

CITY OF TRENTON

**STORM WATER
MANAGEMENT PROGRAM (SWMP)
&**

PERMIT NO. MI0060189

**STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENT,
GREAT LAKES, AND ENERGY**



**AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL
POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*, as amended; the "Federal Act"); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2019-06,

City of Trenton
2800 Third Street
Trenton, MI 48183

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DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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In compliance with the provisions of the federal Clean Water Act (federal Water Pollution Control Act, 33 U.S.C., Section 1251 *et seq.*, as amended); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2019-06,

City of Trenton
2800 Third Street
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is authorized to discharge from the Municipal Separate Storm Sewer System (MS4)

designated as **Trenton MS4-Wayne**

to surface waters of the state of Michigan in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit takes effect on May 1, 2023. This permit is based on a complete application submitted on March 18, 2008, as amended through November 1, 2022.

The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede Certificate of Coverage No. MIS040038, issued on October 31, 2003, which is hereby revoked upon the effective date of this permit.

This permit and the authorization to discharge shall expire at midnight, **October 1, 2024**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information, forms, and fees as are required by the Department of Environment, Great Lakes, and Energy (Department) by **April 4, 2024**.

Issued: April 26, 2023.

Original signed by Christine Alexander
Christine Alexander, Manager
Permits Section
Water Resources Division

PERMIT FEE REQUIREMENTS

In accordance with Section 324.3118 of the NREPA, the permittee shall make payment of an annual storm water fee to the Department for each January 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiEnviro Portal system. The MiEnviro Portal website is located at <https://mienviro.michigan.gov/ncore/>. Payment shall be submitted or postmarked by March 15 for notices mailed by February 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after February 1.

Annual Permit Fee Classification: Municipal Storm Water – Population Range of 10,000 to 30,001

CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Warren District Office of the Water Resources Division. The Warren District Office is located at 27700 Donald Court, Warren, MI 48092-2793, Telephone: 586-753-3700, Fax: 586-751-4690.

CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environment, Great Lakes, and Energy, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

PART I

Section A. Limitations and Monitoring Requirements

1. Authorized Discharges

- a. **Authorized Outfalls and Points of Discharge**
This permit authorizes the discharge of storm water from the permittee's MS4 to the surface waters of the state via the outfalls and points of discharge identified in the permittee's application and as modified in accordance with this permit. Such discharges shall be controlled and monitored by the permittee in accordance with this permit.
- b. **Nested MS4 Discharges**
This permit authorizes the discharge of storm water to surface waters of the state from a nested MS4 owned or operated by public bodies that include, but are not limited to, public school districts; public universities; airports; or county, state, or federal agencies. The permittee is responsible for the permit requirements for the nested MS4 associated with the following public body and identified in the application submitted by the permittee: Trenton Public Schools. The permittee may request to modify permit coverage to add or remove a nested MS4 by submitting a request to the Department for approval. Modifications to the permit coverage may result in a permit modification, after opportunity for public comment.
- c. **Discharges Authorized Under Other National Pollutant Discharge Elimination System (NPDES) Permits**
This permit does not prohibit the use of an MS4 for other discharges authorized under other NPDES permits, or equivalent Department approval under the NREPA or the Federal Act.
- d. **Water Quality Requirements**
Discharges from the permittee's MS4 shall not cause or contribute to an exceedance of water quality standards in the receiving waters. This includes, but is not limited to, the requirement set forth in R 323.1050 of the Water Quality Standards stating that the receiving waters shall not have any of the following unnatural physical properties as a result of the discharge, in quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.

2. Outfall or Point of Discharge Identified, Constructed, or Installed After Permit Issuance

- a. **Outfall or Point of Discharge Within the Permittee's Regulated Area**
Authorization from the Department is required to discharge storm water to a surface water of the state from a permittee owned or operated outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit and located within the permittee's regulated area as identified in the application. For each outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit, the permittee shall request authorization to discharge storm water by providing the following to the Department in a written request:
 - 1) whether the discharge is from an outfall or point of discharge;
 - 2) the outfall or point of discharge identification number assigned by the permittee;
 - 3) the surface water of the state receiving the discharge from the outfall or point of discharge;
 - 4) a certification statement that the outfall or point of discharge is within the permittee's regulated area as identified in the application;
 - 5) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) includes best management practices (BMPs) to comply with the minimum requirements of the permit for the outfall or point of discharge; and

PART I

Section A. Limitations and Monitoring Requirements

- 6) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) is being implemented in the regulated area served by the outfall or point of discharge, including having available an up-to-date storm sewer system map required in Part I.A.3.d.1) of this permit.
- b. Outfall or Point of Discharge Outside the Permittee's Regulated Area
Authorization from the Department is required to discharge storm water to a surface water of the state from a permittee owned or operated outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit and located outside the permittee's regulated area as identified in the application (e.g., area served by an expanded MS4 or area previously served by a combined sewer system that is now separated). For each outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit, the permittee shall request authorization to discharge storm water by providing the following to the Department in a written request:
- 1) whether the discharge is from an outfall or point of discharge;
 - 2) the outfall or point of discharge identification number assigned by the permittee;
 - 3) the surface water of the state receiving the discharge from the outfall or point of discharge;
 - 4) a map identifying the expanded regulated area served by the permittee's MS4;
- 5) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) includes BMPs to comply with the minimum requirements of the permit for the outfall or point of discharge and expanded regulated area; and
- 6) a certification statement that the previously approved Storm Water Management Program (Part I.A.3. of this permit) is being implemented in the expanded regulated area served by the outfall or point of discharge, including having available an up-to-date storm sewer system map as required in Part I.A.3.d.1) of this permit.
- c. Upon review of the request to authorize the discharge from an outfall or point of discharge identified, constructed, or installed after issuance but during the term of this permit in accordance with Part I.A.2.a. or Part I.A.2.b. of this permit, the Department may determine that a permit modification is required, after opportunity for public comment. The Department will notify the permittee if a modification is required.

3. Storm Water Management Program (SWMP)

The permittee submitted a SWMP with its application for an NPDES permit. The SWMP is approved as submitted. The permittee shall implement the approved SWMP to comply with the minimum requirements identified in this permit. The SWMP shall cover the regulated area served by, or otherwise contributing to discharges from, the MS4 owned or operated by the permittee identified in the application, including nested MS4s. The permittee shall implement and enforce the SWMP to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the NREPA and the Federal Act. The approved SWMP is an enforceable part of this permit and any Department approved modifications made to the SWMP shall also become enforceable parts of this permit.

- a. Enforcement Response Procedure (ERP)
The permittee shall implement the ERP for violations of the permittee's ordinances or regulatory mechanisms identified in the SWMP to the maximum extent practicable. The ERP shall be implemented to compel compliance with the permittee's ordinances and/or regulatory mechanisms and to deter continuing violations.

PART I

Section A. Limitations and Monitoring Requirements

The permittee shall track and document all enforcement conducted pursuant to the permittee's ERP. At a minimum, the permittee shall track and document the following: the name of the person responsible for violating the permittee's ordinance or regulatory mechanism; 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.

b. Public Participation/Involvement Program (PPP)

The permittee shall implement the PPP to encourage public participation/involvement in the implementation and periodic review of the SWMP to the maximum extent practicable. The permittee shall implement the PPP as part of the SWMP.

The PPP requires implementation of the following minimum requirements:

- 1) The procedure for making the SWMP available for public inspection and comment, including complying with local public notice requirements, as appropriate; and
- 2) The procedure for inviting public participation and involvement in the implementation and periodic review of the SWMP.

c. Public Education Program (PEP)

The permittee shall implement the PEP as part of the SWMP to the maximum extent practicable. At the minimum, the PEP shall promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water runoff. The PEP shall be implemented to achieve measurable improvements in the public's understanding of storm water pollution and efforts to reduce the impacts of storm water pollution.

The PEP requires implementation of the following minimum requirements:

- 1) BMPs to address the following PEP topics:
 - (a) Promote public responsibility and stewardship in the permittee's watershed.
 - (b) Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges can have on surface waters of the state.
 - (c) Educate the public on illicit discharges and promote public reporting on illicit discharges and improper disposal of materials into the MS4.
 - (d) Promote preferred cleaning materials and procedures for car, pavement, and power washing.
 - (e) Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
 - (f) Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
 - (g) Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.
 - (h) Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
 - (i) Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.

PART I

Section A. Limitations and Monitoring Requirements

- (j) Promote methods for managing riparian lands to protect water quality.
- (k) Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.

2) The procedure for determining the overall effectiveness of implementation and the process for modifying the PEP to address ineffective implementation. The Department may determine that a permit modification is required, after opportunity for public comment, based on modifications to the PEP. The Department will notify the permittee if a modification is required.

d. Illicit Discharge Elimination Program (IDEP)

The permittee shall implement and enforce the IDEP to detect and eliminate illicit discharges and connections to the permittee's MS4. The permittee shall implement the IDEP as part of the SWMP to the maximum extent practicable.

The IDEP requires implementation of the following minimum requirements:

1) An available, up-to-date storm sewer system map identifying the following: the storm sewer system, location of all outfalls and points of discharge the permittee owns or operates in the regulated area, and the names and location of all surface waters of the state that receive discharges from the permittee's MS4. The map shall be retained by the permittee and made available to the Department upon request. The map shall be maintained and updated as outfalls and points of discharge are identified, constructed, and installed in accordance with Part I.A.2. of this permit.

2) The plan to detect and eliminate non-storm water discharges to the permittee's MS4, including illegal dumping/spills. The plan includes the following:

- a) A procedure for conducting field observations, field screening, and source investigations. The permittee shall conduct a field observation in accordance with the procedure during dry-weather at least once during the term of the permit. Field screening and source investigation shall be conducted in accordance with the schedule in the procedure.

Field observations, field screening, and source investigations shall include the following:

(1) Field Observation – The permittee shall observe the outfall or point of discharge for the following during dry-weather in accordance with the procedure: presence/absence of flow, water clarity, color, odor, floatable materials, deposits/stains on the discharge structure and bank, vegetation condition, structural condition, and biology (e.g. bacterial sheens, algae, and slimes).

