# City of Flint

# Storm Water Management Program

**Version 1.0**
**January 2019**

**Storm Water Management Program**

Purpose This document outlines the City of Flint (City) Storm Water Management Program (SWMP),which is required under Part I.B of National Pollutant Discharge Elimination System Permit Number MI0053864 (the permit) for regulating discharges from the City municipal separate storm sewer system (MS4).

This SWMP is for reducing the discharge of pollutants to the receiving waters of the City MS4 to the "maximum extent practicable" through the following minimum measures:

- public education and outreach on stormwater impacts;
- elimination of illicit discharges;
- post-construction stormwater management for significant new development and redevelopment;
- construction stormwater runoff control; and
- pollution prevention and good housekeeping for municipal operations.

Pollutant reductions will be achieved through the use of best management practices (BMPs) for realizing measurable goals for meeting the "maximum extent practicable" (MEP) pollution minimization standard.

Administration and Implementation The SWMP will be administered and coordinated by the City Department of Public Works (DPW). It will be implemented, as in Appendix A, by various City departments, as follows:

| Role | Department | | | | | | |
|---|---|---|---|---|---|---|---|
| | Public Works | | | | | Fire | DPW Admin. & others |
| | Water Pollution Control | Water Service Center | Street Maintenance | Building Inspections | Planning | | |
| Maintain MS4 | | X | | | | | |
| Inventory and map MS4 structural controls | | X | | | | | |
| Inspect MS4 | X | X | | | | | |
| Inspect City and other facilities | X | | | X | | | |
| Inventory and map City facilities | X | | | | | | |
| Evaluate pollution control measures | X | | | X | | | |
| Develop Storm Water Pollution Prevention Plans for City facilities | | | | | | | X |
| Evaluate site plans | X | | | | X | | |
| Investigate MS4 discharges and pollution incidences | X | X | | X | | | |
| Investigate soil erosion and sedimentation problems | X | | | | | | |
| Enforce MS4 code | X | | | | | | |
| Enforce plumbing code | | | | X | | | |
| Enforce zoning code | | | | X | | | |
| Implement master plan | | | | | X | | |
| Clean streets | | | X | | | | |
| Respond to HAZMAT incidences and remediate spills | X | X | X | | | X | |
| Practice good housekeeping | | X | X | | | X | X |

Evaluation and Documentation Compliance with the minimum measures will be assessed annually by evaluating progress toward meeting predetermined evaluation criteria. BMPs, implementation methods and schedules, and evaluation criteria are summarized in Appendix A. The findings of the annual evaluation will be documented in an annual report in accordance with The permit, and all records and information resulting from the preparation of this report will be retained for not less than three years, including all records pertaining to: (i) analyses performed and calibration and maintenance of instruments and recordings from continuous monitoring instrumentation; (ii) surveillance, complaints of non-compliance, and legal enforcement actions, and (iii) records and information from the preparation of the annual progress reports.

## 1. Public Involvement

The City will involve the public in the development and implementation of the SWMP as in Appendix A.

## 2. Public Education

The City will implement a Public Education Program, as described in Appendix B, to educate all persons (including youths) having a meaningful potential effect on the quality and quantity of MS4 discharges, including residents, visitors, and public and private sector employees, about:

- Their responsibility and stewardship in watersheds
- The connection of the MS4 to area waterbodies and the potential impacts discharges could have on them
- Identifying and reporting Illicit discharges and improper disposal of materials into the MS4
- Preferred cleaning materials and procedures for car, pavement, and power washing
- Proper application and disposal of pesticides, herbicides, and fertilizers
- Proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4
- The availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids
- Proper septic system care and maintenance and how to recognize system failure
- The benefits of green infrastructure and Low Impact Development
- Methods for managing riparian lands to protect water quality
- Educate commercial, industrial, and institutional entities likely to contribute pollutants to stormwater water runoff

## 3. Illicit Discharge Elimination Program

The DPW will implement an Illicit Discharge Elimination Program (IDEP) to find, prioritize, and seek to eliminate illicit connections and minimize illicit discharges to the MS4 from commercial, industrial, institutional, public, and residential sources; and minimize infiltration of groundwater contaminated with seepage from sanitary sewers and septic systems. The City ordinance will provide the necessary authority for:

- regulating the contribution of pollutants to the MS4;
- regulating the rate at which water flows into the MS4;
- prohibiting illicit connections and illicit discharges;
- requiring compliance with the ordinance and orders and permits issued by the City; and
- conducting inspections, surveillance, and monitoring procedures to determine compliance with the ordinance and orders and permits issued by the City, and the terms and conditions of the MS4 permit.

The IDEP will be implemented primarily by DPW Water Pollution Control, which will police the MS4 by inspecting storm sewer outfalls, monitoring discharges to and from storm sewers, conducting dye-tracing, and enforcing the City ordinance. In addition, the DPW Water Service Center will assist by inspecting and televising storm sewers and watching for visual and olfactory indicators of illicit discharges and dumping.

Discharges and seepage into the MS4 which are authorized by a permit issued by the City under the ordinance or by an NPDES permit issued to the discharger to the MS4 or the person responsible for the seepage to the MS4 are not illicit discharges. Illicit discharges are defined in the ordinance.

### 3.1 Dry Weather Outfall Inspections

Water Pollution Control will implement a program for inspecting MS4 outfalls during dry weather, as described in Appendix C. The purpose of the program is to detect illicit discharges, spills, and dumping to the MS4, which are prohibited by the ordinance. The frequency of such inspections will depend on the probability of a prohibited discharge from a particular outfall.

### 3.2 Industrial Facility Inspections

As outlined in Appendix D, Water Pollution Control will periodically inspect industrial facilities discharging stormwater to the MS4 including, but not limited to:

- Open or closed landfills that have, or are receiving, industrial and/or demolition wastes
- Hazardous waste treatment, disposal and recovery facilities
- Industrial facilities subject to SARA Title III §313
- Industrial facilities determined by the City to be substantial sources of pollutant loading to the MS4

### 3.3 Seepage Minimization

To the extent funding becomes available to the City, the Water Service Center will seek to minimize the infiltration of groundwater contaminated with sanitary sewage.

The City plans to develop an Asset Management Plan to help maintain sewer infrastructure which will use database and geographical information system (GIS) software to locate, inventory and map sewers and manholes. It will then furnish a means to track their condition and perform inspections and maintenance.

Water Pollution Control will assist the Water Service Center in identifying sources of infiltrating sanitary sewage in storm sewers by:

- conducting dry weather outfall inspections;
- conducting dry weather screening follow up investigations;
- measuring collection system flows to identify sanitary sewer areas significantly impacted by rain; and
- identifying various locations where follow-up investigations of sanitary and/or storm sewers should be performed.

The Water Service Center will conduct follow-up investigations to inspect sanitary and storm sewer pipes and manholes, using TV cameras and other means to look for sources of sewage infiltration.

When sanitary sewage infiltration into the MS4 is found, or vice versa, the Water Service Center will develop a plan to resolve it. It will take short-term remedial action, whenever feasible, if the source can be eliminated without serious local impacts or significant cost. For larger projects, the Water Service Center will prepare a project description, develop cost estimates, and schedule for inclusion in the next City CIP. If the Water Service Center determines the source is outside City jurisdiction, it will provide information to the party with enforcement authority and monitor the situation until it is resolved.

The City ordinance requires connection of building sanitary disposal systems with City sanitary sewers where premises are within 300 feet of a sewer and prohibit septic systems or other private disposal systems at such premises. Any private disposal systems present in the City are subject to the Genesee County Environmental Health Regulations administered by the Genesee County Health Department, Environmental Health Division, and will be referred to them if thought to be causing illicit discharges. However, few if any are thought to exist.

Complaints received by the City regarding illicit discharges suspected of being caused by private sewage disposal systems will be investigated and, after preliminary verification, will be reported to the Genesee County Health Department, Environmental Health Division.

### 3.4 Enforcement Response

Reports made by the public or any City department regarding illicit connections will be directed to Water Pollution Control for investigation.

When illicit discharges are found, Water Pollution Control will use its enforcement powers to compel responsible parties to address them. Water Pollution Control will implement the procedures in Appendix E for investigating illicit discharges and enforcing the City ordinance in response to violations.

### 3.5 Employee Training

Water Pollution Control staff responsible for implementing the IDEP will receive training (at least once during the permit period) from various resources and through various means. The Environmental Compliance Supervisor and senior staff will provide core on-the-job training. New employees will be trained within one year of being hired, as in Appendices A and D. Periodic refresher training will be conducted for all.

### 3.6 Program Evaluation

The IDEP effectiveness will be jointly assessed by the City Stormwater Manager, Water Pollution Control Supervisor, and WPC Environmental Compliance Supervisor, at least annually, using the following criteria:

- permit compliance,
- staff training frequency,
- number of illicit discharges/connections eliminated over the permit cycle,
- number of complaints received over the permit cycle,
- measurable goal attainment,
- Master Plan conformance.

## 4. Post Construction Storm Water Management

The City of Flint will implement a Post Construction Storm Water Management Program to address storm water runoff from new development and redevelopment projects as described in the ordinance.

The program will include:

- requiring reduction of the total amount of impervious surfaces draining to the MS4 to the maximum extent practicable, and
- requiring the limitation of storm water runoff flow to the MS4 at or below the runoff volume and peak flow rate of the last land use prior to significant new development or redevelopment.

This will be accomplished by:

- developing and implementing a Storm Water Master Plan,
- regulating storm water discharges to the MS4 via permits, and
- pre-construction site plan review.

The program will be jointly administered by Planning and Water Pollution Control.

The Stormwater Ordinance will be adopted by City Council by Fall 2019.

Measurable goals of the PCC Program include: tracking of stormwater permit applications; # of maintenance agreements received and implemented; and ordinance enforcement initiatives.

### 4.1 Storm Water Master Plan

The Storm Water Master Plan is set forth in Appendix F.

### 4.2 Storm Water Permits

MS4 permits, issued and enforced by Water Pollution Control, will be used for regulating the quality and quantity of storm water runoff from (I) sites of new development and redevelopment where 1 acre or more of land will be disturbed; or (ii) smaller sites that are part of a larger common plan of development for sale.

The permits will require the use and maintenance of best management practices for meeting the Minimum Treatment Volume Standard and Channel Protection Criteria in the City ordinance. Permit applicants will be required to submit Discharger Storm Water Plans, certified by a registered Professional Engineer, incorporating the required practices. [Note: MS4 permits may be issued to others as well under the ordinance.]

BMPs in areas of soil or groundwater contamination will not exacerbate existing conditions; and in such cases, Storm Water Plan review will be coordinated with MDEQ staff as appropriate. Soils for absorbing and filtering stormwater will be isolated from contamination and drain into an appropriate sewer system if needed, except when contact with contamination is allowed by the MDEQ in an environmental cleanup plan where required.

### 4.3 Site Plan Review

Site plans for new development or redevelopment projects required to have storm water permits under the Ordinance will be reviewed jointly by Planning and Water Pollution Control, as follows:

- Planning will review plans for Storm Water Master Plan compliance to ensure that receiving waters will be protected.
- Water Pollution Control will ensure that MS4 permits have been obtained and sites are laid out and constructed in a way that prevents illicit discharges to the MS4.

