harm to waterways.

Pesticides (including herbicides, fungicides, rodenticides, and insecticides) have been repeatedly detected in stormwater at toxic levels, even when pesticides have been applied in accordance with label instructions. As pesticide use has increased, so too have concerns about adverse effects of pesticides on the environment and

human health. Accumulation of these compounds in simple aquatic organisms, such as plankton, provides an avenue for biomagnification through the food web, potentially resulting in elevated levels of toxins in organisms that feed on them, such as fish and birds.

Gross Pollutants (trash, debris, and floatables) may include heavy metals, pesticides, and bacteria in stormwater. Typically resulting from an urban environment, industrial sites and construction sites, trash and floatables may create an aesthetic "eye sore" in waterways. Gross pollutants also include plant debris (such as leaves and lawn-clippings from landscape maintenance), animal excrement, street litter, and other organic matter. Such substances may harbor bacteria, viruses, vectors, and depress the dissolved oxygen levels in streams, lakes, and estuaries sometimes causing fish kills.

Vector production (e.g., mosquitoes, flies, and rodents) is frequently associated with sheltered habitats and standing water. Unless designed and maintained properly, standing water may occur in treatment control BMPs for 72 hours or more, thus providing a source for vector habitat and reproduction (Metzger, 2002).

1.5 Regulatory Requirements

The federal Clean Water Act (CWA), as amended in 1987, is the principal legislation for establishing requirements for the control of stormwater pollutants. Enforcement of the CWA and other laws such as the Endangered Species Act has generated a number of federal, state and local requirements and programs that deal directly or indirectly with controlling stormwater discharges. In the following sections, various programs are discussed in relationship to control of pollutants in stormwater from municipal storm drain systems. These programs are expected to evolve over the next several years and the user is advised to contact local regulatory and/or municipal officials for further information.

Municipal NPDES Stormwater Programs

In Michigan, municipalities were given the option to either have an individual permit (based on jurisdictional boundaries), or to have a watershed based approach, which allows many municipalities within a watershed to work as a group, through a watershed management plan to meet Phase II requirements. Each plan serves as a blueprint for protecting water quality within the various watersheds. The watershed management plans are used in turn to identify more specific controls for discharges (e.g., wastewater treatment plant effluent, urban runoff, and agriculture drainage).

In Michigan, the federal NPDES stormwater permitting program is administered by the Michigan Department of Environmental Quality (MDEQ) by issuing general NPDES permits. Municipalities with a population of over 100,000 or that have been determined to be a significant contributor of pollutants are required to obtain an individual NPDES stormwater permit. These municipalities are classified as Phase I communities and are typically referred to as MS4s (municipal separate storm sewer

systems). To meet CWA Section 402(p) requirements, smaller, Phase II communities (fewer than 100,000 in population) are covered by a General Permit. Phase II communities are required to develop and implement a stormwater management plan with the following six minimum control measures:

- Public Education and Outreach - Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.
- Public Involvement and Participation - Providing opportunities for citizens to participate in program development, implementation, and review, including effectively publicizing public hearings or participation.
- Illicit Discharge Detection and Elimination - Developing and implementing a plan to detect and eliminate illicit discharges to the storm drain system including illicit connections and illegal dumping.
- Construction Site Runoff Control - Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb one or more acres of land.
- Pollution Prevention I Good Housekeeping for Municipal Operations - Developing and implementing a program to prevent or reduce pollutant runoff from municipal operations. (This is a primary focus of this handbook.)
- Post-Construction Stormwater Management in New Development and Redevelopment- Developing, implementing, and enforcing a program to address discharges of stormwater runoff from new and redevelopment areas.

In addition to the six measures listed above, the stormwater management plan must identify measurable goals (or performance standards) for each minimum control measure. Measurable goals will be used by the Township and the MDEQ to gauge compliance and evaluate the effectiveness of individual BMPs or control measures and the stormwater management program as a whole. Phase II communities must also monitor their efforts and prepare progress reports demonstrating that the community has implemented the minimum control measures and complied with the measurable goals.

Section 2

2.0 Source Control SOPs

Introduction This section provides a description of specific source control Standard Operating Procedures (SOPs) for activities related to the Township operations.

As noted in Sections 1, municipal fixed facilities conduct activities that have the potential to generate pollutants. The source control SOPs in this section address these activities (see Table 2-1). In addition, the Township conducts various field programs where activities may occur and create pollutants (see Table 2-2).