(2) Field Screening – If flow is observed at an outfall or point of discharge, the permittee shall analyze the flow for the indicator parameters identified in the procedure. If the source of an illicit discharge is identified during the field observation, field screening may not be necessary.

(3) Source Investigation – If the source of the illicit discharge was not identified by the field screening, the permittee shall conduct an investigation to identify the source in accordance with the procedure. If the permittee opts to use tracer dyes, the discharge of the dyes shall be authorized in accordance with Part I.A.6. of this permit.

If the permittee is made aware of illegal dumping/spills, or complaints received, the permittee shall conduct field observations and follow-up field screening and source investigations as appropriate in accordance with the procedure, including the schedule, in the IDEP. The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state in accordance with Part II.C.7. of this permit.

PART I

Section A. Limitations and Monitoring Requirements

- b) A procedure for responding to illicit discharges and pursuing enforcement action. The permittee shall implement the procedure to respond and pursue enforcement action once the source of the illicit discharge is identified, including the corrective action required to eliminate the illicit discharge. The permittee shall also implement the procedure to respond to illegal spills/dumping. For each illicit discharge not eliminated within 90 days of its discovery, the permittee shall provide, with the next progress report due, a written certification that the illicit discharge was eliminated or a description of how the illicit discharge will be eliminated.
 - 3) The employee training program, which includes the following:
 - a) Training on techniques for identifying illicit discharges and connections, including field observations, field screening, and source investigations;
 - b) Training on procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response; and
 - c) A schedule and requirement for training at least once during the term of the permit for existing staff and within the first year of hire for new staff.
 - 4) The procedure for IDEP evaluation and determining the overall effectiveness of the IDEP.
- e. Construction Storm Water Runoff Control Program

The permittee shall implement the construction storm water runoff control program to address areas of construction activity that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale. The permittee shall implement the construction storm water runoff control program as part of the SWMP to the maximum extent practicable.

The construction storm water runoff control program requires implementation of the following minimum requirements:

 - 1) The procedure to notify the Part 91 Agency, or appropriate staff (if the permittee is a Part 91 Agency), when soil or sediment is discharged to the permittee's MS4 from a construction activity.
 - 2) The procedure to notify the Department when soil, sediment, or other pollutants are discharged to the permittee's MS4 from a construction activity.
 - 3) The procedure for ensuring that construction activity one (1) acre or greater in total earth disturbance with the potential to discharge to the permittee's MS4 obtains a Part 91 permit or is conducted by an approved Authorized Public Agency, as appropriate.
 - 4) The procedure to advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (R 323.2190 of the Part 21 Rules promulgated pursuant to Part 31 of the NREPA).
- f. Post-Construction Storm Water Runoff Program

The permittee shall implement and enforce the program to address post-construction storm water runoff from new development and redevelopment projects that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale, and that discharge into the permittee's MS4. The permittee shall implement and enforce the post-construction storm water control program as part of the SWMP, to the maximum extent practicable and in accordance with the approved ordinance or regulatory mechanism.

PART I

Section A. Limitations and Monitoring Requirements

1) On or before September 1, 2023, the permittee shall submit to the Department for review a draft Post-Construction Storm Water Control ordinance. On or before January 1, 2024, the permittee shall submit to the Department for approval an in-effect Post-Construction Storm Water Control ordinance to achieve the post-construction storm water runoff performance standards set forth in a) and b) below at the project site (including projects where the permittee is the project developer). Upon Department approval of the ordinance, the permittee shall implement and enforce the ordinance requiring implementation of BMPs by the project developer (including the permittee if the permittee is the project developer) to achieve the post-construction storm water runoff performance standards at the project site to the maximum extent practicable.

- a) **Water Quality Control (WQC) Performance Standard**
Treat the post-development runoff volume generated from a 1.0-inch rainfall event. BMPs shall be designed on a site-specific basis to achieve a minimum of 80 percent removal of total suspended solids (TSS) as compared with uncontrolled runoff or a discharge concentration of TSS not to exceed 80 milligrams per liter (mg/l).
- b) **Channel Protection Control Performance Standard (CPC)**
The CPC shall be implemented to limit the surface runoff rate and volume at the project site to maintain or restore stable hydrology in receiving waters. An alternative CPC was approved as part of the SWMP. The alternative CPC requires implementation of the following at the project site to the maximum extent practicable:
 - Channel Protection Volume Control (CPVC): Retain onsite the post-development runoff volume from a 1.0-inch rainfall event, and
 - Channel Protection Rate Control (CPRC): Provide extended detention for the post-development runoff volume from a 1.9-inch rainfall event.

On or before April 1, 2024 and on or before April 1 of every year following, as part of the approved alternative, the permittee shall submit an annual report to the Department for the previous calendar year documenting the results of implementing the alternative CPC in the regulated area. The annual report shall tabulate the following for each development or redevelopment project (including projects where the permittee is the project developer) and provide an overall summary for each reporting line:

- (1) Change in impervious area, pervious area by cover type, and total area by site.
- (2) CPVC volume provided at the site.
- (3) Difference between required and provided CPVC volume by site.
- (4) Percent of site in each Hydrologic Soil Group (Type A, B, C, D).
- (5) Site location in geographic information system (GIS) polygon format, or an approved alternative format.
- (6) Site outfalls and points of discharge in GIS point format, or an approved alternative format.
- (7) Site MS4 outfall drainage area in GIS polygon format, or an approved alternative format, including any offsite drainage that passes through the outfall or points of discharge.
- (8) CPRC volume provided at the site.
- (9) Difference between required and provided CPRC volume by site.

PART I

Section A. Limitations and Monitoring Requirements

(10) CPVC volume required for each primary road project with receiving water of the state identified.

(11) Cumulative CPVC volume provided for all new development and redevelopment projects discharging to the same receiving water of the state with a road project(s) starting February 1, 2024.

The permittee shall submit documentation to support implementation of the alternative CPC upon request. The alternative CPC approval is limited to the permit term. The results from the annual reports will be evaluated as part of permit reissuance using methods agreed to by the permittee and Department, which may result in an updated alternative CPC.

2) The permittee shall implement and enforce the following site-specific requirements as part of meeting the post-construction storm water runoff performance standards set forth in a) and b), above:

- a) The procedure for reviewing the use of infiltration BMPs to achieve the performance standards in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions.
- b) The ordinance or regulatory mechanism requiring BMPs to address the associated pollutants in potential hot spots as part of meeting the performance standards. Hot spots include areas with the potential for significant pollutant loading including, but not limited to, the following: gas stations; vehicle maintenance and repair; auto recyclers; recycling centers and scrap yards; landfills; solid waste facilities; and railroads. Hot spots also include areas with the potential for contaminating public water supply intakes.

3) All structural and vegetative BMPs installed and implemented to meet the performance standards shall be operated and maintained in perpetuity. The permittee shall implement and enforce the ordinance or regulatory mechanism program to ensure long-term operation and maintenance of BMPs.

4) The ordinance or regulatory mechanism and procedures for site plan review and approval for projects that disturb one (1) or more acres, including projects less than one (1) acre that are part of a larger common plan of development or sale, and discharge to the permittee's MS4, including projects where the permittee is the developer. The site plan review and approval shall demonstrate compliance with the performance standards and long-term operation and maintenance requirements of this permit.

g. **Pollution Prevention and Good Housekeeping Activities for Municipal Operations**

The permittee shall implement the pollution prevention and good housekeeping program with the goal of preventing or reducing pollutant runoff from municipal facilities and operations that discharge storm water to surface waters of the state. The permittee shall implement the program as part of the SWMP to the maximum extent practicable.

1) **Municipal Facility and Structural Storm Water Control Inventory**

The permittee shall make available to the Department upon request an up-to-date map or maps of the facilities and structural storm water controls owned or operated by the permittee with a discharge to surface waters of the state in the regulated area. In accordance with the procedure for updating and revising the permittee's facility inventory and map(s), the permittee shall submit to the Department the type and location for any new facility obtained or constructed during this permit term with a discharge of storm water to surface waters of the state and the information requested in Part I.A.2. of the permit.

PART I

Section A. Limitations and Monitoring Requirements

2) Facility-Specific Storm Water Management

The permittee shall implement the facility-specific standard operating procedure (SOP) for each facility the permittee identified as having the high potential to discharge pollutants to surface waters of the state. The permittee shall implement the BMPs identified in the procedure to prevent or reduce pollutant runoff at each facility the permittee identified as having the medium or low potential to discharge pollutants to surface waters of the state. The permittee shall assess new facilities for the potential to discharge pollutants to surface waters of the state in accordance with the procedure to determine a priority level. High-priority facilities shall include permittee-owned or operated fleet maintenance and storage yards unless a demonstration is submitted and approved by the Department demonstrating how the permittee's fleet maintenance or storage yard has the low potential to discharge pollutants to surface waters of the state. The assessment shall be submitted in writing to the Department for approval within 30 days of ownership or operation of the new facility. The permittee shall certify in writing to the Department that a facility-specific SOP is being implemented within 90 days of ownership or operation of a new high-priority facility. Within 90 days of ownership or operation, the permittee shall certify in writing to the Department that BMPs are being implemented in accordance with the procedure developed to prevent or reduce pollutant runoff at each new medium- or low-priority facility. For new facilities, the Department may determine that a permit modification is required, after opportunity for public comment. The Department will notify the permittee if a modification is required. The permittee shall document all other changes to the facility assessment as part of the progress report and as an update to the procedure.

The facility-specific SOP shall be kept at the site described in the SOP and made available upon request by the Department. The facility-specific SOP for each high-priority facility shall include implementation of the following.