Site plans will ensure that storm sewer inlets are adequately isolated from potential sources of pollution, such as equipment washing and waste material handling areas, and polluting materials are stored and handled only in areas isolated by secondary containment structures, where required by law.

They will not be approved until developers have obtained required MS4 permits, and they will not be approved if there will be a significant potential for the occurrence of illicit discharges.

### 4.4 Long-term Implementation

Water Pollution Control will determine whether or not developers meet applicable performance standards and require and regulate the long-term operation and maintenance of BMPs required by MS4 permits, under the ordinance.

### 4.5 Annual Evaluation

The effectiveness of the Post Construction Storm Water Management Program will be evaluated jointly by Planning and Water Pollution Control on an annual basis, and the findings of the evaluation will be included in the annual SWMP report.

The program will be revised if needed to maintain compliance with the City's NPDES permit.

## 5. Construction Storm Water Runoff Control

The Genesee County Drain Commission, Water and Wastes Services Division, enforces the requirements of the Michigan Soil Erosion and Sedimentation Control Act in the City.

Complaints regarding illicit discharges suspected of being caused by construction activity involving storm water runoff that may discharge into the MS4 will be directed to Water Pollution Control for investigation which, after preliminary verification, will be reported to the Genesee County Drain Commission, Water and Waste Services Division. The MDEQ Water Resources Division will also be notified when soil, sediment, or other pollutants are discharged to the applicant's MS4 from a construction activity in violation of the City Code. Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed. If the DPW becomes aware of such a violation of its own accord, the same notifications will be made.

The DPW will include in its public education program information for the public to use to notify the DPW of situations where construction site storm water runoff may discharge into the MS4.

City Planning will review preliminary site plans for construction which are submitted to the City to ensure adequate allowance is included in the construction activity for soil erosion and sedimentation controls, as appropriate. If the construction activity will involve one acre or greater in total earth disturbance with the potential to discharge to the MS4, Planning will advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (Rule 323.2190) and the requirement to obtain a Part 91 permit from the Drain Commission. A building permit will not be issued until all appropriate permits (Permit by Rule, Part 91, etc.) are obtained.

Water Pollution Control will implement the procedures in Appendix D for investigating illicit discharges and enforcing the City ordinance in response to any violations, as per Section 2.3 above.

## 6. Pollution Prevention and Good Housekeeping for City of Flint Operations

The City will employ operation and maintenance best management practices (BMPs) with the goal of preventing or reducing pollutant runoff to the maximum extent practicable which results from municipal operations, as detailed in Appendices A and G. In addition, all departmental cost centers will ensure that all contractors hired by the City perform municipal operation and maintenance activities in accordance with pollution prevention and good housekeeping BMPs as appropriate, and exercise all necessary oversight.

All City departments will identify pollutants that could be discharged from applicable operation and maintenance (O&M) activities and the BMPs being implemented, or to be implemented, to prevent or reduce pollutant runoff at least once every five years.

Water Pollution Control will: (1) Inventory and map City facilities and inspect and evaluate them for assessing the need for BMPs, and (2) develop Storm Water Pollution Prevention Plans (SWPPPs) for all facilities having a high pollutant discharge potential, which will be inspected quarterly to evaluate SWPPP implementation. And the Water Service Center will inventory and map City structural stormwater control BMPs. In addition, the City may develop SWPPPs for specific O&M activities, such as major construction, demolition and repair projects, having significant potential impact on MS4 receiving waters, whenever needed if deemed prudent. In this way, project-specific SWPPPs can be developed during the design phase based on detailed information, rather than trying to anticipate what BMPs will be needed far in the future for unforeseeable situations and conditions. SWPPPs may also be developed for activities carried out by contractors, such as parks maintenance, to ensure accountability.

The City has developed an Asset Management Plan (AMP) for facilitating BMP implementation. It will use a computer database and geographical information system software to locate, inventory and map facilities and infrastructure such as streets and structural stormwater control BMPs (i.e., storm sewer catch basins) and organize and track their maintenance.

The DPW will (i) train employees in preventing and reducing storm water pollution through proper implementation of BMPs and (ii) train them to properly handle wastes, recyclables, chemicals, and equipment used on the job; maintain a clean work area; regularly maintain storm water controls; and identify and report to DPW various storm water pollution sources including illicit discharges, malfunctioning post-construction controls, and poor soil erosion and sedimentation controls at construction sites. Employees and contractors working for the City of Flint who routinely handle any significant material (as defined below) and have a responsibility for preventing illicit discharges will be trained in SWPPP awareness and/or pollution prevention and good housekeeping, as in Appendix, in a manner conforming with their particular duties. Any new employees will be trained during the first year of service. And contractors will be trained prior to commencing contract work. The dates and rosters for all training will be documented in writing.

A significant material is any substance that can degrade water quality, such as salt, fuel, oil, detergents, solvents, fertilizers, pesticides, compost, soil, and wastes.

### 6.1 Structural Controls

The City uses structural controls for pollution prevention and good housekeeping.

The City operates and maintains thousands of MS4 catch basins for capturing stormwater sediment. In addition, an oil/water separator, operated and maintained by RACER Trust, exists in a City of Flint storm sewer near James P. Cole Boulevard and Massachusetts Avenue and a grassed swale for street drainage, operated and maintained by Kettering University, exists at the intersection of University Avenue and Chevrolet Avenue.

The Water Service Center will clean MS4 catch basins in paved streets in accordance with the AMP. And as an interim measure, the City intends to clean catch basins in City streets in high priority areas as in Appendix G. Substances removed from them will be de-watered on a pad connected to a sanitary sewer at the Water Service Center, and disposed of at a Type II sanitary landfill in accordance with Part 115 of the Michigan Natural Resources and Environmental Protection Act (NREPA).

All new structural controls for water quality/quantity will be designed and implemented in accordance with the post-construction stormwater runoff control performance standards and long-term operation and maintenance requirements in the City code.

### 6.2 Roadways and Pavement

The City will construct, operate and maintain its streets, roads, highways, parking lots and other large paved surfaces in a manner designed to minimize the discharge of pollutants, including those related to deicing activities, into the MS4. Salt and sand applied for improved traction will be prevented from entering MS4 receiving waters to the maximum extent practicable. The City will minimize the discharge wastewaters generated from cutting, grinding, drilling or hydro-demolition of concrete or asphalt into waters of the State.

DPW Street Maintenance will clean paved streets in accordance with the AMP. The City's Storm Water Asset Management Plan (SWAMP) was completed in November 2018. The majority of the City's storm sewer catch basins, manholes, and all outfalls were geospatially referenced, assessed, and integrated into the GIS. As new information is discovered, the GIS will be updated.

The SWAMP Capital Improvement Plan allocated $600,000 annually for O&M (outfall investigations, CCTVing of storm sewers, and catch basin cleaning, and street sweeping). $2.5M to $10M is allocated annually for storm manhole and catch basin repairs and rehabilitations.

And as an interim measure, the City intends to clean streets in high priority areas as in Appendix G.

Construction contractors will be responsible for cleaning streets that are impacted by runoff from construction sites. Should the contractor fail to do so, the City may do it and seek to recoup its expenses from the contractor.

In addition to street cleaning, DPW Code Enforcement will enforce its litter abatement ordinance, and City Street Maintenance will collect litter during street cleaning, which will be disposed of in accordance with NREPA Part 115.

The rate of salt application by the City will be electronically controlled to a maximum rate of 500 pounds per lane-mile, in accordance with recommendations of the Michigan Department of Transportation. Salt spreaders will be calibrated at least annually prior to winter usage.

Hazardous material spills on streets will be immediately reported to the Flint Fire Department (911) for enforcement of the City spill cleanup ordinance and response by the Genesee County HAZMAT team if warranted.

### 6.3 Fleet Maintenance

The City will perform vehicle maintenance activities indoors, except vehicle washing at the DPW Twelfth Street fleet maintenance and storage yards. Such activities include adding or changing fluids, lubrication,

mechanical repairs, parts degreasing, and vehicle or equipment washing. Wash water will not be discharged to the MS4. Truck washing will be done at the outdoor facility constructed for this purpose at the Twelfth Street Yards. The wash pad drains into a sanitary sewer.

### 6.4 Storm Sewer Labeling

All MS4 outfalls constructed after March 10, 2004 will have permanent identification indicating the City as the operator of the outfall collection system.

### 6.5 Pesticides and Fertilizers

The City will apply pesticides, herbicides and fertilizers on City lands in a manner consistent with available soil test data and manufacturer instructions on the containers for such materials such that the discharge of such materials to the MS4 is minimized. The City will store and handle pesticides, herbicides and fertilizers in a manner that prevents or minimizes discharges to the MS4.

Where appropriate, soil tests will be performed by the City to determine the recommended rate for application of fertilizer to City-owned land.

The DPW will train City employees involved in the application of pesticides, herbicides and fertilizers on City-owned land on the proper methods of storage, handling and application so as to minimize discharges of such materials to the MS4. They will be applied during dry-weather at least ten feet away from waterbodies. And pesticide applicators will be certified by the State of Michigan as an applicator in the applicable category [i.e., “Turfgrass Pest Management” (3A), “Ornamental Plants and Shade Tree Pest Management” (3B), “Right of way Pest Management (6), etc.].

## APPENDIX A
## BEST MANAGEMENT PRACTICES

| Minimum Measure | Best Management Practice | | Department | | | Timeline | Measurable Goal | Evaluation Criteria | Metric(s) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Public Works | Police | Fire | | | | |
| Educate public | 1 | Implement program, as per Appendix B | X | | | 2017 – 2022 | Heighten public awareness and significantly improve behavior | See §1.3 | As follows:<br>• Signs at 14 stream crossings<br>• 2 display booths at public events yearly*<br>• Outreach to 1,250 youths yearly*<br>• Outreach on pollution prevention 4 times yearly*<br>• Outreach on low-impact gardening & landscaping 2 times yearly*<br>• Outreach on low-impact urban agriculture 2 times yearly*<br>• Outreach on illicit discharge detection & reporting 4 times yearly*<br>• Catch basin stenciling in 4 areas yearly*, for a total of 160 basins yearly*<br>• Newsletter articles 4 times yearly*<br>• Advertise household hazardous waste collection 2 times yearly*<br>• Distribute brochures to commercial properties throughout the year |
| Educate public | 2 | Educate all non-domestic sanitary sewer users (NDUs), including restaurants, about pollution prevention at least once every five years | X | | | 2017 – 2022 | Educate all non-domestic sanitary sewer users | Number of NDUs informed vs. total number of NDUs in City [Total fluctuates – presumed to be not more than 200] | 100% of all NDUs once every 5 years |
| Educate public | 3 | Provide literature about proper septic system maintenance to owners of properties using septic systems at least once every five years | X | | | 2017 – 2022 | Inform all septic system users | Number of users informed vs. total number of users in City [Total presumed to be not more than a few] | 100% of septic system users once every 5 years |
| Involve public | 4 | Notify general public via notices in *the Flint Journal*, City website and other media (i.e., newsletters and other websites) that storm water management program (SWMP) must be implemented | X | | | 2017 | Effective communication | Posting and publication of notices and number posted | |