SOP Fact Sheet

Each SOP fact sheet is a short document that gives all the information about a particular BMP. The fact sheets contain side bar presentations with information on objectives and targeted constituents.

Staff Training

Current maintenance and fire department staff are trained on stormwater pollution prevention once per permit cycle. New employees are trained within the first year of employment. Employees are trained using an EXCAL training DVD specific for municipal operations and staff. All topics related to stormwater pollution prevention/good housekeeping of municipal facilities and activities are covered during the training.

Table 2-1 Municipal Fixed Facility SOPs	
2.1	Spill prevention, control, and cleanup
2.2	Vehicle and equipment fueling
2.3	Vehicle and equipment cleaning
2.4	Vehicle and equipment repair
2.5	Outdoor container storage
2.6	Outdoor equipment maintenance
2.7	Outdoor storage of raw materials
2.8	Waste handling and disposal
2.9	Building and grounds maintenance
2.10	Parking lot maintenance
2.11	Safer alternative products
Table 2-2 Municipal Field Program SOPs	
2.12	Road and street maintenance
2.13	Salt application and storage
2.14	Drainage system maintenance
2.15	Water and sewer utility
2.16	Reporting and recordkeeping

2.1 Spill Prevention, Control & Cleanup SOP

Description

Spills and leaks, if not properly controlled, can adversely impact the storm drain system and receiving waters. Due to the type of work or the materials involved, many activities that occur either at a municipal facility or as a part of municipal field programs have the potential for accidental spills and leaks. Proper spill response planning and preparation can enable municipal employees to effectively respond to problems when they occur and minimize the discharge of pollutants to the environment. Since spill prevention is such a broad topic, many areas related to spill prevention and control are covered throughout the remaining SOP fact sheets.

Pollution Prevention

- All indoor drains at both stations are plumbed to the sanitary sewer or approved containment facility for offsite disposal.
- All materials are stored indoors and only small spray bottles or containers of cleaning supplies are stored in a closed cabinet.
- Spill cleanup material is readily available (kitty litter) at each facility.
- Due to the size and nature of activities at the Township facilities, an official spill prevention plan is not required.

Protocols

- All material handling is conducted indoors, under cover, or away from storm drains or sensitive water bodies.
- Spill cleanup materials, such as absorbents are located at the stations where they are readily accessible (e.g. near storage and maintenance areas, on field trucks).

Spill Cleanup Procedures

- Small non-hazardous spills
 - Use a rag, damp cloth or absorbent materials for general cleanup of liquids
 - Use brooms or shovels for the general cleanup of dry materials
 - If water is used, it must be collected and properly disposed of. The wash water cannot be allowed to enter the storm drain.
 - Dispose of any waste materials properly
 - Clean or dispose of any equipment used to clean up the spill properly
- Large non-hazardous spills
 - Use absorbent materials for general cleanup of liquids
 - Use brooms, shovels or street sweepers for the general cleanup of dry materials
 - If water is used, it must be collected and properly disposed of. The wash water cannot be allowed to enter the storm drain.
 - Dispose of any waste materials properly
 - Clean or dispose of any equipment used to clean up the spill properly
 - Hazardous materials are not stored onsite.

Reporting

- Spills are reported in accordance with applicable reporting laws. Spills that pose an immediate threat to human health or the environment must be reported immediately to 911, the Pollution Emergency Alerting System (PEAS) at 800-292-4706 and the National Response Center (NRC) at 800-424-8802.
- Spills that pose an immediate threat to human health or the environment may also need to be reported within 24 hours to the Local Emergency Planning Committee (LEPC), State Emergency Response Center (SERC),

Michigan Department of Agriculture (MDA), various divisions of MDEQ, and the Department of Labor and Economic Growth (DLEG).

- After the spill has been contained and cleaned up, a detailed report about the incident should be generated and kept on file. The incident may also be used in briefing staff about proper procedures.

Objectives

- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.2 Vehicle and Equipment Fueling SOP

Description

Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff.

- **Pollution Prevention**
- The Township does not conduct any onsite fueling. It uses properly maintained offsite fueling stations for all vehicle and equipment fueling with the exception of small gas cans for weed trimmers.
- Focus pollution prevention activities on containment of spills and leaks, most of which may occur during liquid transfers.

Protocols

- "Spot cleaning" of leaks and drips is routinely conducted.
- Staff are familiar with the site's proper spill cleanup procedures.