- a) Structural and non-structural storm water controls to prevent or reduce the discharge of pollutants to surface waters of the state.
- b) Up-to-date list of significant materials stored on-site that could pollute storm water with a description of the handling and storage requirements and potential to discharge for each significant material.
- c) Good housekeeping practices including, but not limited to, maintaining a clean and orderly facility, properly storing and covering materials, and minimizing pollutant sources to prevent or reduce pollutant runoff.
- d) Routine maintenance and inspections of storm water management and control devices to ensure materials and equipment are clean and orderly and prevent or reduce pollutant runoff. The written report of the inspection and corrective actions shall be retained in accordance with Part II.B.5. of this permit.
- e) Comprehensive site inspections at least once every six (6) months. The comprehensive site inspection shall include an inspection of all structural storm water controls and a review of non-structural storm water controls to prevent or reduce pollutant runoff. A written report of the inspection and corrective actions shall be retained in accordance with Part II.B.5. of this permit.

3) Structural Storm Water Control Operation and Maintenance Activities

- a) The permittee shall implement the procedures for inspecting, cleaning, and maintaining permittee-owned or operated catch basins in the regulated area using the priority level assigned to each catch basin. The permittee shall document changes to the priority level for a catch basin as part of the progress report and as an update to the procedure.

The permittee shall also implement the procedure for dewatering and disposal of materials extracted from the catch basins in accordance with Part 111 (Hazardous Waste), Part 115 (Solid Waste), and Part 121 (Liquid Industrial Waste) of the NREPA.

PART I

Section A. Limitations and Monitoring Requirements

- b) The permittee shall implement the procedure for inspecting and maintaining permittee-owned or operated structural storm water controls other than catch basins in the regulated area. The permittee shall document changes to the procedure as part of the progress report and as an update to the procedure.
- c) The permittee shall implement the procedure requiring that new permittee-owned or operated facilities or structural storm water controls to address water quantity be designed and implemented in accordance with the post-construction storm water runoff performance standards and long-term operation and maintenance requirements in Part I.A.3.f. of this permit.

4) Municipal Operations and Maintenance Activities

- a) The permittee shall implement the procedure, including the BMPs identified, to prevent or reduce pollutant runoff from the permittee's operation and maintenance activities identified in the SWMP. The permittee shall document changes to the assessment of operation and maintenance activities for the potential to discharge pollutants to surface waters of the state as part of the progress report and as an update to the procedure.
- b) The permittee shall implement the procedure for the street sweeping program for permittee-owned or operated streets, parking lots, or other impervious infrastructure in the regulated area using the sweeping methods and assigned priority levels identified in the procedure. The permittee shall document changes to the priority level for a street, parking lot, or other impervious infrastructure as part of the progress report and as an update to the procedure.

The permittee shall also implement the procedure for dewatering and disposal of street sweeper waste material.

5) Managing Vegetated Properties

The permittee shall implement the procedure requiring the permittee's pesticide applicator to be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land.

6) Employee Training

The permittee shall implement the employee training program to train employees involved in implementing pollution prevention and good housekeeping activities. At a minimum, existing staff shall be trained once during the permit cycle and new hire employees within the first year of their hire date.

7) Contractor Requirements and Oversight

The permittee shall implement the procedure requiring contractors hired by the permittee to perform municipal operation and maintenance activities that comply with the permittee's pollution prevention and good housekeeping program and contractor oversight to ensure compliance.

h. Total Maximum Daily Load (TMDL) Implementation Plan

The permittee shall implement the TMDL Implementation Plan to reduce the discharge of pollutants from the permittee's MS4 to make progress in meeting Water Quality Standards. The permittee shall implement the TMDL Implementation Plan as part of the SWMP.

The following TMDLs are applicable to the discharge from the permittee's MS4:

<u>Name of TMDL</u>	<u>Pollutant of Concern</u>
Brownstown Creek and Blakely Drain – Marsh Creek	Biota (sediment)
Frank and Poet Drain	Biota (sediment)
Detroit River	<i>E. coli</i>

PART I

Section A. Limitations and Monitoring Requirements

The permittee shall implement the prioritized BMPs included in the TMDL Implementation Plan during the permit cycle to make progress in achieving the pollutant load reduction requirement in the TMDL. The permittee shall review, update, and revise the list of BMPs implemented as part of the TMDL Implementation Plan in accordance with the procedure included in the SWMP. The Department may determine that a permit modification is required, after opportunity for public comment, based on modifications to the TMDL Implementation Plan. The Department will notify the permittee if a modification is required.

The permittee shall implement the monitoring plan included in the TMDL Implementation Plan for assessing the effectiveness of the BMPs implemented in making progress toward achieving the TMDL pollutant load reduction. Available monitoring data shall be submitted with each progress report.

4. SWMP Modifications

a. SWMP Modifications Requested by the Permittee

Modifications to the previously approved SWMP may be requested by the permittee as follows:

1) Modifications adding BMPs (but not replacing, subtracting, or affecting the level of implementation of any other BMP) to the previously approved SWMP may be made by the permittee at any time upon written notification to the Department. Notification shall include a description of the modification, which may include a description of a new BMP with a corresponding measurable goal. Upon notification to the Department, the modification is considered an enforceable part of the approved SWMP.

2) Modifications replacing an ineffective or unfeasible BMP identified in the previously approved SWMP with an alternative BMP may be requested at any time by written notification to the Department. The ineffective or unfeasible BMP identified shall not be replaced in the previously approved SWMP unless the replacement is approved by the Department. Modifications to the previously approved SWMP may result in a permit modification after opportunity for public comment. Such requests shall include the following:

- a) an analysis of why the BMP is ineffective or unfeasible (including cost-prohibitive);
- b) a measurable goal for the replacement BMP; and
- c) an analysis of why the replacement BMP is expected to achieve the intent of the BMP to be replaced.

3) Modifications subtracting an ineffective or unfeasible BMP identified in the previously approved SWMP may be requested by written notification to the Department. The identified BMP shall not be subtracted from the previously approved SWMP unless the subtraction is approved by the Department. Modifications to the previously approved SWMP may result in a permit modification after opportunity for public comment. Such requests shall include the following:

- a) an analysis of why the BMP is ineffective or unfeasible (including cost prohibitive); and
- b) a determination of why the removal of the BMP will not change the permittee's ability to comply with the permit requirements.

b. Modifications Required by the Department

The Department may require the permittee to modify the SWMP as needed to:

- 1) address contributions from the permittee's MS4 discharge that impair receiving water quality;

PART I

Section A. Limitations and Monitoring Requirements

- 2) include more stringent requirements necessary to comply with new state or federal statutory or regulatory requirements; and/or
- 3) include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Federal Act or the NREPA, including the requirement to reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

5. Request for Approval to Use Water Treatment Additives

This permit does not authorize the use of any water treatment additive without prior written approval from the Department. Such approval is authorized under separate correspondence. Water treatment additives include any materials that are added to water used at the facility, or to wastewater generated by the facility, to condition or treat the water. Permittees proposing to use water treatment additives, including a proposed increased concentration of a previously approved water treatment additive, shall submit a request for approval via the Department's MiEnviro Portal system. The MiEnviro Portal website is located at <https://mienviro.michigan.gov/ncore/>. Instructions for submitting such a request may be obtained at <http://www.michigan.gov/eglenpdes> (near the bottom of that page, click on one or both of the links located under the Water Treatment Additives banner). Additional monitoring and reporting may be required as a condition of approval to use the water treatment additive.

A request for approval to use water treatment additives shall include all of the following usage and discharge information for each water treatment additive proposed to be used:

- a. The Safety Data Sheet (SDS);
- b. Ingredient information, including the name of each ingredient, CAS number for each ingredient, and fractional content by weight for each ingredient;
- c. The proposed water treatment additive discharge concentration with supporting calculations;
- d. The discharge frequency (i.e., number of hours per day and number of days per year);
- e. The outfall(s) and monitoring point(s) from which the water treatment additive is to be discharged;
- f. The type of removal treatment, if any, that the water treatment additive receives prior to discharge;
- g. The water treatment additive's function (i.e., microbiocide, flocculant, etc.);
- h. The SDS shall include a 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated; and
- i. The SDS shall include the results of a toxicity test for one (1) other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of R 323.1057(2) of the Water Quality Standards. The results shall be based on the whole water treatment additive, shall not be results based on a similar product, and shall not be estimated. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

PART I

Section A. Limitations and Monitoring Requirements

6. Tracer Dye Discharges

This permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department in accordance with Rule 1097 (R 323.1097 of the Michigan Administrative Code).

7. Storm Water Program Manager (Facility Contact)

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address and telephone number of the new facility contact).

- a. The facility contact shall be (or a duly authorized representative of this person):
 - for a corporation, a principal executive officer of at least the level of vice president; or a designated representative if the representative is responsible for the overall operation of the facility from which the discharge originates, as described in the permit application or other NPDES form,
 - for a partnership, a general partner,
 - for a sole proprietorship, the proprietor, or
 - for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.
- b. A person is a duly authorized representative only if:
 - the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
 - the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

PART I

Section B. Program Assessment and Reporting

1. Progress Reports

Progress reports shall be submitted on or before November 1, 2023, on or before April 1, 2025, and on or before April 1 every two (2) years following. The Department may approve alternate dates for progress report submittal if requested and adequately justified by the permittee. Each progress report shall contain the following information for the entire period that has elapsed since the last progress report submittal (i.e., the reporting cycle):

a. Compliance Assessment

The permittee shall describe the status of compliance with the approved SWMP identified in Part I.A.3 of this permit. The permittee shall assess and describe the appropriateness of the BMPs identified in the SWMP. The report shall describe the progress made towards achieving the identified measurable goals for each of the BMPs, and specific evaluation criteria as follows:

1) For the PEP, provide a summary of the evaluation of the overall effectiveness of the PEP, using the evaluation methods described in the PEP.

2) For the IDEP, provide a summary of the evaluation and determination of the overall effectiveness of the IDEP, using the evaluation methods described in the IDEP. For each illicit discharge that was not eliminated within 90 days of its discovery the permittee shall provide a written certification that the illicit discharge was eliminated or a description of how the illicit discharge will be eliminated.