| Minimum Measure | Best Management Practice | | Department | | | Timeline | Measurable Goal | Evaluation Criteria | Metric(s) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Public Works | Police | Fire | | | | |
| Involve public | 5 | Notify Flint River Watershed Coalition (FRWC) via letter that storm water management program must be implemented | X | | | 2017 | Effective communication | Submission of letter | |
| Involve public | 6 | Facilitate review and comment on storm water management program plan by posting draft SWMP on City web-page and corresponding and meeting with interested parties | X | | | 2017 – 2022 | Effective communication | Proper posting of proposed plan and any proposed storm water management program modifications; and number of meetings | |
| Involve public | 7 | Inform public interest groups and general public about storm water management program activities | X | | | 2017 – 2022 | Effective communication | Publish annual storm water management program report on City website when submitted to MDEQ and publish legal notice in *Flint Journal* when posted | |
| Involve public | 8 | Conduct household hazardous waste collection twice per year | X | | | 2017 – 2022 | Prevent illicit dumping | Yearly* volume of waste collected | |
| Eliminate Illicit Discharges | 9 | Train Water Pollution Control Environmental Compliance Unit (ECU) and Building Inspections (BI) enforcement agents and Water Service Center (WSC) frontline supervisors and sewer operators/maintainers, as per Appendix G | X | | | 2017 – 2022 | Provide effective training at least once every 5 years and or within 1 year for new hires | Number of employees trained vs. total number to be trained. [**Actual** total fluctuates (this is unpredictable] | As follows:<br>• All (100%) of ECU employees once every five years or within first year for new hires<br>• All (100%) of BI employees once every 5 years or within first year for new hires<br>• All (100%) of WSC sewer operators/maintainers once every 5 years or within first year for new hires<br>• All (100%) of WSC frontline supervisors once every year |
| Eliminate Illicit Discharges | 10 | Inspect outlets during dry weather, as per Appendix C | X | | | 2017 – 2022 | Inspect outlets according to priority class | Yearly* number inspected and inspection frequency | |
| Eliminate Illicit Discharges | 11 | Police MS4 | X | | | As needed | Resolve illicit discharge and illicit connection violations within 1 year of discovery | Yearly* number of successful enforcement actions vs. yearly* number called for, and timeliness of enforcement | |

| Minimum Measure | Best Management Practice | | Department | | | Timeline | Measurable Goal | Evaluation Criteria | Metric(s) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Public Works | Police | Fire | | | | |
| Eliminate Illicit Discharges | 12 | Eliminate unauthorized cross connections between sanitary and storm sewers | X | | | As needed | Eliminate cross connections within 1 year of discovery | Yearly* number of cross connections eliminated vs. yearly* number of cross connections discovered, and timeliness of elimination | |
| Eliminate Illicit Discharges | 13 | Eliminate sewage seepage from sanitary sewers and on-site sewage disposal systems to the MS4 | X | | | As needed | Eliminate sources of seepage within 3 years, if practicable | Yearly* number of sources eliminated vs. yearly* number of sources discovered, and timeliness of elimination | |
| Regulate Post-construction development | 14 | Issue MS4 permits, requiring BMPs in areas of development and redevelopment, as applicable | X | | | Within 2 years of SWMP approval | Have MS4 permits and BMPs wherever required | Yearly* number MS4 permits issued and BMPs installed vs. yearly* number required | |
| Regulate Post-construction development | 15 | Require chemical and waste pollution prevention in site plans | X | | | Same as above | Required pollution prevention as needed | Yearly* number required vs. yearly* number called for | |
| Regulate Post-construction development | 16 | Enforce MS4 permit and BMP requirements through inspections and track implementation | X | | | Same as above | Inspect BMPs as appropriate | Number of inspections vs. total number of MS4 permits [Total likely to vary (this is unpredictable)] | All (100%) of permittees once every 5 years |
| Assist SESC enforcement | 17 | Receive and investigate complaints about suspected SESC rule violations | X | | | As needed | Respond to complaints within 5 work days | Yearly* number of complaints vs. yearly* number and timeliness of responses | Documentation of coordination with GCDC and DEQ |
| Assist SESC enforcement | 18 | Notify GCDC of SESC rule violations | X | | | As needed | Notify GCDS of all complaints within 5 work days | Yearly* number of notices vs. yearly* number of incidents and timeliness of notification | Number of SESC/NPDES permits applied for |
| Assist SESC enforcement | 19 | Require adequate allowance for SESC controls in site plans | X | | | As needed | Require adequate allowance as needed | Yearly* number required vs. yearly* number called for | |
| Pollution Prevention and Good Housekeeping | 20 | Clean storm sewer catch basins, as per Asset Management Plan and dispose of liquid vactor waste via City sanitary sewage facilities and solid wastes in sanitary landfill | X | | | 2017 – 2022 | As per Asset Management Plan | Yearly* number cleaned and yearly* volume sediment and debris removed [Total number of basins is unknown] | As follows:<br>• 5% of basins yearly*<br>• All (100%) of liquid waste to sewage facility<br>• All (100%) of solid waste to landfill |

| Minimum Measure | Best Management Practice | | Department | | | Timeline | Measurable Goal | Evaluation Criteria | Metric(s) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Public Works | Police | Fire | | | | |
| Pollution Prevention and Good Housekeeping | 21 | Label new storm sewer outfalls | X | | | As needed | Label new outfalls during construction | Yearly* number labeled vs. total yearly* number new [Total likely to be 0] | 90% of new outfalls, if any, within 1 year of construction |
| Pollution Prevention and Good Housekeeping | 22 | Clean streets (sweep, wash and pick up litter), as per Asset Management Plan, and dispose of sweepings and debris in sanitary landfill | X | | | 2017 – 2022 | As per Asset Management Plan | Yearly* number of miles cleaned and yearly* volume sediment and debris removed | |
| Pollution Prevention and Good Housekeeping | 23 | Wash City vehicles at designated washing facilities discharging to sanitary sewer | X | X | X | 2017 – 2022 | Consistent implementation of BMP | All vehicles washed at designated facilities [**Actual** fleet size and need for washing varies (this is unpredictable]] | 90% of vehicles |
| Pollution Prevention and Good Housekeeping | 24 | Apply not more than 500 pounds of road salt per lane-mile (calibrate spreader at least once annually before seasonal use) consistent with safety needs | X | | | When deicing roads | Minimize salt application | Yearly* number of tons of salt applied | |
| Pollution Prevention and Good Housekeeping | 25 | Evaluate outdoor polluting materials storage practices | X | X | X | Every Mar, Jun, Sep and Dec | Prevent spills of Significant Materials to MS4 | Yearly* number of facilities with outdoor storage inspected [Yearly number is presumed to be not more than 10 (this is unpredictable)] | 90% of facilities 4 times yearly* |
| Pollution Prevention and Good Housekeeping | 26 | Develop and implement SWPPPs for vehicle maintenance facilities and storage yards (VMF/SYs) | X | X | X | 2017 – 2022 | Have SWPPPs for all WMF/SYs | Number of SWPPPs vs. number of VMF/SYs | |
| Pollution Prevention and Good Housekeeping | 27 | Develop and implement SWPPPs for other O&M activities, whenever needed, for major projects having significant potential impact on MS4 receiving waters | X | | | 2017 – 2022 | Have SWPPPs when deemed prudent | Number of SWPPPs vs. number of major projects having significant potential impact on MS4 receiving waters | |

| Minimum Measure | Best Management Practice | | Department | | | Timeline | Measurable Goal | Evaluation Criteria | Metric(s) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Public Works | Police | Fire | | | | |
| Pollution Prevention and Good Housekeeping | 28 | Evaluate SWPPP compliance at least quarterly (or more frequently for special O&M activities, as may be needed) | X | | | Every Mar, Jun, Sep and Dec | Prevent spills of Significant Materials to MS4 | Yearly* number of inspections | 90% of facilities having SWPPPs 4 times yearly* |
| Pollution Prevention and Good Housekeeping | 29 | In City landscaped areas, apply fertilizer only in recommended amounts in accordance with soil test results | X | | X | Seasonal | Consistent implementation of BMP | Adherence to application recommendations [Applied amount will vary according to need per acre, as per soil testing results (this is unpredictable)] | Not more than recommended amounts |
| Pollution Prevention and Good Housekeeping | 30 | In City landscaped areas, apply insecticides and herbicides, during dry weather, as per label instructions by licensed person, at least ten feet from waterbodies; and dispose of any wastes as per label instructions | X | | X | Seasonal | Consistent implementation of BMP | Adherence to label instructions | |
| Pollution Prevention and Good Housekeeping | 31 | In City landscaped areas, mulch grass clippings and leaves in place or dispose of at composting facility | X | | X | Seasonal | Consistent implementation of BMP | Yearly* number of cubic yards disposed of at composting facility | |
| Pollution Prevention and Good Housekeeping | 32 | In City landscaped areas, dispose of woody debris at mulching facility | X | | X | Seasonal | Consistent implementation of BMP | Yearly* number of cubic yards disposed of at composting facility | |
| Pollution Prevention and Good Housekeeping | 33 | Collect and dispose all debris and wastes in accordance with applicable laws, and prevent them from entering waterways | X | X | X | 2017 – 2022 | Consistent implementation of BMP | Yearly* amounts of debris and wastes disposed [Actual amounts will vary (this is unpredictable)] | Clean 90% of facilities once every 5 years |
| Pollution Prevention and Good Housekeeping | 34 | Employee and contractor pollution prevention and good housekeeping training, as per Appendix F | X | X | X | 2017 – 2022 | Consistent implementation of BMP | Yearly* number of employees trained vs. total yearly* number to be trained [**Actual** total varies (this is unpredictable)] | As follows:<br>• 90% of employees once every 5 years<br>• 90% of frontline supervisors yearly* |

*Over the fiscal year

**APPENDIX B**
**PUBLIC EDUCATION PROGRAM**

The purpose of the City of Flint stormwater public education program (PEP) is to encourage the public and others to prevent and reduce the discharge of pollutants and stormwater to the MS4 and report illicit discharges, dumping and spills. Educational priorities will be based on concerns applicable to the City of Flint, as follows:

| Topic | Applicability | | |
|---|---|---|---|
| | High | Low | None |
| Public responsibility and stewardship in watersheds | X | | |
| The connection of the MS4 to area waterbodies and the potential impacts discharges could have on them | X | | |
| Identifying and reporting Illicit discharges and improper disposal of materials into the MS4 | X | | |
| Preferred cleaning materials and procedures for car, pavement, and power washing | X | | |
| Proper application and disposal of pesticides, herbicides, and fertilizers | X | | |
| Proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4 | X | | |
| The availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids | X | | |
| Proper septic system care and maintenance and how to recognize system failure | | X | |
| The benefits of green infrastructure and Low Impact Development | X | | |
| Methods for managing riparian lands to protect water quality | | X | |
| Commercial, industrial, and institutional storm water pollution prevention | | X | |

Therefore, whereas education on riparian land management and septic system care will be lower priority because in Flint, most riparian land is City-owned green space and there are few septic systems, all other subjects will be high priority. Riparian land management education will be focused in residential areas where privately-owned riparian land exists.