2.3 Vehicle and Equipment Cleaning SOP

Description

Wash water from vehicle and equipment cleaning activities performed outdoors or in areas where wash water flows onto the ground can contribute toxic

hydrocarbons and other organic compounds, oils and greases, nutrients, phosphates, heavy metals, and suspended solids to stormwater runoff.

Pollution Prevention

The Township uses only properly maintained off-site commercial wash vehicles and equipment OR washes vehicles and equipment indoors where wash water is collected and conveyed to the sanitary sewer.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.4 Vehicle and Equipment Repair SOP

Description

Vehicle or equipment maintenance and repair is potentially a significant source of stormwater pollution, due to the use of materials and wastes created that are harmful to humans and the environment. Engine repair and service (e.g. parts cleaning), replacement of fluids (e.g. oil change), and outdoor equipment storage and parking (dripping engines) can impact water quality if stormwater runoff from areas with these activities occurring on them becomes polluted by a variety of contaminants.

Pollution Prevention

- The Township uses only properly maintained off-site commercial repair and maintenance companies for almost all vehicle and equipment repair.
- Very general light maintenance may be done on small lawn equipment.
- This operation always occurs indoors where any potential pollutants can be contained and disposed properly.

Objectives

- Cover
- Contain

- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.5 Outdoor Container Storage SOP

Description

Accidental releases of materials from above ground liquid storage tanks, drums, and dumpsters present the potential for contaminating stormwater with many different pollutants. Tanks may store many potential stormwater runoff pollutants, such as gasoline, aviation gas, diesel fuel, ammonia, solvents, syrups, etc. Materials spilled, leaked, or lost from storage tanks may accumulate in soils or on other surfaces and be carried away by rainfall runoff. These source controls apply to containers located outside of a building used to temporarily store liquid materials and include installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

Pollution Prevention

The Township does not have outdoor container storage. Dumpsters are covered under waste handling and disposal.

2.6 Outdoor Equipment Maintenance SOP

Description

Outside process equipment operations and maintenance can contaminate stormwater runoff. Activities, such as grinding, painting, coating, sanding, degreasing or parts cleaning, landfills and waste piles, solid waste treatment and disposal, are examples of process operations that can lead to contamination of stormwater runoff.

Pollution Prevention

- The Township requires these activities to be conducted in a building where the floor drains to the sanitary sewer.

- When equipment cannot be moved indoors for maintenance (as is the case for water towers, generators, playground equipment, etc.), appropriate measures will be taken to capture any materials that could become stormwater pollutants (e.g. grit produce from grinding, paint chips, etc.). These measures include placement of drop cloths and screening around a work area and subsequent removal of any waste materials that were generated.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.7 Outdoor Storage of Raw Materials SOP

Description

Raw materials, by-products, finished products, containers, and material storage areas exposed to rain and/or runoff can pollute stormwater. Stormwater can become contaminated when materials wash off or dissolve into water or are added to runoff by spills and leaks. Improper storage of these materials can result in accidental spills and the release of materials. To prevent or reduce the discharge of pollutants to stormwater from material delivery and storage, pollution prevention and source control measures, such as minimizing the storage of hazardous materials on-site, enclosing or covering materials, storing materials in a designated area, installing secondary containment, conducting regular inspections, preventing stormwater run-on and runoff, and training employees and subcontractors must be implemented.

Pollution Prevention

- Westside Water System does store stockpiles of topsoil and sand outdoors. Stockpiles shall be covered when not in use, and secondary containment will be established to prevent potential offsite migration of sediments.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.8 Waste Handling & Disposal (solid waste) SOP

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing run-on and runoff.

Pollution Prevention

- Dumpsters are inspected on a regular basis; trash receptacles at the park facilities are emptied and inspected on a regular basis, replacement is necessary when the receptacle may have a leak or other damage.
- The Township recycles materials whenever possible.

Objectives

- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients Trash
- Metals
- Bacteria
- Oil and Grease

- Organics
- Oxygen Demanding

Protocols

- Covered storage containers with leak proof lids are used and supplied by a vendor.
- Storage containers are checked routinely for leaks and to ensure that lids are on tightly. Any that are leaking, corroded, or otherwise deteriorating are replaced.
- Storage areas are swept and cleaned regularly. In paved areas, a hose is not used to clean the area to avoid runoff to a storm drain.
- Waste from damaged containers is transferred into safe containers and the damaged container is scheduled for replacement.
- Special care is taken when loading or unloading wastes to minimize losses.