3) If applicable, the permittee shall submit to the Department any new outfall or point of discharge information as required in Part I.A.2. of this permit.

4) For the TMDL Implementation Plan, if monitoring data is available in accordance with the monitoring plan, provide an assessment of progress made toward achieving the TMDL pollutant load reduction requirement.

b. Data and Results

The permittee shall provide a summary of all of the information collected and analyzed, including monitoring data, if any, during the reporting cycle.

c. Upcoming Activities

The permittee shall provide a summary of the BMPs to be implemented during the next reporting cycle.

d. Changes to BMPs and Measurable Goals

The permittee shall describe any changes to BMPs or measurable goals in the approved SWMP. In accordance with the permit, these changes will be reviewed to determine if a permit modification is necessary. The Department will notify the permittee if a permit modification is required.

e. Notice of Changes in Nested Jurisdiction Agreements

The permittee shall identify any nested jurisdictions that enter into or terminate permit agreements with the permittee which were not identified in the SWMP. The permittee may request to modify the permit coverage to add or remove a nested MS4 by submitting a request to the Department for approval in accordance with Part I.A.1.b. of this permit. Modifications to the permit coverage may result in a permit modification, after opportunity for public comment.

f. Required Signatures

All reports required by this permit, and other information requested by the Department, shall be signed by either a principal executive officer or ranking elected official, or by a duly authorized representative of that person in accordance with 40 CFR 122.22(b).

PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

Section A. Definitions

Acute toxic unit (TUA) means 100/LC50 where the LC50 is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Annual monitoring frequency refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Authorized public agency means a state, local, or county agency that is designated pursuant to the provisions of Section 9110 of Part 91, Soil and Sedimentation Control, of the NREPA, to implement soil erosion and sedimentation control requirements with regard to construction activities undertaken by that agency.

Best management practices (BMPs) means structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water, to direct the flow of storm water, or to treat polluted storm water.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Biosolids are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

Bulk biosolids means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

CAFO means concentrated animal feeding operation.

Certificate of Coverage (COC) is a document, issued by the Department, which authorizes a discharge under a general permit.

Chronic toxic unit (TUC) means 100/MATC or 100/IC25, where the maximum acceptable toxicant concentration (MATC) and IC25 are expressed as a percent effluent in the test medium.

Class B biosolids refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules, Land Application of Biosolids, promulgated under Part 31 of the NREPA. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

Combined sewer system is a sewer system in which storm water runoff is combined with sanitary wastes.

Composite sample is a sample collected over time, either by continuous sampling or by mixing discrete samples. A composite sample represents the average wastewater characteristics present during the compositing period. Various methods for compositing are available and are based on either time or flow-proportioning, the choice of which will depend on the permit requirements.

PART II

Section A. Definitions

Continuous monitoring refers to sampling/readings that occur at regular and consistent intervals throughout a 24-hour period and at a frequency sufficient to capture data that are representative of the discharge. The maximum acceptable interval between samples/readings shall be one (1) hour.

Daily concentration

FOR PARAMETERS OTHER THAN pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – Daily concentration is the sum of the concentrations of the individual samples of a parameter taken within a calendar day divided by the number of samples taken within that calendar day. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations. For guidance and examples showing how to report and perform calculations using results below quantification levels, see the document entitled “Reporting Results Below Quantification,” available at <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/MiEnviro/results-below-quantification.pdf>.

FOR pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – The daily concentration used to determine compliance with maximum daily pH, temperature, and conductivity limitations is the highest pH, temperature, and conductivity readings obtained within a calendar day. The daily concentration used to determine compliance with minimum daily pH and dissolved oxygen limitations is the lowest pH and dissolved oxygen readings obtained within a calendar day.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMRs.

Daily monitoring frequency refers to a 24-hour day. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Department means the Michigan Department of Environment, Great Lakes, and Energy.

Detection level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

Discharge means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

EC₅₀ means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Fecal coliform bacteria monthly

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a discharge event. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the “AVERAGE” column under “QUALITY OR CONCENTRATION” on the DMR. If the period in which the discharge event occurred was partially in each of two months, the calculated monthly value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a reporting month. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the “AVERAGE” column under “QUALITY OR CONCENTRATION” on the DMR.

PART II

Section A. Definitions

Fecal coliform bacteria 7-day

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days of discharge during a discharge event. If the number of daily concentrations determined during the discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean value for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMRs. If the 7-day period was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days in a reporting month. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMRs. The first calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

Flow-proportioned composite sample is a composite sample in which either a) the volume of each portion of the composite is proportional to the effluent flow rate at the time that portion is obtained; or b) a constant sample volume is obtained at varying time intervals proportional to the effluent flow rate.

General permit means an NPDES permit authorizing a category of similar discharges.

Geometric mean is the average of the logarithmic values of a base 10 data set, converted back to a base 10 number.

Grab sample is a single sample taken at neither a set time nor flow.

IC₂₅ means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Illicit connection means a physical connection to a municipal separate storm sewer system that primarily conveys non-storm water discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Illicit discharge means any discharge to, or seepage into, a municipal separate storm sewer system that is not composed entirely of storm water or uncontaminated groundwater. Illicit discharges include non-storm water discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.

Individual permit means a site-specific NPDES permit.

Inlet means a catch basin, roof drain, conduit, drain tile, retention pond riser pipe, sump pump, or other point where storm water or wastewater enters into a closed conveyance system prior to discharge off site or into waters of the state.

PART II

Section A. Definitions

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts a POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference].

Land application means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

LC₅₀ means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

Maximum extent practicable means implementation of best management practices by a public body to comply with an approved storm water management program as required by a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.

MBTU/hr means million British Thermal Units per hour.

MGD means million gallons per day.

Monthly concentration is the sum of the daily concentrations determined during a reporting period divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during a reporting period. The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMR.

Monthly monitoring frequency refers to a calendar month. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Municipal separate storm sewer means a conveyance or system of conveyances designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a POTW as defined in the Code of Federal Regulations at 40 CFR 122.2.

PART II

Section A. Definitions

Municipal separate storm sewer system (MS4) means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Clean Water Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Clean Water Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

No observed adverse effect level (NOAEL) means the highest tested dose or concentration of a substance which results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact cooling water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Nonstructural controls are practices or procedures implemented by employees at a facility to manage storm water or to prevent contamination of storm water.

NPDES means National Pollutant Discharge Elimination System.

Outfall is the location at which a point source discharge first enters a surface water of the state.

Part 91 agency means an agency that is designated by a county board of commissioners pursuant to the provisions of Section 9105 of Part 91 of the NREPA; an agency that is designated by a city, village, or township in accordance with the provisions of Section 9106 of Part 91 of the NREPA; or the Department for soil erosion and sedimentation control activities under Part 615, Supervisor of Wells; Part 631, Reclamation of Mining Lands; or Part 632, Nonferrous Metallic Mineral Mining, of the NREPA, pursuant to the provisions of Section 9115 of Part 91 of the NREPA.

Part 91 permit means a soil erosion and sedimentation control permit issued by a Part 91 agency pursuant to the provisions of Part 91 of the NREPA.

Partially treated sewage is any sewage, sewage and storm water, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's NPDES permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

PFAS means perfluoroalkyl and polyfluoroalkyl substances.

Point of discharge is the location of a point source discharge where storm water is discharged directly into a separate storm sewer system.

Point source discharge means a discharge from any discernible, confined, discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock. Changing the surface of land or establishing grading patterns on land will result in a point source discharge where the runoff from the site is ultimately discharged to waters of the state.

PART II

Section A. Definitions

Polluting material means any material, in solid or liquid form, identified as a polluting material under the Part 5 Rules, Spillage of Oil and Polluting Materials, promulgated under Part 31 of the NREPA (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

POTW is a publicly owned treatment work.

Predevelopment is the last land use prior to the planned new development or redevelopment.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

Public (as used in the MS4 individual permit) means all persons who potentially could affect the authorized storm water discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

Public body means the United States; the state of Michigan; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other body which is created by federal or state statute or law.

Qualified Personnel means an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Storm Water Certified Operator to collect the storm water sample.

Qualifying storm event means a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that also caused greater than 0.1 inch of rainfall. Upon request, the Department may approve an alternate definition meeting the condition of a qualifying storm event.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Quarterly monitoring frequency refers to a three-month period, defined as January through March, April through June, July through September, and October through December (or otherwise defined in the permit). When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

Regulated area means the permittee's urbanized area, where urbanized area is defined as a place and its adjacent densely populated territory that together have a minimum population of 50,000 people as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

Secondary containment structure means a unit, other than the primary container, in which significant materials are packaged or held, which is required by state or federal law to prevent the escape of significant materials by gravity into sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface waters or groundwaters of the state.

Separate storm sewer system means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which is not a combined sewer where storm water mixes with sanitary wastes, and is not part of a POTW.

PART II

Section A. Definitions

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Significant materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111, Hazardous Waste Management, of the NREPA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills and significant leaks means any release of a polluting material reportable under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

Special-use area means storm water discharges for which the Department has determined that additional monitoring is needed from: secondary containment structures required by state or federal law; lands on Michigan's List of Sites of Environmental Contamination pursuant to Part 201, Environmental Remediation, of the NREPA; and/or areas with other activities that may contribute pollutants to the storm water.

Stoichiometric means the quantity of a reagent calculated to be necessary and sufficient for a given chemical reaction.

Storm water means storm water runoff, snow melt runoff, surface runoff and drainage, and non-storm water included under the conditions of this permit.

Storm water discharge point is the location where the point source discharge of storm water is directed to surface waters of the state or to a separate storm sewer. It includes the location of all point source discharges where storm water exits the facility, including outfalls which discharge directly to surface waters of the state, and points of discharge which discharge directly into separate storm sewer systems.

Structural controls are physical features or structures used at a facility to manage or treat storm water.

SWPPP means the Storm Water Pollution Prevention Plan prepared in accordance with this permit.