Logistics

The PEP will include the following core elements for educating the Flint public as follows:

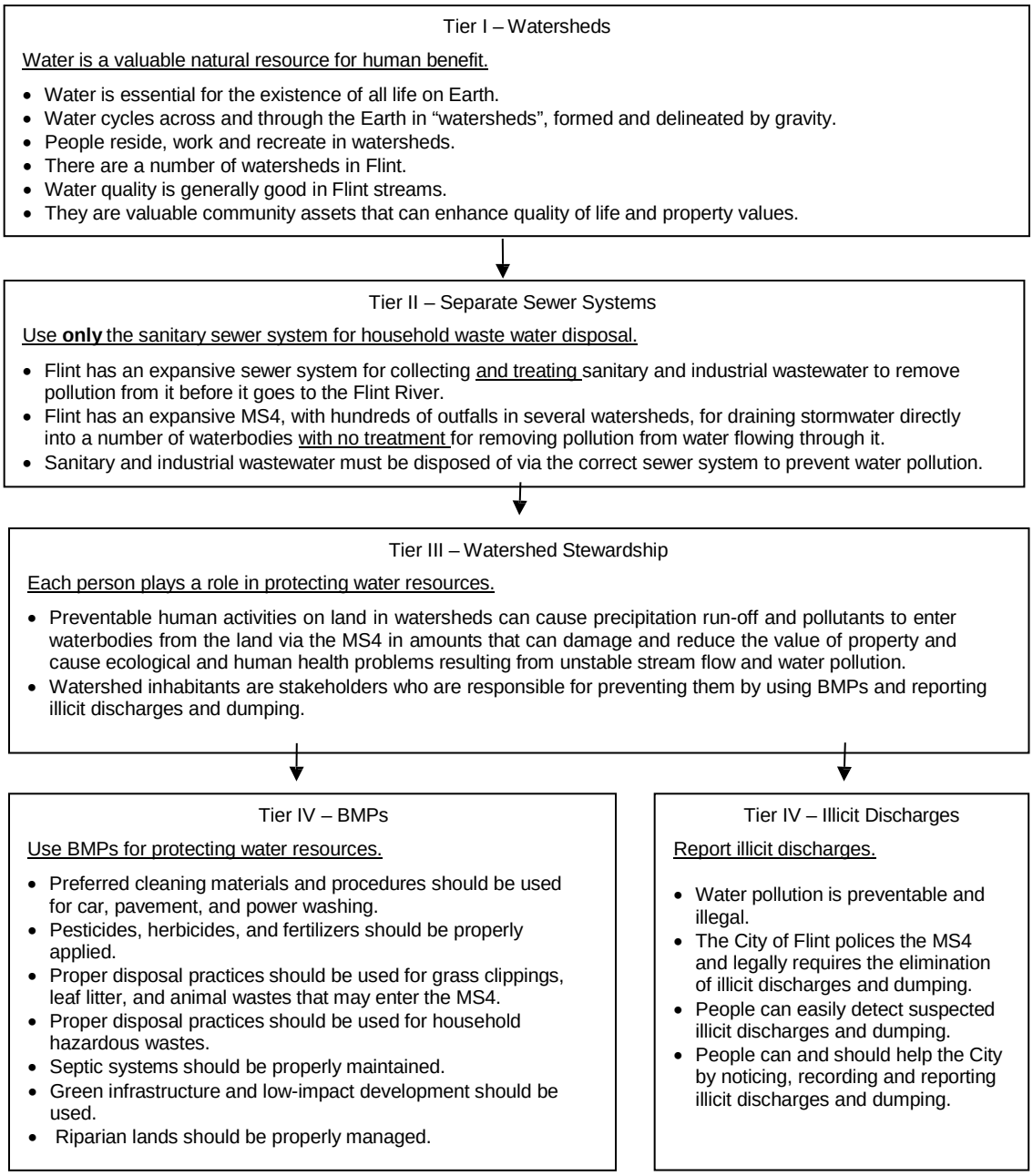
| | Core Program Elements | Target Audience | Quantity | Frequency | Timeline |
|---|---|---|---|---|---|
| 1 | Road/stream crossing signs | General public | 14 signs | One time only | Not applicable |
| 2 | Staffed display booth at public events | General public | At least 2 events per year | Annually | Throughout year* |
| 3 | Presentations on pollution prevention and green infrastructure | Youths | At least 3,200 youths educated per year | Annually | Throughout year* |
| 4 | Presentations on pollution prevention and green infrastructure | General public | At least 4 events per year | Annually | Throughout year* |
| 5 | Presentations on low-impact gardening and landscaping | General public | At least 2 events per year | Annually | Spring* |
| 6 | Presentations on low-impact urban agriculture | Agricultural producers | At least 2 events per year | Annually | Spring* |
| 7 | Presentations on illicit discharge detection and reporting | General public | At least 4 events per year | Annually | Throughout year* |
| 8 | Disseminate brochures on pollution prevention and green infrastructure | General public | At least 200 brochures per year | Annually | Throughout year* |
| 9 | Catch basin stenciling with door to door delivery of brochures (see 8 above) | General public | At least 4 events per year | Annually | May – Sep* |
| 10 | Publish articles about pollution prevention and green infrastructure in newsletters | General public | At least 4 articles per year | Quarterly | Winter, spring, summer, & fall |
| 11 | Advertise household hazardous waste collection | General public | At least 2 times annually | Semi-annually | Spring & fall |
| 12 | Distribute brochures on pollution prevention at commercial establishments | Employees | At least 20 per year | Annually | Throughout year** |

*Events are scheduled on a short-term basis during the year, upon invitation by the host.

Resources and tools available through the EPA “Getting in Step Outreach Series” (at http://cfpub.epa.gov/npstbx/getinstep.html), along with those available through the MDARD Michigan ater Stewardship Program (at http://www.miwaterstewardship.org/) will be used for PEP implementation.

Key Messages

The PEP will instill "key concepts", from fundamental to more advanced, stemming from tiered (layered) "key messages" (statements) regarding certain "key subjects". They will pertain to personal responsibilities for watershed stewardship through the use of BMPs and reporting pollution, as follows:



Delivery Mechanisms

The following mechanisms will be used for delivering the key messages:

| Concepts | Delivery Mechanism | | | | | |
|---|---|---|---|---|---|---|
| | Road Signs | Literature | Maps | Presentations | Newsletters | Website |
| Watersheds | X | | X | X | | X |
| Separate Sewer Systems | | | X | X | | X |
| Watershed Stewardship | | X | | X | X | X |
| BMPs | | X | | X | X | X |
| Illicit Discharges | | X | | X | X | X |

The more general presentations will convey all key concepts and messages, while emphasizing the fundamentals; and more in-depth presentations will communicate the more advanced (Tier IV) concepts. Advanced presentations will cover the following topics:

| Topic | Presentation | | |
|---|---|---|---|
| | Low-impact gardening and landscaping | Low-impact urban agriculture | Illicit discharge detection and reporting |
| Composting | X | X | |
| Water harvesting (i.e., swales, French drains, rain gardens, rain barrels, etc.) | X | X | |
| Integrated pest management (including pesticide selection/application) | X | X | |
| Nutrient management (including soil testing and fertilizer selection/application) | X | X | |
| Native plant horticulture (including selection and propagation) | X | | |
| Soil erosion and sedimentation control (including cover crops and buffer strips) | | X | |
| Identifying water pollution (via visual and olfactory indicators) | | | X |
| Detecting suspected illicit discharges (via visual and olfactory indicators) | | | X |
| Reporting spills, illegal dumping, and suspected illicit discharges | | | X |

In addition, Water Pollution Control will implement special measures specific to Flint:

- educate non-domestic sanitary sewer users, including restaurants, during Industrial Pretreatment Program inspections;
- mail pollution prevention literature to businesses that could cause illicit discharges, such as landscapers, automotive repair shops, carpet and floor cleaners, and janitorial services, etc.; and
- mail literature about proper septic system maintenance to owners of properties using septic systems.

Extra PEP efforts coordinated by partnering organizations, such as riparian land management (Genesee Conservation District), “Smart Gardening” (Michigan State University Extension), “Home*A*Syst Program” (MDARD Water Stewardship Program) and water recreation and water quality monitoring (Flint River Watershed Coalition) may be done, if feasible, but will not be mandatory.

Effectiveness Evaluation

The PEP will be reviewed every 2 years for effectiveness and will be modified as needed. Program effectiveness will be evaluated through random City-wide social surveys conducted at least once every five years to assess increases in awareness and changes in behavior. In addition, quizzes and attendee evaluations following presentations will be used for measuring changes in awareness. And the following criteria will be quantified:

- Yearly number of educational events conducted and participants in them
- Yearly amount of educational literature distributed
- Yearly number of newsletter articles published
- Yearly number of household hazardous waste collection advertisements
- Yearly number of illicit discharges reported

**APPENDIX C**
**DRY-WEATHER OUTFALL INSPECTION PROTOCOL**

MS4 outfalls and points of discharge will be inspected for visible and olfactory pollution indicators (listed below) and, if a discharge is present, the percent fullness of the pipe will be determined and it will be sampled at the time of inspection and tested for chemical, physical and biological pollution indicators. Sample test results will be compared to criteria for evaluating them. Evidence of a possible illicit discharge will be indicated if a sample test result either exceeds a "threshold level" or is between the "threshold level" and the "upper bound", if applicable, or if a sensory indicator is observed. Each indicator will be given a number of points for weighting its significance. The following pollution indictors (and points) and evaluation criteria will be used:

| Pollution Indicator | Points | Units | Evaluation Criteria | |
|---|---|---|---|---|
| | | | Threshold Level | Upper Bound |
| Ammonia-N* | 2 | mg/L | 10 | |
| Chlorine* | 6 | mg/L | 0.30 | |
| Color* | 2 | PCU | 50 | |
| Conductivity* | 2 | µS/cm | 1,500 | |
| Detergents* | 2 | mg/L | 1 | |
| Fluoride* | 2 | mg/L | 0.5 | 1.2 |
| Hardness* | 2 | mg/L | 120 | 250 |
| pH* | 2 | SU | 6.0 | 9.0 |
| Temperature* | 2 | °F | 80 | |
| Turbidity* | 2 | NTU | 50 | |
| Fecal coliform bacteria* | 3 | #/100 ml | 400 | |
| Volatile Organic Compounds* | 6 | PPM | 10 | |
| Pipe fullness | 1 if >0 & 6 if 10+ | % | 0 & 10 | |
| Structural condition of pipe (corrosion/staining/deposits) | 2 | | | |
| Bank condition (staining/deposits) | 2 | | | |
| Dead fish** | 1 | | | |
| Prolific plant or microbial growth (algae, slimes, sheens, etc.)** | 1 | | | |
| Feces** | 6 | | | |
| Tissue paper** | 6 | | | |
| Un-natural color ** | 2 | | | |
| Un-natural turbidity/Water Clarity** | 2 | | | |
| Un-natural foaming** | 2 | | | |
| Un-natural floating liquid(s)** | 2 | | | |
| Un-natural floating object(s)** | 2 | | | |
| Un-natural odor** | 6 | | | |
| Vegetation Condition | 2 | | | |

*In discharge
**In receiving water

Findings will be preliminarily classified, for prioritizing follow up activities, based on a score equaling the sum of the points for all positive indications, for quantifying the level of certainty, as follows:

| Case | Score | Certainty |
|---|---|---|
| A | 6 | Greater |
| B | 2 | Minimal |
| C | 0 | None |

Outfalls having either no discharge or exempt discharges will be classified as Case D or E, respectively.