Controlling Litter

- Both "No Littering" and "No Dumping" signs are posted throughout the Township parks and facilities. The Township enforces anti-litter laws including requirements to contain and properly dispose of pet waste at Township parks
- A sufficient number of litter receptacles are used for each facility.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.9 Building & Grounds Maintenance SOP

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. The following protocols will prevent or reduce the discharge of pollutants to stormwater from building and

grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Pollution Prevention

- The Township uses safe alternative products when possible (see 2.11 Safer Alternative Practices).
- Proper lawn management and landscaping is practiced, including the use of native vegetation.
- A riparian is a maintained buffer at Keegan Natural Area on the Grand River.

Protocols

- Landscaping Activities:
 - Chemicals (insecticide, herbicide, or fertilizer) are not applied directly to surface waters.
 - Mulch is used a control measure on exposed soils.
 - Irrigation schedules are set so pesticides will not be washed away and to minimize non-stormwater
 - Grass clippings that fall on sidewalks during mowing are blown back on to the mowed area, other grass clippings are left on the mowed area to mulch.
 - The Township contracts with a vendor for all fertilizer, pesticide, and herbicide and insecticide management at Township Hall. The vendor is a responsible company following the State Law restricting the use of phosphorus fertilizer. Parks and Recreation facilities are not treated with fertilizers, pesticides, or herbicides. A community garden located at Slater Park is entirely organic. The vendor must be a pesticide applicator certified by the State of Michigan in the appropriate category as defined by the Michigan Department of Agriculture and Rural Development.
- Building Repair, Remodeling, and Construction:
 - The Township uses ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
 - The cleaning of paint brushes and tools covered with water-based paints are conducted in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials are cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

Inspection

Irrigation systems are inspected periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Discharge
- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.10 Parking lot Maintenance SOP

Description

Parking lots can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges.

Pollution Prevention

- The Township facility parking lots are swept at least once a year.
- Parking lot catch basins are vacuumed at least once a year.

Protocols

- The parking lot is kept clean and orderly. Debris is removed in a timely fashion.
- "No Littering" and "No Dumping" signs are posted and the Township enforces anti-litter laws.
- An adequate number of litter receptacles are used.

Surface Repair

- Parking lot repair using concrete, asphalt, and seal coat is conducted during dry weather to prevent contamination from contacting stormwater runoff.

- Nearby storm drain inlets and manholes are covered and sealed (with waterproof material or mesh) before applying seal coat, slurry seal, etc., where applicable. Covers are left in place until work is complete and until all water from emulsified oil sealants has drained or evaporated.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.11 Safer Alternative Products SOP

Description

Using less harmful products is important. Alternatives exist for most product classes including chemical fertilizers, pesticides, cleaning solutions, janitorial chemicals, automotive and paint products, and consumables (batteries, fluorescent lamps).

Pollution Prevention

The Township seeks safer, less toxic or nontoxic alternatives whenever possible.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria

- Oil and Grease
- Organics
- Oxygen Demanding

2.12 Road and Street Maintenance SOP

Description

Streets, roads, and highways are significant sources of pollutants in stormwater discharges, and operation and maintenance (O&M) practices, if not conducted properly, can contribute to the problem. Stormwater pollution from roadway and bridge maintenance should be addressed on a site-specific basis.

Pollution Prevention

The Township does not perform road or street maintenance but will work with partners to ensure roads are maintained in such a way so as to reduce introduction of pollutants into stormwater.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.13 Salt Application and Storage SOP

Description

The application and storage of deicing materials, most commonly salts such as sodium chloride, can lead to water quality problems for surrounding areas. Salts, gravel, sand, and other materials are applied to highways and roads to reduce the amount of ice during winter storm events. Salts lower the melting point of ice, allowing roadways to stay free of ice buildup during cold winters. Sand and gravel increase traction on the road, making travel safer.

During road salt application, certain best management practices can produce significant environmental benefits. The amount of road salt applied should be regulated to prevent over-salting of motorways and increasing runoff concentrations. The amount of salt applied should be varied to reflect site-specific characteristics, such as road width and design, traffic concentration, and proximity to surface waters. Calibration devices for spreaders in trucks aid maintenance workers in the proper application of road salts. Alternative materials, such as sand or gravel, should be used in especially sensitive areas

Pollution Prevention

- The Township only salts Township facilities parking lots and sidewalks.
- The Township uses the minimum amount of salt needed to maintain safe conditions for paved surfaces.