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Total maximum daily loads (TMDLs) are required by the Clean Water Act for waterbodies that do not meet water quality standards. TMDLs represent the maximum daily load of a pollutant that a waterbody can assimilate and meet water quality standards, and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

Toxicity reduction evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

PART II

Section A. Definitions

Water Quality Standards means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of the NREPA, being R 323.1041 through R 323.1117 of the Michigan Administrative Code.

Weekly monitoring frequency refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value, or observation shall be reported for that period if a discharge occurs during that period. If the calendar week begins in one month and ends in the following month, the analytical result, reading, value, or observation shall be reported in the month in which monitoring was conducted.

WWSL is a wastewater stabilization lagoon.

WWSL discharge event is a discrete occurrence during which effluent is discharged to the surface water up to 10 days of a consecutive 14-day period.

3-portion composite sample is a sample consisting of three equal-volume grab samples collected at equal intervals over an 8-hour period.

7-day concentration

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily concentrations determined. If the number of daily concentrations determined during the WWSL discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the WWSL discharge event in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations in the reporting month. When required by the permit, report the maximum calculated 7-day concentration for the month in the “MAXIMUM” column under “QUALITY OR CONCENTRATION” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

PART II

Section A. Definitions

7-day loading

FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily loadings determined. If the number of daily loadings determined during the WWSL discharge event is less than 7 days, the number of actual daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations.

When required by the permit, report the maximum calculated 7-day loading for the WWSL discharge event in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days in a reporting month divided by the number of daily loadings determined. If the number of daily loadings determined is less than 7, the actual number of daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations in the reporting month. When required by the permit, report the maximum calculated 7-day loading for the month in the “MAXIMUM” column under “QUANTITY OR LOADING” on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

24-hour composite sample is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period and in which the volume of each portion is proportional to the discharge flow rate at the time that portion is taken. A time-proportioned composite sample may be used upon approval from the Department if the permittee demonstrates it is representative of the discharge.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Clean Water Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations.** For lists of approved test methods, go to <https://www.epa.gov/cwa-methods>. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Manager of the Permits Section, Water Resources Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

PART II

Section C. Reporting Requirements

1. Start-Up Notification

The permittee shall notify the Department of start-up if one of the following conditions applies and in accordance with the applicable condition:

a. Non-CAFOs

1) **If this is an individual permit** and the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department via MiEnviro Portal within 14 days following the effective date of this permit, and then again 60 days prior to commencement of the discharge.

2) **If this is a general permit** and the permittee will not discharge during the first 60 days following the effective date of the Certificate of Coverage (COC) issued under this general permit, the permittee shall notify the Department via MiEnviro Portal within 14 days following the effective date of the COC, and then again 60 days prior to commencement of the discharge.

b. CAFOs

1) **If this is an individual permit** and the permittee will not populate with animals during the first 60 days following the effective date of this permit, the permittee shall notify the Department via MiEnviro Portal within 14 days following the effective date of this permit, and then again 60 days prior to populating with animals.

2) **If this is a general permit** and the permittee will not populate with animals during 60 days following the effective date of the Certificate of Coverage (COC) issued under this general permit, the permittee shall notify the Department via MiEnviro Portal within 14 days following the effective date of the COC, and then again 60 days prior to populating with animals.

2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring," the permittee shall submit self-monitoring data via the Department's MiEnviro Portal system.

The permittee shall utilize the information provided on the MiEnviro Portal website, located at <https://mienviro.michigan.gov/ncore/>, to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the 20th day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10 (April 1 for animal feeding operation facilities) of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

PART II

Section C. Reporting Requirements

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act, 1987 PA 96, as amended, for assurance of proper facility operation, shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Department via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>) indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Clean Water Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. 24-Hour Reporting
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC). A written submission shall also be provided via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>) within five (5) days.
- b. Other Reporting
The permittee shall report, in writing via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>), all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if the notice is provided after regular working hours, by calling the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706.

PART II

Section C. Reporting Requirements

Within 10 days of the release, the permittee shall submit to the Department via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>) a full written explanation as to the cause of the release, the discovery of the release, response measures (clean-up and/or recovery) taken, and preventive measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Department by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that an upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation); and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

9. Bypass Prohibition and Notification

- a. Bypass Prohibition
Bypass is prohibited, and the Department may take an enforcement action, unless:
 - 1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and
 - 3) the permittee submitted notices as required under 9.b. or 9.c. below.
- b. Notice of Anticipated Bypass
If the permittee knows in advance of the need for a bypass, the permittee shall submit written notification to the Department before the anticipated date of the bypass. This notification shall be submitted at least 10 days before the date of the bypass; however, the Department will accept fewer than 10 days advance notice if adequate explanation for this is provided. The notification shall provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions specified in a. above.

PART II

Section C. Reporting Requirements

- c. **Notice of Unanticipated Bypass**
As soon as possible but no later than 24 hours from the time the permittee becomes aware of the unanticipated bypass, the permittee shall notify the Department by calling the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if notification is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706.
- d. **Written Report of Bypass**
A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.
- e. **Bypass Not Exceeding Limitations**
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.
- f. **Definitions**
- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

11. Notification of Changes in Discharge

The permittee shall notify the Department via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>), as soon as possible but within no more than 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

PART II

Section C. Reporting Requirements

12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by written notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such written notice, the permit or, if applicable, the facility's COC, may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

13. Transfer of Ownership or Control

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the following requirements apply: Not less than 30 days prior to the actual transfer of ownership or control – for non-CAFOs, or within 30 days of the actual transfer of ownership or control – for CAFOs, the permittee shall submit to the Department via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>) a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted sixty days prior to start-up of any substantial improvements or modifications made to an existing wastewater treatment facility.

15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Clean Water Act and the NREPA.

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

PART II

Section C. Reporting Requirements

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>) all such reports or notifications as required by this permit, on forms provided by the Department.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Clean Water Act and constitutes grounds for enforcement action; for permit or COC termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the NREPA.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or
- b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the NREPA.

PART II

Section D. Management Responsibilities

7. Waste Treatment Residues

Residuals (i.e., solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

- a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Clean Water Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit and required to be submitted to the Department shall be available for public inspection via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>). As required by the Clean Water Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Clean Water Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

10. Duty to Provide Information

The permittee shall furnish to the Department via MiEnviro Portal (<https://mienviro.michigan.gov/ncore/>), within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environment, Great Lakes, and Energy permits, or approvals from other units of government as may be required by law.

STORM WATER MANAGEMENT PROGRAM PLAN

FOR

THE CITY OF TRENTON

REVISED JULY 2006 & OCTOBER 2022 PER MDEQ REVIEW
UPDATED 2023 AFTER ADW MEMBERSHIP

**Public Education Plan
Public Participation Plan
Illicit Discharge Elimination Plan
Post Construction Storm Water Management
Construction Storm Water Runoff
Pollution Prevention/Good Housekeeping for Municipal
Operations**

**PREPARED IN COMPLIANCE WITH
MICHIGAN DEPARTMENT OF ENVIRONMENT,
GREAT LAKES, AND ENERGY
INDIVIDUAL NPDES PERMIT NO. MI0060189**

CITY OF TRENTON STORM OUTFALLS

BD = Blakely Drain

FP = Frank and Poet Drain

DT = Detroit River

DR### to WC = City of Trenton MS4 to Wayne County MS4

OUTFALLS

BD-01	42° 09' 18.76" N, 83° 13' 0.267" W
BD-02	42° 09' 15.56" N, 83° 13' 0.521" W
BD-03	42° 09' 0.784" N, 83° 13' 3.12" W
BD-04	42° 09' 52.9" N, 83° 13' 2.55" W
FP-01	47° 06' 44.15" N, 83° 12' 19.89" W
FP-03	42° 07' 20.22" N, 83° 12' 11.27" W
FP-04	42° 07' 31.53" N, 83° 12' 14.53" W
FP-05	42° 07' 36.41" N, 83° 12' 11.81" W
FP-06	42° 07' 37.64" N, 83° 12' 11.98" W
FP-07	42° 07' 37.64" N, 83° 12' 11.54" W
FP-08	42° 07' 38.71" N, 83° 12' 12.21" W
FP-09	42° 07' 47.29" N, 83° 12' 13.42" W
FP-10	42° 07' 49.82" N, 83° 12' 12.73" W
FP-10A	42° 07' 57.24" N, 83° 12' 14.42" W
FP-11	42° 07' 59.94" N, 83° 12' 14.34" W
FP-11A	42° 07' 59.94" N, 83° 12' 14.34" W
FP-118	42° 07' 59.94" N, 83° 12' 14.34" W
FP-11C	42° 07' 59.94" N, 83° 12' 14.34" W
FP-12	42° 07' 59.98" N, 83° 12' 13.70" W
FP-12A	42° 07' 59.98" N, 83° 12' 13.70" W
FP-128	42° 07' 59.98" N, 83° 12' 13.70" W
FP-12C	42° 07' 59.98" N, 83° 12' 13.70" W
FP-13	42° 08' 9.62" N, 83° 12' 16.43" W
FP-14	42° 08' 9.62" N, 83° 12' 16.43" W
FP-15	42° 08' 17.03" N, 83° 12' 20.50" W
FP-16	42° 08' 17.33" N, 83° 12' 21.14" W
FP-17	42° 08' 26.71" N, 83° 12' 22.48" W
FP-18	42° 08' 27.44" N, 83° 12' 22.48" W
FP-19	42° 08' 28.18" N, 83° 12' 22.41" W
FP-20	42° 08' 27.42" N, 83° 12' 21.96" W
FP-21	42° 08' 28.19" N, 83° 12' 21.93" W
FP-21A	42° 08' 28.19" N, 83° 12' 21.93" W
FP-218	42° 08' 28.19" N, 83° 12' 21.93" W
FP-21C	42° 08' 28.19" N, 83° 12' 21.93" W
FP-210	42° 08' 28.19" N, 83° 12' 21.93" W
FP-22	42° 08' 30.79" N, 83° 12' 22.48" W
FP-23	42° 08' 31.08" N, 83° 12' 22.64" W
FP-24	42° 08' 36.95" N, 83° 12' 23.12" W
FP-25	42° 08' 37.22" N, 83° 12' 23.29" W
FP-26	42° 08' 39.85" N, 83° 12' 23.61" W