Timely follow-up investigations for finding the source of Case A and B discharges will be done, with Case A discharges having the highest priority; and they will be reassessed at least twice annually (per fiscal year), until their findings fall under Cases C, D or E, after at least two consecutive inspections.

The **suspected** source of dry-weather discharges will be determined by comparing the inspection data to the threshold level (TL) and upper bound (UB) for each pollution indicator to determine its profile, as follows:

| Pollution Indicator | Discharge Source Profile | | | |
|---|---|---|---|---|
| | Municipal Sewage | Ground Water | Potable Water | Industrial Wastewater |
| Ammonia-N* | >TL | <TL | <TL | <TL |
| Chlorine* | >TL | <TL | >TL | >TL |
| Color* | >TL | <TL | <TL | >TL |
| Conductivity* | >TL | <TL | <TL | >TL |
| Detergents* | >TL | <TL | <TL | >TL |
| Fluoride* | >TL & ≤UB | >UB | >TL & ≤UB | >TL & ≤UB |
| Hardness* | ≤UB | >UB | ≤UB | ≤UB |
| pH* | <TL or >UB | >TL & <UB | >TL & <UB | <TL or >UP |
| Temperature* | >TL | <TL | <TL | >TL |
| Turbidity* | >TL | <TL | <TL | >TL |
| Fecal coliform bacteria* | >TL | <TL | <TL | <TL |
| Volatile Organic Compounds* | >TL | <TL | <TL | >TL |
| Pipe fullness | >TL | >TL | >TL | >TL |
| Pipe condition (corrosion/staining/deposits) | Present | Absent | Absent | Present |
| Bank condition (staining/deposits) | Present | Absent | Absent | Present |
| Dead fish** | Present | Absent | Absent | Present |
| Prolific plant or microbial growth (blooms, slimes, sheens, etc.)** | Present | Absent | Absent | Present |
| Feces** | Present | Absent | Absent | Absent |
| Tissue paper** | Present | Absent | Absent | Absent |
| Un-natural turbidity** | Present | Absent | Absent | Present |
| Un-natural color** | Present | Absent | Absent | Present |
| Un-natural foaming** | Present | Absent | Absent | Present |
| Un-natural floating liquid(s)** | Present | Absent | Absent | Present |
| Un-natural floating object(s)** | Present | Absent | Absent | Present |
| Un-natural odor** | Present | Absent | Absent | Present |

*In discharge
**In receiving water

A follow-up investigation will be done to determine the actual source, by tracking the discharge through storm sewers.

Certain discharges, which will be classified as Case E, are exempt from the discharge prohibitions in the City ordinance:

- Potable water supply line flushing
- Landscape irrigation
- Diverted stream flows
- Uncontaminated groundwater infiltration to storm drains
- Pumped uncontaminated ground water, except for groundwater cleanups specifically authorized by NPDES permits
- Discharges of potable water
- Foundation drain water
- Air conditioning condensate water
- Individual residential car washing water
- Dechlorinated swimming pool waters from single, two, or three family residences
- Swimming pool water from a single-family residence
- Residual City street wash water
- Discharges from emergency fire-fighting activities.

Outfalls will be inspected in order of priority class, as follows:

| Focus Area | Priority Class | Frequency | Location |
|---|---|---|---|
| In areas with poor dry-weather surface water quality, known or suspected to be related to illicit discharges in Flint | 1 | At least quarterly | To be identified, if present |
| In areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load | 2 | At least yearly | To be identified, if present |
| In sewersheds having Case A or B outfalls | 3 | At least yearly | To be identified, if present |
| In areas with a history of illegal dumping and/or potentially significant environmental contamination | 4 | At least every five years | To be identified, if present |
| In areas with industrial, commercial, or mixed land uses | 5 | At least every five years | Sewersheds draining districts with significant commercial & industrial development, zoned D3, D4, D5, D6, E, F & G, in vicinity of major business routes:<br>• Clio Road<br>• Cole Boulevard<br>• Court Street<br>• Corruna Road<br>• Davison Road<br>• Dort Highway<br>• Fenton Road<br>• Lapeer Road<br>• Saginaw Street<br>• Van Slyke Road |
| In areas with (i) older MS4 infrastructure: (ii) sewer conversions or historic combined sewer systems; (iii) older sewer lines; and/or (iv) a history of sewer overflows or cross-connections | 6 | At least every five years | Sewersheds draining area in 1920 footprint (see map below) |
| In areas with onsite sewage disposal systems | 7 | At least every ten years | To be identified, if present |
| All other outfalls | 8 | At least every ten years | To be identified, if present |

In addition, timely outfall inspections will be conducted, as needed, in response to illicit discharges identified outside of field screening, complaints about suspected illicit connections, and dumping made through a public reporting hotline, on a top priority basis, anywhere in the City of Flint. An initial follow-up inspection will be performed as soon as possible and within two (2) normal workdays of first receiving a complaint or identifying the illicit discharge, and an investigation conducted in accordance with Appendix E will be initiated as soon as possible after the initial follow-up inspection and completed within ten (10) normal workdays.


*1920 building footprint (orange) compared to the 2013 Flint municipal boundary*

**APPENDIX D**
**INDUSTRIAL FACTILITY INSPECTION PROTOCOL**

**Introduction** This protocol is for outlining and updating the program for managing industrial stormwater discharged to the City of Flint municipal separate storm sewer system (MS4) presented in Section 11 of the City's 1994 Part II MS4 permit application.

**Facilities Inventory** Water Pollution Control (WPC) will annually identify and classify the following industrial facilities in Flint according to their potential to discharge pollutants to the MS4 ("pollution potential"), rated as "high", "medium" or "low":

- Open or closed City-owned landfills that may have, or are receiving, industrial and/or demolition wastes
- Hazardous waste treatment, disposal and recovery facilities
- Industrial facilities subject to SARA Title III §313
- Industrial facilities determined by the City to be substantial sources of pollutant loading to the MS4

**Facility Inspections** WPC will inspect industrial facilities according to priority class, as follows:

| Class | Pollution Potential | Reason | Frequency |
|---|---|---|---|
| 1 | High | Have a history of frequent illicit discharges, not caused by legacy contamination | At least twice per year |
| 2 | High | Discharge toxic chemicals in stormwater to the MS4 (as indicated in Toxic Release Inventory Form R) | At least once per year |
| 3 | High | Have a reasonable potential to discharge any material in an amount that can degrade or impair water quality | At least once per year |
| 4 | High | Located in sewersheds draining via MS4 outfalls found to have dry-weather discharges strongly indicating possible illicit industrial wastewater discharges (Case A) | At least once per year |
| 5 | Medium | Located in sewersheds draining via MS4 outfalls found to have dry-weather discharges indicating possible illicit industrial wastewater discharges (Case B) | At least once every two years |
| 6 | Low | All other industrial facilities having NPDES permits for sites of industrial activity | At least once every five years |

If the industrial facility is a Significant Non-domestic User under the Flint Industrial Pretreatment Program (IPP), the inspection may be conducted simultaneously with annual IPP inspections. Otherwise, WPC will send a letter to industrial facilities notifying them that they will be inspected without immediate prior notice, not more than ninety (90) days prior to conducting inspections. Records and/or documents needed for preparing for inspections will be requested in the letter.

Inspections will be conducted without immediate prior notice to evaluate Storm Water Pollution Prevention Plan (SWPPP) implementation and conformance, which will involve:

- Studying the SWPPP prior to the inspection
- Reviewing the SWPPP with facility representatives
- Reviewing SWPPP records, including any spill reports, on file with facility representatives
- Inspecting the facility to locate, observe and assess
  - MS4 inlets and outlets
  - Outdoor material and equipment storage areas
  - Outdoor material handling and equipment maintenance and cleaning operations
  - Exposed soil and/or environmental contamination
  - Evidence of spills and illicit discharges and/or poor or improper maintenance
  - Best management practices

Inspection reports will be completed on a form developed by the City and kept on file for at least three (3) years.

WPC inspectors will receive MDEQ Industrial Storm Sewer Certified Operator or equivalent training at least once every five (5) years and new inspectors will be trained within one (1) year of hire.

**Discharge Monitoring** WPC will generally rely on MS4 discharge monitoring performed by industrial facilities and will request the submission of recent quantitative data for:

- any pollutants limited in effluent guidelines subcategories, where applicable;
- any pollutant listed in an existing NPDES permit for a facility;
- oil and grease, COD, pH, $BOD_5$, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen; and/or
- any information on discharges required under 40 CFR §122.21(g)(7) (vi) and (vii).

In addition, WPC may order or conduct such monitoring if deemed necessary.

**Enforcement** WPC will promptly notify the MDEQ of any presumed or suspected NPDES permit violations in accordance with the City MS4 permit. However, WPC may enforce the City Code in response to historic, ongoing, or imminent illicit discharges.

**APPENDIX E**
**ENFORCEMENT RESPONSE GUIDE**

The following protocol provides guidelines for City responses to various anticipated non-compliance scenarios, notwithstanding the timelines and specific procedures described herein. And as such, practicality and timeliness will always be considered for maximizing program effectiveness. Thus, whereas this guide is intended to reflect the expected response to violations to compel compliance in an effective and acceptable manner, it should not necessarily be construed to be prescriptive in all cases, as prudence and good judgement are always necessary.

When illicit discharges are found or reported, Water Pollution Control will act promptly to compel responsible parties to cease illicit activities and penalize them as appropriate.

Reports made by the public or any City department regarding illicit discharges or connections will be directed to Water Pollution Control for investigation, which will immediately be recorded on the "Water Pollution Control Illegal Discharge Report Form" (below). In addition, illicit discharges, connections or dumping that result in any discharge of any polluting material to the surface waters or ground waters of the state, will be immediately reported to the MDEQ, unless a determination is made that the discharge is not in excess of the threshold reporting quantities in the Part 5 Rules, by calling either the Water Resources Division Lansing District Office at 517-284-6651 or the 24-Hour Pollution Emergency Alerting System at 800-292-4706, if after regular working hours.

When illicit connections are reported or possibly indicated by Case A or B outfall inspection findings, as explained in Appendix C, a stepwise procedure for finding and eliminating them will be conducted as appropriate, by:

- reviewing existing records for information about the types of land-uses and previous problems (which might be recurring) in the drainage basin;
- tracing the dry weather discharge to the vicinity of its origin in the MS4;
- locating the illicit connection (by television, if needed), if possible;
- inspecting buildings in the vicinity of the illicit connection, which might have internal plumbing
- connected with the MS4;
- sampling and testing the dry weather discharge, along with wastewater collected from the building suspected of having an illicit connection for common pollutants and characteristics;
- confirming the existence of the illicit connection by dying wastewater, if allowed under the City NPDES permit, in the suspected building and observing the dye in the MS4 at the nearest downstream manhole or at its point of entry, if possible;
- documenting all significant details of the investigation; and
- taking appropriate legal enforcement action.