Protocols

- The Township uses both a pick-up truck applicator and a hand-operated applicator. The truck applicator is calibrated according to manufacturer's recommendations in the beginning of the season, and then is revisited nearly every day as it is adjusted according to weather conditions.
- Snow is manually removed from driveways, parking areas and sidewalks.
- Salt is delivered to the Township in bags and stored indoors.
- Maintenance staff knows when to plow and reapply salt. The need for another salt application can be determined by watching melting snow kicked out behind vehicle tires. If the slush is soft and fans out like water, the salt is still working. Once the slush begins to stiffen and is thrown directly to the rear of vehicle tires, it is time to plow.

Objectives

- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.14 Drainage System Maintenance SOP

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff that may contain certain pollutants. Maintaining catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Pollution Prevention

- The Township maintains parking lots at the Township facilities.
- Inspection of the system will be conducted annually and as needed.

Protocols

- Municipal staff regularly inspect facilities to ensure the following:
 - Immediate repair of any deterioration threatening structural integrity.
 - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
 - Stenciling of catch basins and inlets
 - Dewatering and disposal of materials extracted from catch basins will follow the guidelines from the Catch Basin Cleaning Activities Guidance Document to ensure best practices are utilized:
http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf
- The Township must only maintain the catch basins for the parking lots of the municipally owned facilities.
- During routine maintenance of conveyance system and drainage structures field staff looks for evidence of illegal discharges or illicit connections:
 - Is there evidence of spills such as paints, discoloring, etc.
 - Are there any odors associated with the drainage system
 - Record locations of apparent illegal discharges/illicit connections
 - Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of up gradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
 - Once the origin of flow is established, require illicit discharger to eliminate the discharge.
- Storm drains have been stenciled, where applicable, to prevent illegal disposal of pollutants.
- The Township MS4 maps will be updated within 30 days of a new stormwater structure being added to the system.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.15 Water & Sewer Utility Maintenance SOP

Description

Although the operation and maintenance of public utilities are not considered chronic sources of stormwater pollution, some activities and accidents can result in the discharge of pollutants that can pose a threat to both human health and the quality of receiving waters if they enter the storm drain system. Sewage incident response and investigation may involve a coordinated effort between staff from a number of different departments/agencies. Municipalities that do not provide maintenance of water and sewer utilities must coordinate with the contracting agency responsible for these activities and ensure that these model procedures are followed.

Pollution Prevention

The Charter Township of Lansing does not own or operate any sanitary sewer infrastructure or facilities. Those are owned and operated by the City of Lansing throughout the entire political jurisdiction of Lansing Township. Westside Water is a potable water utility owned and operated by Lansing Township as an enterprise authority. Activities conducted by Westside Water that may potentially result in a discharge of pollutants into stormwater are limited almost entirely to emergency repairs to water mains. Personnel have been instructed to take precautions in order to minimize the possibility of stormwater contamination during these events.

2.16 Reporting and Recordkeeping SOP

As applicable, the Township maintains records demonstrating successful implementation of SOPs. Recordkeeping may include training, site inspection and maintenance, and if applicable, monitoring. It is anticipated that site inspections will

occur on an annual basis because of the minimal amount of operations occurring at the Township level.

The Township is required under the Phase II General NDPES Permit, to submit progress reports to the MDEQ on October 1 of every other year, or as otherwise required. Specific reporting requirements will include:

- Program implementation status
- Summary of stormwater activities performed
- Results of information collected, such as monitoring data
- Summary of proposed stormwater activities for the next reporting cycle
- Changes made in BMP selection
- Changes in stormwater management personnel
- Changes made in program or measurable goals

Objectives

- Contain
- Educate
- Reduce/Minimize

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

2.17 Potential to Discharge Ranked by Facility

The Township owned facilities are very small systems with a low potential to discharge into Waters of the State. The two facilities owned and operated by the Township are as follows:

- **Township Administrative Offices** – This is a small property consists of 3 catch basins in series with a single outfall into the City of Lansing catch basin located in the curb of Michigan Avenue. This facility has a LOW POTENTIAL to discharge into the Waters of the State.
- **Slater Park** – This is a Township's largest park and it consists of 5 catch basins in series with a single outfall into the City of Lansing catch basin located in the curb of Mark Avenue. This facility has a LOW POTENTIAL to discharge into the Waters of the State.