FP-27 42° 08' 41.46" N, 83° 12' 23.83" W
 FP-28 42° 08' 42.89" N, 83° 12' 23.60" W
 FP-29 42° 08' 43.45" N, 83° 12' 23.65" W
 FP-29A 42° 08' 49.19" N, 83° 12' 24.48" W
 FP-30 42° 08' 53.28" N, 83° 12' 24.75" W
 FP-30A 42° 08' 53.28" N, 83° 12' 24.75" W
 FP-30B 42° 08' 53.28" N, 83° 12' 24.75" W
 FP-30C 42° 08' 53.28" N, 83° 12' 24.75" W
 FP-31 42° 08' 53.91" N, 83° 12' 25.25" W
 FP-31A 42° 08' 53.91" N, 83° 12' 25.25" W
 FP-31B 42° 08' 53.91" N, 83° 12' 25.25" W
 FP-31C 42° 08' 53.91" N, 83° 12' 25.25" W
 FP-32 42° 09' 3.66" N, 83° 12' 24.12" W
 FP-32A 42° 08' 57.38" N, 83° 12' 24.58" W
 FP-33 42° 09' 11.06" N, 83° 12' 23.31" W
 FP-33A 42° 09' 13.34" N, 83° 12' 23.37" W
 FP-34 42° 09' 13.46" N, 83° 12' 23.19" W
 FP-34A 42° 09' 13.81" N, 83° 12' 23.32" W
 FP-35 42° 09' 19.30" N, 83° 12' 23.08" W
 FP-35A 42° 09' 19.27" N, 83° 12' 22.77" W

DT-01 42° 07' 15.44" N, 83° 10' 58.34" W
 DT-02 42° 07' 22.04" N, 83° 11' 0.788" W
 DT-03 42° 07' 32.17" N, 83° 11' 1.61" W
 DT-04 42° 08' 1.85" N, 83° 10' 59.23" W
 DT-05 42° 08' 10.33" N, 83° 10' 48.16" W
 DT-05A 42° 08' 10.33" N, 83° 10' 48.16" W
 DT-06 42° 08' 11.51" N, 83° 10' 40.62" W
 DT-06A 42° 08' 11.51" N, 83° 10' 40.62" W
 DT-07 42° 08' 12.97" N, 83° 10' 36.88" W
 DT-08 42° 08' 25.99" N, 83° 10' 31.09" W
 DT-09 42° 08' 30.41" N, 83° 10' 30.20" W
 DT-10 42° 08' 30.64" N, 83° 10' 30.08" W
 DT-11 42° 08' 35.09" N, 83° 10' 18.23" W
 DT-12 42° 08' 35.45" N, 83° 10' 28.02" W
 DT-13 42° 08' 39.98" N, 83° 10' 26.56" W
 DT-14 42° 08' 40.21" N, 83° 10' 26.53" W
 DT-15 42° 08' 44.48" N, 83° 10' 25.06" W
 DT-16 42° 08' 49.17" N, 83° 10' 23.87" W
 DT-17 42° 08' 53.98" N, 83° 10' 25.13" W
 DT-18 42° 08' 58.41" N, 83° 10' 22.45" W
 DT-19 42° 08' 58.83" N, 83° 10' 22.29" W
 DT-19A 42° 09' 22.44" N, 83° 10' 3.79" W
 DT-19B 42° 09' 22.44" N, 83° 10' 3.79" W
 DT-20 42° 10' 14.68" N, 83° 09' 5.55" W

JURISDICTION CHANGE (City of Trenton MS4 to Wayne County MS4)

DR055 42° 9' 22.27" N, 83° 10' 32.62" W
 to WC

DR055

to WC

42° 9' 22.27" N, 83° 10' 32.62" W

NOTES

BENCH MARKS



PUBLIC OR PRIVATE UTILITIES AS SHOWN ON THESE DRAWINGS ARE NOT GUARANTEED AS TO ACCURACY FOR LOCATION OR DEPTH.
 BEFORE COMMENCING ANY WORK ON THIS PROJECT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES IN CONFLICT WITH PROPOSED IMPROVEMENTS AND TO CONTACT MISS DIG FOR NECESSARY INFORMATION. ANY REPAIR OR RESULT OF DAMAGE DONE TO ANY OF THE UTILITIES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

DATE	REVISIONS



CITY OF TRENTON
 WAYNE COUNTY, MICHIGAN
 ENGINEERING & BUILDING DEPARTMENT
 2800 THIRD STREET - TRENTON, MI 48188
 PHONE - (734) 675-6251 FAX - (734) 675-4504
 CITY ENGINEER - WILLIAM R. HOGAN, P.E.

DRAWN BY	DATE
WM	02-03-2020
DESIGNED BY	DATE
NA	02-03-2020
APPROVED BY	DATE
DJC	02-03-2020

FILE NAME: 2020 MS-4 PERMIT
 SCALE: Not to Scale

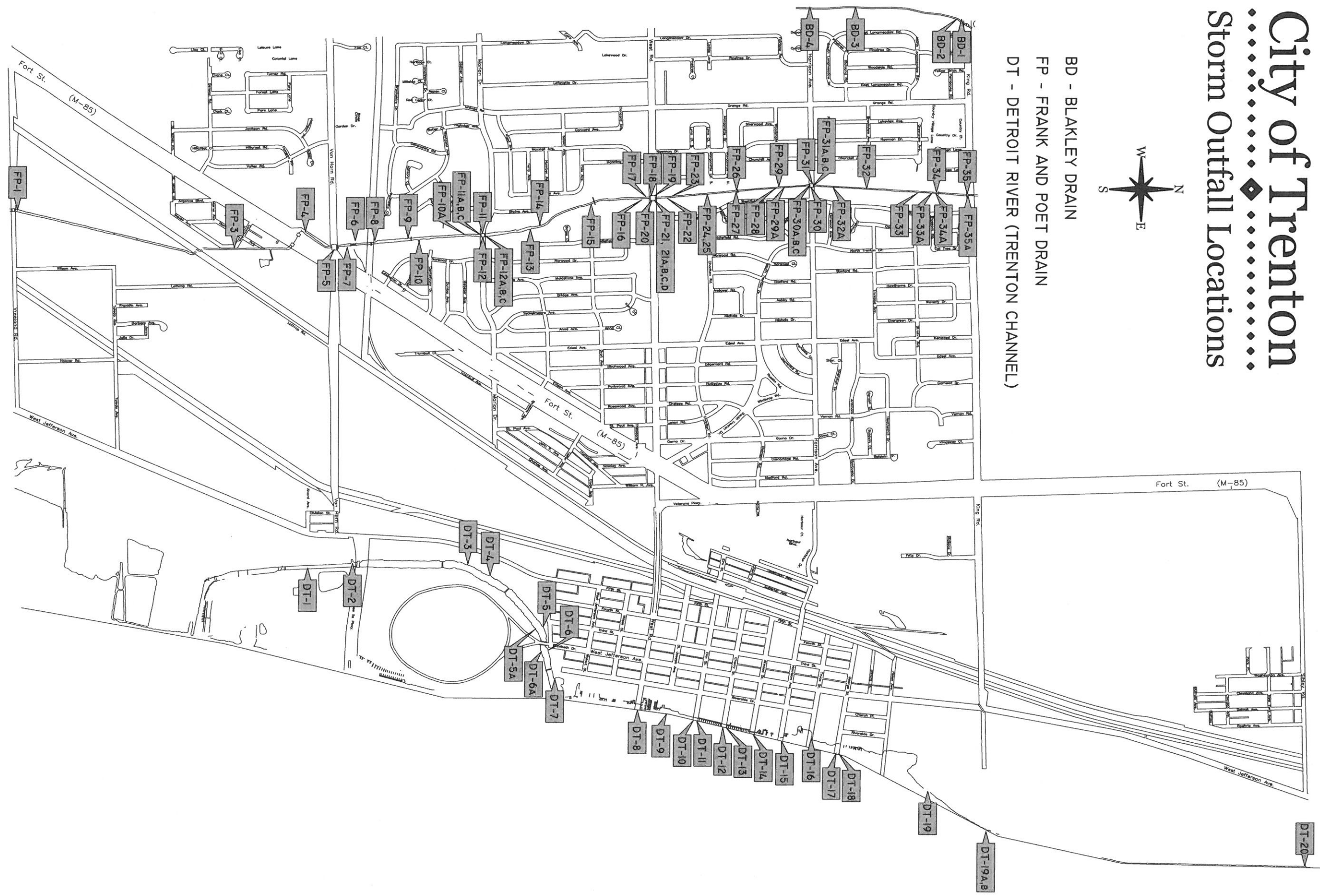
Storm Outfall Locations

PROJECT No.
 2020 MS-4 PERMIT
 SHEET
 1 OF 1

City of Trenton

Storm Outfall Locations

BD - BLAKLEY DRAIN
 FP - FRANK AND POET DRAIN
 DT - DETROIT RIVER (TRENTON CHANNEL)



STANDARD OPERATING PROCEDURE ENFORCEMENT RESPONSE

PREPARED FOR:

THE CITY OF Trenton
2800 3rd Street, Trenton, MICHIGAN 48183



March 2024

SECTION A – PURPOSE

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Phase II Stormwater Discharge Permit Application requires a procedure for Enforcement Response to address violations of the ordinances or regulatory mechanisms identified in the Stormwater Management Plan.