Step 1: Reviewing Records. Investigation and inspection reports about previous problems, sewer tap-in permits, sewer drawings, Industrial Pretreatment Program records, and other such records that might have information in them useful for investigating the source of illicit connections will be reviewed as needed.

Step 2: Tracing the Dry Weather Discharge. The dry weather discharge will be traced upstream through the MS4, from manhole to manhole, to its point(s) of origin if necessary and, if allowed under the City NPDES permit. The illicit connection could be with a sewer pipe. In this case, the point of origin would be located between two MS4 manholes (the upstream manhole would be dry).

Step 3: Locating the Suspected Illicit Connection. The illicit connection will be located. An illicit discharge could enter the MS4 through a pipe connected to a City manhole or sewer pipe. If there is an illicit connection with a manhole, the dry weather discharge may be visible, flowing from the pipe into the manhole. However, if the connection is within a sewer pipe, the connection and any illicit discharge can be remotely viewed by television, most likely at or near the top of the horizontal sewer pipe.

Step 4: Inspecting Buildings in the Vicinity. An illicit connection will most likely be with a nearby building, because building plumbing systems are usually laid-out in a way that minimizes the length of pipe runs (to minimize the cost of the installation). Therefore, buildings near the suspected illicit connection will be inspected to examine the lay-out of the internal plumbing systems to determine what types of wastewater are being discharged and what types of characteristic pollutants are known, suspected or assumed to be in the wastewater.

Step 5: Sampling and Testing Wastewater. If dry-weather discharge in a sewer has pollutants that are uniquely characteristic of wastewater discharged from a building, it is almost certain that the dry-weather discharge, at least partly, originates from it. Therefore, dry-weather discharge and wastewater generated in suspected buildings will be tested for common indicator pollutants, if this can substantiate the investigation. However, sanitary sewage from kitchens and bathrooms probably do not contain unique pollutants that can serve as good evidence for substantiating investigations, but sanitary sewage carrying human feces and urine contain high levels of Fecal Coliform bacteria, ammonia-nitrogen and organic carbon.

Step 6: Confirming the Source of the Discharge. The best evidence of an illicit connection is established by placing dye in the internal plumbing system of a building and observing it entering the storm drain via the illicit connection. Therefore, dye tracing will be used for confirming the source of the illicit discharge, if necessary and if allowed under the City NPDES permit.

Step 7: Documenting the Investigation. The investigation must be documented to support administrative and judicial law enforcement actions for compelling elimination of the illicit discharge. Therefore, significant details of the investigation will be carefully documented, in writing, during the investigation, following chain-of-custody procedures for documents. Preferably, the investigations will also be documented with photographs and video recordings, if feasible at the time. Proper procedures for collecting, bottling, preserving, storing, and testing samples and documenting sample custody will be used, in accordance with 40 CFR Part 136.

Step 8: Taking Appropriate Legal Enforcement Action. Enforcement action for compelling elimination of the illicit discharge may be taken in accordance with the ordinance. Issuing informal warnings and directives, violation notices, and/or administrative orders in a timely, progressive manner, as called for by the gravity and urgency of the matter, may be done. Should the offender fail to comply with the progressive administrative enforcement actions, an administrative fine may be levied against the offender. Should the offender remain in violation after this step and/or fail to pay the fine, judicial relief may be sought, along with court-imposed penalties.

Step 9: Records Retention. Information pertaining to violations will be maintained in a digital database, including, as appropriate, the name of the perpetrator, the date and location of the violation, a description of the violation, a description of the enforcement response used, a schedule for returning to compliance, and the date the violation was resolved. In addition, written reports will be maintained for all telephone correspondence with the offender, and copies of all written correspondence with the offender and enforcement documents will be maintained on file for at least three (3) years.

In cases where sources are readily located and offenders are forthright and cooperative, these steps will be implemented, according to the following schedule:

- Initial inspection completed within two (2) normal workdays
- Source investigation completed within ten (10) normal workdays
- Commence enforcement procedures within twenty-eight (28) normal workdays

In cases where offenders are uncooperative and evasive and evidence gathering involves more sophisticated and stealthy surveillance and investigations, enforcement actions will be done in a timely manner with the goal of eliminating illicit discharges as soon as practicable.

Chapters 39: Refuse, Garbage, and Weeds and 46: Use of Storm Sewers address illegal dumping and violations.

**Water Pollution Control**
**Illegal Discharge Report Form**

Record all available information requested below.

1. Reported to (name): On (date): At (time):

2. Person reporting discharge (name & title):

   Representing: Phone #:

3. Location of discharge:

4. Impacted sewer system: □ to sanitary sewer □ to storm sewer

4. Time of occurrence: Time discovered:

5. Cause and source of discharge:

6. Emergency response(s):

7. Reported to: □ MDEQ, □ USEPA, □ Fire Dept., □ Police Dept., □ 911, □ none, □ other(s). If other(s), which one(s)?

8. Hazard recognition and identification information:

| | |
|---|---|
| Material (name on MSDS or manifest) | |
| Quantity (pounds or gallons) | |
| Hazardous Properties | corrosive □ flammable □ explosive □ oxidizer □ poisonous |
| DOT Hazard Classification (name) | |
| DOT Hazard Classification (number) | |
| Identification Number (UN or NA) | |

9. Immediately report any discharges which endanger public safety to the Fire Department (refer to the DOT Emergency Response Guidebook as a reference, if applicable).

   Reported to Fire Department? □ yes □ no

   By (name): On (date): At (time):

10. Notes:

**APPENDIX F**
**STORM WATER MASTER PLAN**

## PURPOSE

Pursuant to Part I.B.4.a of National Pollutant Discharge Elimination System Permit Number MI0053864 for the City of Flint municipal separate storm sewer system (MS4), the City is required to "Develop and implement a comprehensive storm water master plan for development, implementation, and enforcement of controls watershed-wide or jurisdiction-wide to protect the designated uses in all receiving waters from the effects commonly associated with urbanization."

The City of Flint has produced this Storm Water Master Plan, in accordance with this requirement. The plan will be implemented in a step-wise manner as the City Master Plan is developed, amended (from time to time) and implemented. Planning and Water Pollution Control will be primarily responsible for implementing it.

## GOALS

The goals of the Storm Water Master Plan are as follows:

1. Enhance the quality of life for Flint residents.
2. Sustain the local economy.
3. Promote tourism.
4. Protect public health.
5. Protect the ecological health of lakes and streams.
6. Enhance recreational opportunities in the community.

## OBJECTIVES

The objectives for achieving the goals of the plan are as follows:

1. Sustain the "Designated Uses" for lakes and streams established in MDEQ R 323.1100, as applicable, which are:
    a. agriculture,
    b. navigation,
    c. Industrial water supply,
    d. warm water fishery,
    e. habitat for other indigenous aquatic life and wildlife,
    f. partial body contact recreation,
    g. fish consumption,
    h. total body contact recreation from May 1 to October 1, and
    i. public water supply sources at the point of water intake.

2. Reduce the total amount of impervious surfaces draining into the MS4 to the maximum extent practicable.

3. Limit storm water runoff at or below the runoff volume and peak flow rate of the last land use prior to significant new development or redevelopment.

## TASKS

The tasks for meeting the objectives of the plan are as follows:

1. <u>CITY MASTER PLAN</u>

    The City Master Plan will incorporate the Storm Water Master Plan.

2. MS4 PERMITS

MS4 permits, issued and enforced by Water Pollution Control, will be used for regulating the quality and quantity of storm water runoff from (i) sites of new development and redevelopment where 1 acre or more of land will be disturbed; or (ii) smaller sites that are part of a larger common plan of development for sale. The permits will require the use and maintenance of best management practices (BMPs) for meeting the Minimum Treatment Volume Standard and Channel Protection Criteria in the ordinance. Permit applicants will be required to submit Storm Water Plans, certified by a registered Professional Engineer, incorporating the required practices. [Note: MS4 permits may be issued to others as well under the ordinance.]

BMPs in areas of soil or groundwater contamination will not exacerbate existing conditions; and in such cases, Storm Water Plan review will be coordinated with MDEQ staff as appropriate. Soils for absorbing and filtering stormwater will be isolated from contamination and drain into an appropriate sewer system if needed, except when contact with contamination is allowed by the MDEQ in an environmental cleanup plan where required.

3. SITE PLAN REVIEW

Site plans for new development or redevelopment projects required to have storm water permits under the ordinance will be reviewed jointly by Planning and Water Pollution Control, as follows:

- Planning will review plans for Storm Water Master Plan and zoning code compliance to ensure that receiving waters will be protected.
- Water Pollution Control will ensure that MS4 permits have been obtained and sites are laid out and constructed in a way that prevents illicit discharges to the MS4.

Sites plans will ensure that storm sewer inlets are adequately isolated from potential sources of pollution, such as equipment washing and waste material handling areas, and polluting materials are stored and handled only in areas isolated by secondary containment structures, where required by law.

They will not be approved until developers have obtained required MS4 permits, and they will not be approved if there will be a significant potential for the occurrence of illicit discharges.

**APPENDIX G**
**POLLUTION PREVENTION/GOOD HOUSEKEEPING FORM**

**City of Flint**
**Storm Water Pollution Prevention Plan**

**Quarterly Facility Inspection Report**

1. Facility:
2. Address:
3. Date:
4. Facility Representative (name/title):

5. Identify any sources of significant materials that can degrade water quality:

| Potential Sources of Discharge | Significant Materials | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Soil & Mud | Sweepings | Spoils | Sludge | Road Salt | Trash | Recycling Materials | Wastes | Scrap | Compost | Mulch | Sawdust | Oil | Paint | Cleaners | Pesticides | Fertilizers | Fuel | Other* |
| Material handling & storage | | | | | | | | | | | | | | | | | | | |
| Waste storage & disposal | | | | | | | | | | | | | | | | | | | |
| Maintenance & cleaning | | | | | | | | | | | | | | | | | | | |
| Air emissions | | | | | | | | | | | | | | | | | | | |
| Residue deposits | | | | | | | | | | | | | | | | | | | |
| Environmental contamination | | | | | | | | | | | | | | | | | | | |
| Exposed soil | | | | | | | | | | | | | | | | | | | |
| Other* | | | | | | | | | | | | | | | | | | | |

*If other, explain (use other side if needed):

6. Describe any spills of significant materials onto any surface that drains storm water to a storm sewer that occurred since the last quarterly inspection (use other side if needed):

7. Describe any evidence of any spill of significant materials onto any surface that drains storm water to a storm sewer that may have occurred since the last quarterly inspection (use other side if needed):

8. List any pollution prevention or good housekeeping deficiencies observed:

| | |
|---|---|
| | Deficient pavement cleaning |
| | Deficient placement of spill response equipment |
| | Deficient application of gravel and/or addition/repair of pavement or other soil erosion and dust control measures in high traffic areas |
| | Deficient storage of road salt indoors |
| | Deficient storage and disposal of drums |
| | Deficient disposal of trash and litter throughout the storage yards |
| | Deficient storage of maintenance debris away from storm sewer inlets |
| | Deficient storm drain inlet protection measures |
| | Deficient use of refuse containers that are sealed to prevent leaks and covered |
| | Deficient good housekeeping and pollution prevention indoors to prevent track out into the yard |
| | Deficient catch-basin inspections and sump cleaning |
| | Deficient vehicle and equipment cleaning and maintenance to prevent drips and leaks |
| | Deficient vehicle and equipment washing practices |
| | Deficient clean-up and disposal of contaminated soils in yard |
| | Deficient use of soil erosion and sedimentation controls |
| | Deficient storage of significant materials in secondary containment |

9. Describe any other deficiencies:

## OPERATION AND MAINTENANCE POLLUTION MINIMIZATION PROCEDURES

The City will employ operation and maintenance (O&M) best management practices (BMPs) with the goal of preventing or reducing pollutant runoff to the maximum extent practicable which results from municipal operations, as detailed in Appendices A.

To accomplish this, the City will inventory and evaluate its facilities, including structural storm water controls, to identify pollutants that could be discharged from applicable operation and maintenance (O&M) activities and identify BMPs needed to prevent or reduce pollutant runoff at least once every five years.

And the City has developed an Asset Management Plan (AMP) for facilitating BMP implementation, which will use a computer database and geographical information system software to locate, inventory and map facilities and infrastructure such as streets and structural stormwater control BMPs (i.e., storm sewer catch basins, storm sewer manholes, and outfalls) and organize and track their maintenance. As-needed updates to the GIS will be made at least once per year.

### FACILITIES INVENTORY AND EVALUATION

Water Pollution Control will (1) inventory and map all facilities operated by the City of Flint and (2) inspect and evaluate the medium and high priority sites for assessing the need for storm water BMPs. They will include all fleet/equipment maintenance and materials storage yards and other facilities including, but not limited to:

- Administration buildings
- Airports
- Cemeteries
- Equipment storage and maintenance facilities
- Fuel farms
- Hazardous waste handing and transfer facilities
- Landing maintenance facilities
- Materials storage yards
- Parks
- Police stations
- Public parking lots
- Public works yards
- Salt storage facilities
- Vacant land and open space
- Outdoor wash areas
- Animal control facilities
- Bus stations and garages
- Composting facilities
- Fire stations
- Hazardous waste disposal facilities
- Landfills
- Libraries
- Mosquito control facilities
- Pesticide storage facilities
- Public golf courses
- Recycling facilities
- Solid waste handling and transfer facilities
- Fleet storage and maintenance yards

In addition, the facility inventory and map(s) will be updated within thirty days following the addition or closure of a facility.

The following definitions will apply:

- “Fleet” means a group of vehicles owned and operated as a unit.
- “Maintenance” means activities including, but not limited to, adding/changing vehicle fluids, fueling, lubrication, painting, mechanical repairs, parts degreasing, and vehicle/equipment washing.
- “Storage yard” means areas including, but not limited to, those where (1) vehicles are stored longer than overnight/weekend; and (2) road maintenance materials, vehicle maintenance materials, bulk chemicals, storm sewer catch basin cleaning wastes, and/or maintenance equipment such as mowers, tractors, vactor trucks, and sweepers are stored.

The following factors will be considered when evaluating each facility:

- Amount of urban pollutants stored at the site (e.g., sediment, plant nutrients, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, human pathogenic bacteria, or other site-specific pollutants)
- Identification of improperly stored materials
- The potential for polluting activities to be conducted outside (e.g., vehicle washing)
- Proximity to waterbodies
- Poor housekeeping practices
- Discharge of pollutants of concern to impaired waters

A numerical score representing the "pollution potential" for each facility will be calculated using the following weighted criteria:

| Criterion | Points |
|---|---|
| Do vehicle and/or equipment maintenance outdoors | 3 |
| Do vehicle and/or equipment maintenance indoors | 1 |
| Store/handle materials that can degrade water quality in potentially significant amounts outdoors | 3 |
| Store/handle significant materials in potentially significant amounts indoors | 1 |
| Significant materials could potentially enter storm drains in significant amounts | 10 |
| Is next to a water body | 2 |

The "pollution potential" will be rated according to the total number of points (score), as follows:

| Rating | Total Points |
|---|---|
| High | ≥ 13 |
| Moderate | 6 – 12 |
| Low | ≤ 5 |

### STRUCTURAL CONTROLS INVENTORY AND EVALUATION

The Water Service Center will inventory and map structural stormwater controls operated by the City of Flint periodically, including, but not be limited to:

- MS4 catch basins
- Detention basins
- Oil/water separators
- Pump stations
- Secondary containment
- Vegetated swales
- Constructed wetlands
- Infiltration basins and trenches
- Porous pavement
- Rain gardens
- Underground storage vaults or tanks

And the structural stormwater controls inventory and map(s) will be updated within thirty days following the installation or removal of a control. The City will obtain tools needed for this, via the AMP.

### PRESCRIBED BMPS

Water Pollution Control will finalize the Storm Water Pollution Prevention Plans (SWPPPs) by December 2019 for all facilities having a high and medium pollution potential, including all "Vehicle Maintenance and Storage Facilities, using the forms in this appendix.

And the City may develop SWPPPs for specific O&M activities, such as major construction, demolition and repair projects, having significant potential impact on MS4 receiving waters, whenever needed if deemed prudent. In this way, project-specific SWPPPs can be developed during the design phase based on detailed information, rather than trying to anticipate what BMPs will be needed far in the future for unforeseeable situations and conditions.

In addition, City departments will identify pollutants that could be discharged from applicable O&M activities and the BMPs needed to prevent or reduce pollutant runoff at least every 2 years. At a minimum, this assessment will evaluate the following activities, if applicable:

- Road, parking lot, and sidewalk maintenance (e.g., pothole, sidewalk, and curb and gutter repair)
- Bridge maintenance
- Right-of-way maintenance
- Unpaved road maintenance
- Cold weather operations (e.g., plowing, sanding, application of deicing agents, and snow pile disposal)
- Vehicle washing and maintenance of applicant-owned vehicles (e.g., police, fire, public works)

The assessment will be updated/revised within thirty days following the addition or cessation/removal of a BMP to address new and existing activities.

All facilities having a moderate or low pollution potential will, as a minimum, employ the generally applicable O&M BMPs in Appendix A as pertains to the facility, as follows:

| Activity | Potential Pollutants | Pollution Control BMP |
|---|---|---|
| Road, parking lot, and sidewalk maintenance | Sediment, trash, metals, oil and grease, organics, and oxygen demanding substances | See Appendix A – BMP(s) 22, 27, 33 & 34 |
| Bridge maintenance | Sediment, trash, metals, oil and grease, and organics | See Appendix A – BMP(s) 22, 27, 33 & 34 |
| Right-of-way maintenance | Sediment, plant nutrients, trash, bacteria, pesticides, and organic debris | See Appendix A – BMP(s) 22, 27, 29 – 34 |
| Unpaved road maintenance | Sediment and trash | Not applicable |
| Road sanding, deicing, and snow plowing and disposal | Sediment and deicing compounds | See Appendix A – BMP(s) 22, 24, 27 & 34 |
| Vehicle washing and maintenance | Sediment, plant nutrients, trash, metals, oil and grease, and organics | See Appendix A – BMP 22, 27 & 34 |
| Parks & landscape maintenance | Sediment, plant nutrients, trash, bacteria, pesticides, oxygen demanding substances, and organic debris | See Appendix A – BMPs 22, 27, & 29 - 34 |
| Structural storm water control maintenance | Sediment, plant nutrients, trash, metals, oil and grease, organics, organic debris, and oxygen demanding substances | See Appendix A – BMPs 29 - 34 |

City owned/operated vegetated swales will be inspected and maintained at least annually in the spring (April – June) using applicable O&M BMPs, as above.

All facilities will implement the following general BMPs, as applicable to them:

- Proper pavement cleaning (ensure proper disposal of any wastewater from cleaning activities)
- Effective placement of spill response equipment and materials to allow expedited clean-up and containment of any spills or leaks
- Application of gravel and/or addition/repair of pavement or other soil erosion and dust control measures in high traffic areas
- Proper storage of road salt indoors
- Proper storage and disposal of drums at the facility - any waste products (including rainwater) within the drums must be properly disposed of
- Proper disposal of trash and litter throughout the storage yards
- Proper storage of maintenance debris away from storm sewer inlets
- Proper storm drain inlet protection measures such as silt sacks and/or other soil erosion/sedimentation measures in non-paved areas of the yards
- Proper use of refuse containers that are covered and closed to prevent leaks
- Proper good housekeeping and pollution prevention indoors to prevent track out into the yard
- Proper (at least quarterly) catch-basin inspections and sump cleaning
- Proper vehicle and equipment cleaning and maintenance to prevent drips and leaks

- Proper vehicle and equipment washing in authorized areas only
- Proper response activities regarding contaminated soils in yard
- Proper use of soil erosion and sedimentation controls
- Proper storage of significant materials in secondary containment

“Proper” in this context will mean deemed by the Storm Water Manager to be effective for ensuring permit compliance.

## INTERIM STREET AND CATCH BASIN CLEANING PROCEDURES

### AREAS OF CONCERN

Paved street and MS4 catch basins draining them will be inspected and cleaned, as needed, in "Areas of Concern" (AOCs) actually, or presumed, to be significantly impacted by sediment and/or materials that can degrade water quality, according to the following priorities:

| Priority Class | Reason | Timeline |
|---|---|---|
| I | Impacted by deposits or spills of materials that can degrade water quality | As soon as possible whenever needed |
| II | Impacted by sediment from demolition, construction, industrial, or other activities | At least monthly whenever needed |
| III | Gateways seasonally impacted by sediment tracked-out from nearby unpaved roads in surrounding municipalities | At least once annually in early spring |

Catch basins are also cleaned immediately following a complaint. All other non-priority areas will be cleaned at least every 5 years. Catch basin wastes are taken to the WWTP on Beecher Rd. Street sweeping wastes are taken to the Water Service Center for drying, then to Citizens Landfill for disposal.

Because Class I and II sites could be anywhere that problems occur in the future, priority class will be determined based on inspection findings and/or complaints after they occur.

Streets in Class II AOCs will be inspected monthly by Water Pollution Control to identify needs for street cleaning, which will be reported to Street Maintenance for cleaning within seven (7) days of notification.