SECTION B –PENALTY

City of Trenton Code of Ordinances, Chapter 98, Article VI– Illicit discharge elimination plan Illicit Discharge and Stormwater Connections Section 98-501, Section 98-513 – Enforcement; City of Trenton Code of Ordinances, Chapter 2, Administration, Article VIII, Municipal Civil Infractions Section 2-375. –Municipal Ordinance Violations; and City of Trenton, Code Of Ordinances Chapter 1, General Provisions, Section 1-8 – General penalty; continuing violations; define the procedural rules and penalties levied by the City for ordinance violations. The sections specifically define penalties for misdemeanors or civil infractions and continuing violations.

B.1 Sec. 98-513. - Enforcement.

“(a)Notice of violation. Whenever the authorized enforcement agency finds that a person has violated a prohibition or failed to meet a requirement of this article, the authorized enforcement agency may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:(1)The performance of monitoring, analyses, and reporting;(2)The elimination of illicit connections or discharges;(3)That violating discharges, practices, or operations shall cease and desist;(4)The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;(5)Payment of an assessment to recover all reasonable administrative and remediation costs; and(6)The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the authorized enforcement agency or its contractor and the expense thereof shall be charged to the violator.”

(Ord. No. 743, § 1, 11-15-2010)

B.2 Sec. 98-516. - Cost of abatement of the violation

“Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within 21 days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Any person violating any of the provisions of this article shall become liable to the city by reason of such violation. The liability shall be paid in cash or by note in not more than 12 equal payments. Interest at the rate of 12 percent per annum shall be assessed on the

balance beginning on the 31st day following discovery of the violation.”
(Ord. No. 743, § 1, 11-15-2010)

B.3 Sec. 1-8. – General penalty; continuing violations

“(a)In this section, the term "violation of this Code" means any of the following:(1)Doing an act that is prohibited or made or declared unlawful, an offense, a violation, a misdemeanor or a municipal civil infraction by ordinance or by rule or regulation authorized by ordinance.(2)Failure to perform an act that is required to be performed by ordinance or by rule or regulation authorized by ordinance.(3)Failure to perform an act if the failure is prohibited or is made or declared unlawful, an offense, a violation, a misdemeanor or a municipal civil infraction by ordinance or by rule or regulation authorized by ordinance.(b)In this section, the term "violation of this Code" includes causing, securing, aiding or abetting a violation of this Code as defined in subsection (a) of this section.(c)In this section, the term "violation of this Code" does not include the failure of a city officer or city employee to perform an official duty unless it is specifically provided that the failure to perform the duty is to be punished as provided in this section.(d)This subsection does not apply to any municipal civil infraction. Except as otherwise provided by law or ordinance, a person convicted a violation of this Code shall be guilty of a misdemeanor and punished by a fine not to exceed \$500.00, imprisonment for a period of not more than 90 days, or both; however, unless otherwise provided by law, a person convicted of a violation of any provision of this Code that is declared to be a misdemeanor that substantially corresponds to a violation of state law that is a misdemeanor for which the maximum period of imprisonment is 93 days shall be punished by a fine of not more than \$500.00, imprisonment for a term of not more than 93 days, or both. A person convicted of a violation of this Code shall be responsible for costs. In addition:(1)Upon a person being convicted of two or more violations of this Code within a two-year period, a complaint may be issued against such person setting forth the number of convictions of violations of this Code and the dates thereof.(2)If any person over 17 years of age is convicted of two or more violations of this Code within a period of two years, such person shall be adjudged a repeated violator and the court may in lieu of fine and imprisonment as provided in this subsection place such person on probation and direct such person to perform such manual labor at such times and places and for such duration as the court in its discretion may deem suitable. Such manual labor shall consist of cleaning municipal buildings, cleaning drains and ditches, landscaping, gardening, pruning or such other public work as the court may direct. The performance of such work shall be under the supervision of the department head of the city having responsibility for such work.(e)The following provisions apply to municipal civil infractions:(1)Violations of this Code are municipal civil infractions only if declared elsewhere to be municipal civil infractions.(2)The sanction for a violation that is a municipal civil infraction shall be a civil fine in an amount as set forth in this Code or any ordinance, plus any costs, damages, expenses and other sanctions, as authorized under chapter 87 of Public Act No. 236 of 1961 (MCL 600.8701 et seq.) and other

applicable laws.(3)Unless otherwise specifically provided for a particular municipal civil infraction violation by this Code or any ordinance, the civil fine for a first violation shall be not less than \$25.00, plus costs and other sanctions for each infraction.(4)Increased civil fines may be imposed for repeated violations by a person of any requirement or provision of this Code. As used in this subsection, the term "repeat offense" means a second (or any subsequent) municipal civil infraction violation of the same requirement or provision:a.Committed by a person within any six-month period (unless some other period is specifically provided by this Code); andb.For which the person admits responsibility or is determined to be responsible.(5)Unless otherwise specifically provided by this Code or any ordinance for a particular municipal civil infraction violation, the increased fine for repeat offense shall be as follows:a.The fine for any offense which is a repeat offense shall be twice that of the first offense, plus costs.b.The fine for any offense which is a second repeat offense or any subsequent repeat offense shall be four times that of the first offense, plus costs.(f)Except as otherwise provided by law or ordinance:(1)With respect to violations of this Code that are continuous with respect to time, each day that the violation continues is a separate offense.(2)With respect to other violations, each violation constitutes a separate offense.(g)The imposition of a penalty does not prevent suspension or revocation of a license, permit or franchise or other administrative sanctions.(h)Violations of this Code that are continuous with respect to time are a public nuisance and may be abated by injunctive or other equitable relief. The imposition of a penalty does not prevent injunctive relief or civil or quasijudicial enforcement."

(Code 1974, §§ 1-8—1-10, 2-306, 19-21)

SECTION C – ENFORCEMENT TRACKING

The City will track all violations and issued permits. The following information will be collected and stored by the building department and used for tracking records for each violation that is imposed by the City.

1. Name
2. Date
3. Location of the Violation (address, cross streets, etc.)
4. Business, Agency, Organization as applicable
5. Description of the Violation
6. Applicable Correspondence
7. Follow-up Actions
8. Key Dates
9. Descriptions of the City's Enforcement Response
10. Schedules for Achieving Compliance
11. Date the Violation was Resolved

SECTION D – PROCESS FOR REVISION

Any questions on this policy and procedure should be directed to the Stormwater Manager or the Director of Public Works. This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

ARTICLE VI. - ILLICIT DISCHARGE AND STORMWATER CONNECTIONS

Sec. 98-501. - Purpose.

The purpose of this article is to provide for the health, safety and general welfare of the citizens of the city through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This article establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this article are:

- (1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user.
- (2) To prohibit illicit connections and discharges to the municipal separate storm sewer system.
- (3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-502. - Definitions.

For the purpose of this article, the following shall mean:

Authorized enforcement agency (AEA): City of Trenton City Engineer or its designees to enforce this article.

Best management practices (BMPs): Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction activity: Activities subject to NPDES construction permits. These include construction projects resulting in land disturbance of one acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal discharge: Any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in section 98-506 of this article.

Illicit connections: An illicit connection is defined as either of the following:

- (1) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the authorized enforcement agency; or
- (2) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the authorized enforcement agency.

Industrial activity: Activities subject to NPDES industrial permits as defined in 40 CFR, Section 122.26(b) (14).

National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit: A permit issued by EPA (or by a state under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the state, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Person: Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Storm drainage system: Municipal-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater pollution prevention plan (SWPP): A document which describes the best management practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Wastewater: The liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any groundwater, surface water and stormwater that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-503. - Applicability.

This article shall apply to all water entering the municipal storm drain system generated on any developed and undeveloped lands unless explicitly exempted by the authorized enforcement agency. The authorized enforcement agency shall administer, implement, and enforce the provisions of this article. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the city engineer to persons or entities acting in the beneficial interest of or in the employ of the agency.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-504. - Reserved.

Sec. 98-505. - Ultimate responsibility.

The standards set forth herein and promulgated pursuant to this article are minimum standards; therefore this article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-506. - Discharge prohibitions.

- (a) *Prohibitions of illegal discharges.* No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than uncontaminated stormwater.

The commencement, conduct or continuance of any illegal discharge to the municipal storm drain system is prohibited except as described as follows:

- (1) The following discharges are exempt from discharge prohibitions established by this article: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if dechlorinated — typically less than one PPM chlorine), fire fighting activities, and any other water source not containing pollutants.
 - (2) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.
 - (3) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.
 - (4) The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the municipal storm drain system.
- (b) *Prohibition of illicit connections.*
- (1) The construction, use, maintenance or continued existence of illicit connections to the municipal storm drain system is prohibited.
 - (2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under the law or practices applicable or prevailing at the time of connection.
 - (3) A person is considered to be in violation of this article if the person connects a line conveying wastewater to the MS4, or allows such a connection to continue.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-507. - Suspension of MS4 access.

- (a) *Suspension due to illicit discharges in emergency situations.* The authorized enforcement agency may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the state. If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the state, or to minimize danger to persons.
- (b) *Suspension due to the detection of illicit discharge.* Any person discharging to the MS4 in violation of this article may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The authorized enforcement agency will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement agency for a reconsideration and hearing.

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the authorized enforcement agency.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-508. - Industrial or construction activity discharges.

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the authorized enforcement agency prior to the allowing of discharges to the MS4.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-509. - Monitoring of discharges.

- (a) *Applicability.* This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity.
- (b) *Access to facilities.*
 - (1) The authorized enforcement agency shall be permitted to enter and inspect facilities subject to regulation under this article as often as may be necessary to determine compliance with this article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.

(2)

Facility operators shall allow the authorized enforcement agency ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.

- (3) The authorized enforcement agency shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the authorized enforcement agency to conduct monitoring and/or sampling of the facility's stormwater discharge.
- (4) The authorized enforcement agency has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be annually calibrated to ensure their accuracy.
- (5) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the authorized enforcement agency and shall not be replaced. The costs of clearing such access shall be borne by the operator.
- (6) Unreasonable delays in allowing the authorized enforcement agency access to a permitted facility is a violation of a stormwater discharge permit and of this article. A person who is the operator of a facility with a NPDES permit to discharge stormwater associated with industrial activity commits an offense if the person denies the authorized enforcement agency reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this article.
- (7) If the authorized enforcement agency has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this article, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this article or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the authorized enforcement agency may seek issuance of a search warrant from any court of competent jurisdiction.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-510. - Requirement to prevent, control, and reduce stormwater pollutants by the use of best management practices.