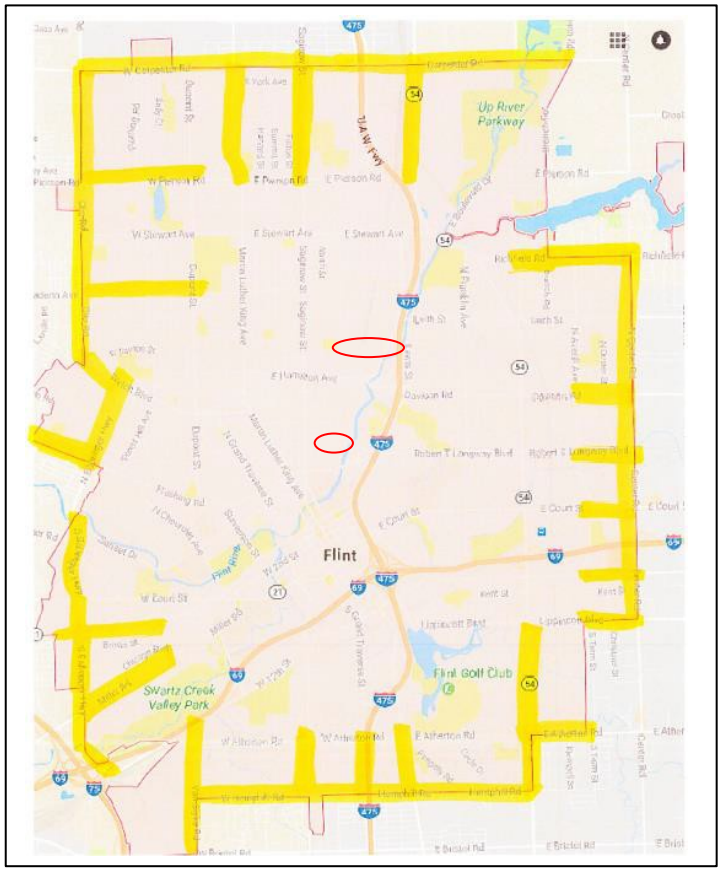
Currently identified Class II AOCs are as follows:

| Class II AOC Locations | | |
|---|---|---|
| Road | From | To |
| Garfield Avenue | Cole Boulevard | West Boulevard Drive |
| Wood Street | Industrial Avenue | Cole Boulevard |

Currently identified Class III AOCs are as follows:

| Class III AOC Locations | | |
|---|---|---|
| Road | From | To |
| Atherton Road | Term Street | Dort Highway |
| Ballenger Highway | Welch Boulevard | Flushing Road |
| Ballenger Highway | Sunset Drive | 12th Street |
| Carpenter Road | Clio Road | Branch Road |
| Center Road | Richfield Road | Lippincott Boulevard |
| Clio Road | Carpenter Road | Welch Boulevard |
| Court Street | Center Road | Averill Avenue |
| Corunna Road | Ballenger Highway | Bradley Avenue |
| Davison Road | Center Road | Averill Avenue |
| Dort Highway | Carpenter Road | Pierson Road |
| Dort Highway | Hemphill Road | Lippincott Boulevard |
| Hemphill Road | Van Slyke Road | Dort Highway |
| Grand Traverse Street | Hemphill Road | Atherton Road |
| Fenton Road | Hemphill Road | Atherton Road |
| Flushing Road | Eldorado Drive | Ballenger Highway |
| M.L. King Avenue | Carpenter Road | Pierson Road |
| Miller Road | Ballenger Highway | Bradley Avenue |
| Lapeer Road | Center Road | Averill Avenue |
| Lippincott Boulevard | Center Road | Averill Avenue |
| Pierson Road | Clio Road | DuPont Street |
| Pasadena Avenue | Clio Road | DuPont Street |
| Richfield Road | Center Road | Dort Highway |
| R. T. Longway Boulevard | Center Road | Averill Avenue |
| Saginaw Street | Carpenter Road | Pierson Road |
| Saginaw Street | Hemphill Road | Atherton Road |
| Van Slyke Road | Bristol Road | 12th Street |
| Welch Boulevard | Clio Road | Ballenger Highway |

Class II-III AOC Locations




= Class II areas; remaining streets are Priority I

**GENERAL GUIDELINES**

The following general guidelines will be followed for street and catch basin cleaning:

| Cleaning Deposits and Spills | Sweeping Streets | Cleaning Catch Basins |
|---|---|---|
| • Follow first responder protocol and protect public and worker safety<br>• Notify Fire Department (911) for hazardous materials immediately<br>• Notify Water Pollution Control (766-7210) promptly, if discharge, or potential for discharge, to MS4<br>• Rely on Genesee County Hazmat team, if needed, and assist, if requested, according to level of competency using all appropriate personal protective equipment<br>• Use environmental cleanup service if needed<br>• Avoid spreading contamination<br>• Dispose of wastes properly in accordance with applicable MDEQ rules | • Use equipment according to instructions<br>• Clean most highly impacted areas near curb<br>• Keep sediment and trash out of catch basins<br>• Hold wastes in proper area isolated from MS4 away from waterbodies<br>• Dispose of wastes in accordance with NREPA Part 115, after characterization as required by landfill | • Clean sump before half full if possible<br>• Remove debris from cover before removing it<br>• Recover wash water with vactor (do not allow discharge to water bodies)<br>• Dispose of liquid vactor waste via City sanitary sewage facilities<br>• Transport and dispose of vactor sludge and debris in accordance with NREPA Parts 115 and 121, after characterization as required by landfill |

**Vehicle Maintenance and Storage Facility**
**Inspection Procedures**

Site Inspections Water Pollution Control (WPC) will inspect vehicle maintenance and storage facilities every March, June, September, and December to determine if the SWPPP for a facility has been properly implemented and if it needs to be updated, as below, and produce and maintain written inspection records (a log and report). This will include an inspection of all structural stormwater controls and a review of non-structural stormwater controls to prevent or reduce pollutant runoff.

Facility/Sewer Maps Review facility/sewer maps to prepare for the inspection and evaluate the need for updating them. Determine if they are accurate and complete and if they need to be updated.

Significant Materials Review the significant materials information in the SWPPP to prepare for the inspection and evaluate the need for updating it. A "significant material" means any substance that can degrade water quality, such as salt, fuel, oil, detergents, solvents, fertilizers, pesticides, compost, soil, and wastes.

Identify all significant materials present outdoors and exposed to precipitation and any apparent or potential sources of their discharge to the MS4. Inquire and check records about, and look for evidence of, any such discharges, such as stains, residue or/or deposits on pavement and/or in storm drains. Compare your findings with the information in the SWPPP to determine if it is accurate and complete and if it needs to be updated.

Best Management Practices Review best management practices prescribed in the SWPPP to prepare for the inspection and evaluate the need for updating it. Inquire and check records about how they are implemented and ask about, and look for evidence of, any problems with their implementation that may have occurred. Determine the current applicability of best management practices and any need for additional ones. And determine if the SWPPP is complete and if it is being followed.

Discharge Points Review facility/sewer maps to determine if potential points of entry through which significant materials could be discharged to the MS4, if released, are properly displayed on them. Determine if maps are accurate and complete and if they need to be updated.

Spill Response Inquire and check records about any recent spills of significant materials onto any outdoor surface that drains to the MS4. Inquire and check records about remedial actions taken in response to them. And look for evidence of spills, such as stains, residue or/or deposits on pavement and/or in storm drains. In addition, inspect to verify that the facility spill kit includes the following supplies: absorbent material and socks, a broom and shovel, and a container for disposing of used absorbents.

Spills of significant materials onto any outdoor surface that drains to the MS4 will be contained and recovered. Accordingly, the facility will always have a spill kit consisting of the following supplies: absorbent material and socks, a broom and shovel, and a container for disposing of used absorbents. All spills will be immediately reported to WPC at 766-7210 and promptly contained and recovered, as practical. This will be accomplished by surrounding the spill with absorbent socks and spreading enough absorbent material onto it to recover the substance; and then, sweeping the used absorbent up and placing it along with used socks into the container for disposal at a sanitary landfill in accordance with NREPA. Spill notifications will state the date, time, approximate volume, exact location, and composition of the spill; and describe the action(s) taken to contain and recover it and the outcome(s) of the response.

Determine if the SWPPP is being followed.

Record Keeping Fill out the SWPPP inspection report form for the facility and inspection log. And review other records pertaining to SWPPP implementation. Inspection reports, spill notices, training records, and

annual SWPPP review summaries will be retained at the facility for at least three (3) years. Determine if these requirements are being met.

Employee Training Inquire and check records about employee and contractor training to verify that it is being done as required. All facility employees and contractors who, due to the nature of their jobs, are routinely involved with handling significant materials and/or may observe evidence of spills of significant materials onto any outdoor surface that drains to the MS4 or surface waters will be trained on the requirements of the SWPPP, including spill prevention, reporting and control procedures. And any new employees will be trained during the first year of service in either February or November. The dates and rosters for all training will be documented in writing. Employees and contractors working for the City of Flint who routinely handle any significant material and have a responsibility for preventing illicit discharges will be trained in SWPPP awareness once every five years and/or pollution prevention and good housekeeping annually in a manner conforming to with their particular duties. Any new employees will be trained during the first year of service. And contractors will be trained prior to commencing contract work. The dates and rosters for training will be documented in writing. Determine if these requirements are being met.

SWPPP Updates Evaluate the need for updating the SWPPP as required

The SWPPP will be updated, as appropriate, within fourteen (14) calendar days of obtaining knowledge of any spill of a significant material onto any outdoor surface that drains storm water to the MS4. In addition, it will be annually reviewed and amended as necessary; and a written summary of the review will be produced and maintained. The SWPPP will also be amended whenever changes or spills at the facility increase or have the potential to increase the exposure of significant materials to storm water, or whenever the City Utilities Administrator or MDEQ deems it to be ineffective in maintaining compliance with the Permit. Updates based on increased activity or spills at the facility will include a description of how facility management intends to control any new sources of significant materials or respond to and prevent spills in accordance with the Permit. Amendments will be signed, dated, and retained with the SWPPP. Determine if these requirements are being met.

| Employee Training Protocol | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Department** | **Division** | **Cost Center** | **Personnel** | **Frequency** | **Type** | | |
| | | | | | **SWPPP Awareness** | **Illicit Discharges*** | **PP/GH** |
| Public Works | Facilities Maintenance | City Hall | Frontline Supervisors | Annually | X | | X |
| | | | Maintainers | Once every five years** | X | | |
| | | 12th St. Yards | Frontline Supervisors | Annually | X | | X |
| | | | Maintainers | Once every five years** | X | | |
| | Utilities | Water Pollution Control | Environmental Compliance Staff | Once every five years** | | X | |
| | | Water Service Center | Frontline Supervisors | Annually | X | X | X |
| | | | Operators/Maintainers | Once every five years** | X | X | |
| | Building Inspections | | Code Inspectors | Once every five years** | | X | |
| Fire | | | Fueling system operators | Once every five years** | X | | |
| Planning | | Parks | Frontline Supervisors | Annually | X | | X |
| | | | Maintainers | Once every five years** | X | | |
| Police | | | Fueling system operators | Once every five years** | X | | |

* Illicit discharge training will cover, at minimum, (1) the definition of “illicit discharge”, “illicit connection” and “sanitary seepage”; (2) contact information to report illicit discharges to appropriate staff; and (3) common types of illicit discharges that occur in or are commonly associated with the local area.
****** New employees hired after this training will be trained during the first year of service.

| Storm Water Pollution Prevention Plan Schedule | | | | | |
|---|---|---|---|---|---|
| **Department** | **Division** | **Cost Center** | **Timeline** | | |
| | | | **Survey** | **Finalization** | **Implementation** |
| Public Works | Facilities Maintenance | 12th St. Yards | October 2013 | Dec 2019 | Jan 2020 |
| | Utilities | Water Service Center | October 2013 | Dec 2019 | Jan 2020 |
| Fire | | | October 2013 | Dec 2019 | Jan 2020 |
| Police | | | October 2013 | Dec 2019 | Jan 2020 |