The authorized enforcement agency will adopt requirements identifying best management practices (BMPs) for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the municipal storm drain system, or waters of the state. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from

accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the maximum extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a stormwater pollution prevention plan (SWPP) as necessary for compliance with requirements of the NPDES permit.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-511. - Watercourse protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-512. - Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the municipal storm drain system, or water of the state said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies, Michigan Department of Natural Resources and Environment (MDNRE), and the Wayne County Department of Environment of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the authorized enforcement agency in person or by phone, facsimile, or electronic mail no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the authorized enforcement agency within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-513. - Enforcement.

(a) *Notice of violation.* Whenever the authorized enforcement agency finds that a person has violated a prohibition or failed to meet a requirement of this article, the authorized enforcement agency may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

- (1) The performance of monitoring, analyses, and reporting;
- (2) The elimination of illicit connections or discharges;
- (3) That violating discharges, practices, or operations shall cease and desist;
- (4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
- (5) Payment of an assessment to recover all reasonable administrative and remediation costs; and
- (6) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the authorized enforcement agency or its contractor and the expense thereof shall be charged to the violator.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-514. - Appeal of notice of violation.

Any person receiving a Notice of Violation may appeal the determination of the authorized enforcement agency. The notice of appeal must be received within 30 days from the date of the notice of violation. Hearing on the appeal before the municipal authority or his/her designee shall take place within 30 days from the date of receipt of the notice of appeal. The decision of the municipal authority or their designee shall be final.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-515. - Enforcement measures after appeal.

If the violation has not be corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within 21 days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the

violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the authorized enforcement agency or its designated contractor to enter upon the premises for the purposes set forth above.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-516. - Cost of abatement of the violation.

Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within 21 days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Any person violating any of the provisions of this article shall become liable to the city by reason of such violation. The liability shall be paid in cash or by note in not more than 12 equal payments. Interest at the rate of 12 percent per annum shall be assessed on the balance beginning on the 31st day following discovery of the violation.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-517. - Injunctive relief

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this article. If a person has violated or continues to violate the provisions of this article, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-518. - Compensatory action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this article, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, water course cleanup, etc.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-519. - Violations deemed a public nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-520. - Criminal prosecution.

Any person that has violated or continues to violate this article shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of \$500.00 per violation per day and/or imprisonment for a period of time not to exceed 93 days. The authorized enforcement agency may recover all attorney's fees, court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

(Ord. No. 743, § 1, 11-15-2010)

Sec. 98-521. - Remedies non-exclusive.

The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

(Ord. No. 743, § 1, 11-15-2010)



STORMWATER DISCHARGE PERMIT APPLICATION COLLABORATIVE PUBLIC PARTICIPATION/INVOLVEMENT PROGRAM

For the Alliance of Downriver Watersheds Member MS4s

Allen Park
Belleville
Dearborn Heights
Ecorse
Flat Rock
Gibraltar
Grosse Ile Township
Inkster

Lincoln Park
Melvindale
Riverview
Rockwood
Romulus
Southgate
Sumpter Township
Taylor

Trenton
Van Buren Township
Wayne County
Westland
Woodhaven-Brownstown
School District
Wyandotte

Effective upon NPDES Permit issuance for a period of five (5) years.

I. INTRODUCTION

The Public Participation/Involvement Program (PPP) is required by the State of Michigan National Pollutant Discharge Elimination System (NPDES) Permit for Discharge of Stormwater to Surface Waters of the State from a Municipal Separate Storm Sewer System (MS4). The purpose of the PPP is to encourage public participation/involvement in the implementation and periodic review of the Stormwater Management Plans (SWMPs) of the permitted MS4s to the maximum extent practicable.

II. GENERAL INFORMATION

The Alliance of Downriver Watersheds (ADW) is a permanent watershed organization in southeast Michigan and formed under Public Act 517 of the Public Laws of 2004. The ADW was formally established in 2007 but its members have been working together for many years to manage the area's water resources. The ADW consists of public agencies in the Ecorse Creek, Combined Downriver and Lower Huron River Watersheds within Wayne and Monroe Counties. ADW collaborative efforts include long-term water quality monitoring, stormwater permit compliance and reporting to the State, submittal of grant applications for water quality improvements, and public education.

The ADW is urban consisting of 203.3 square miles and more than 450,000 people (2010 census). Major watercourses within the ADW that drain to the Detroit River and Lake Erie include the Ecorse Creek, Sexton Kilfoil Drain, Frank and Poet Drain, Blakely Drain, Brownstown Creek, Huron River, Smith Creek, Silver Creek and Woods Creek. There are three Watershed Management Plans for the ADW area, approved by the Michigan Department of Environment Great Lakes and Energy in 2012—Ecorse Creek, Combined Downriver and Lower Huron.

The ADW developed the PPP on behalf of the following MS4s within the Ecorse Creek, Combined Downriver and Lower Huron watersheds. Activities will be implemented collaboratively during the permit cycle by the ADW its cooperating partners and these MS4 permittees:

Allen Park	Romulus
Belleville	Southgate
Dearborn Heights	Sumpter Township
Ecorse	Taylor
Flat Rock	Trenton
Gibraltar	Van Buren Township
Grosse Ile Township	Wayne County
Inkster	Westland
Lincoln Park	Woodhaven-Brownstown School
Melvindale	District
Riverview	Wyandotte
Rockwood	

III. PURPOSE

This plan establishes the procedures for the ADW's Collaborative Public Participation/Involvement Program. The purpose of the PPP is to encourage public participation/involvement in the implementation and periodic review of the SWMP to the maximum extent practicable. Permittees are

required to implement the PPP as part of the SWMP.

The PPP requires implementation of the following minimum requirements:

- 1) The procedure for making the SWMP available for public inspection and comment, including complying with local public notice requirements, as appropriate; and
- 2) The procedure for inviting public participation and involvement in the implementation and periodic review of the SWMP.

IV. PROCEDURES FOR PUBLIC INSPECTION, COMMENT AND PARTICIPATION IN IMPLEMENTATION AND REVIEW

The following procedures will be used to meet PPP requirements:

Procedure for Public Access to SWMPs for Inspection and Comment

Description: Permittees will provide digital copies of approved SWMPs to the ADW for public inspection and comment at the ADW website. The ADW and permittees will notify the public that SWMPs were developed and will encourage public input.

Procedures for public input include the following:

- ADW will post SWMPs to the ADW website with a form for submitting comments
- ADW will communicate incoming comments including the date, submitter's first and last name, and email address to the applicable permittee
- ADW will send email announcements to its contact lists or post them on social media regarding the availability of an approved SWMP and the opportunity to comment
- Permittees will meet local public notice requirements, providing links to the SWMPs on the ADW website and may notify the public using methods that include publication in local news media outlets, announcements to local boards, associations, and other interested groups, at public meetings or major public events, articles in local newsletters, or posts on websites and social media

Timeline: Notice will be provided upon the release of a draft permit by EGLE and following any major SWMP revision. Approved SWMPs will be made available on-going throughout the permit cycle for periodic public review and comment.

Evaluation: Publication of notice in communications channels and comments submitted. ADW will document and report its efforts to publicize the SWMPs and the number of comments collected through the web form for each permittee on a calendar year basis for progress reports submitted biennially in April.

Responsible Parties: ADW and permittees.

Procedure for inviting public participation and involvement in the implementation and periodic review of SWMPs

Description: The ADW is a watershed implementation group that is open to and encourages public participation. This group meets three times a year (on average). Meetings are open to the public, with schedules, agendas, and summaries posted to the ADW website and shared via email distribution lists. ADW meetings, in addition to the procedure above for public inspection and comment on SWMPs, provide an ongoing opportunity for public input into SWMP implementation. The ADW and permittee representatives will collect feedback regarding SWMPs and their implementation for collaborative and individual SWMPs and activities at public meetings.

Timeline: On-going throughout the permit cycle.

Evaluation: The ADW will document permittee representative and public participation in meetings on a calendar year basis for progress reports submitted biennially in April.

Responsible Parties: ADW and permittee representatives.



STORMWATER DISCHARGE PERMIT APPLICATION COLLABORATIVE PUBLIC EDUCATION PLAN

For the Alliance of Downriver Watersheds Member MS4s

Allen Park
Belleville
Dearborn Heights
Ecorse
Flat Rock
Gibraltar
Grosse Ile Township
Inkster

Lincoln Park
Melvindale
Riverview
Rockwood
Romulus
Southgate
Sumpter Township
Taylor

Trenton
Van Buren Township
Wayne County
Westland
Woodhaven-Brownstown
School District
Wyandotte

Effective upon NPDES Permit issuance for a period of five (5) years.

Table of Contents

I. INTRODUCTION	3
Purpose of Public Education Plan	3
Federal Phase II Storm Water Regulations	3
Required Public Education Plan Elements	3
II. COLLABORATION OF WATERSHED PARTNERS	5
III. PROCEDURE FOR IDENTIFYING AND PRIORITIZING APPLICABLE PEP TOPICS	6
Watershed-Wide Priority Topics.....	6
IV. EXISTING AND PROPOSED COLLABORATIVE PUBLIC EDUCATION BMPs.....	8
Activity #1: Distribute a printed watershed community calendar and hold a photo contest	8
Activity #2: Organize and run a focused-topic pollution prevention campaign	9
Activity #3: Provide displays for community venues and outreach activities at events	9
Activity #4: Support schools with incentives and educational opportunities for student learning ..	10
Activity #5: Support and promote volunteer stream and water quality monitoring	11
Activity #6: Stream and river crossing road signs	12
Activity #7: Participate in regional partnership activities	12
Activity #8: Promote water resource protection learning opportunities and programs.....	13
Activity #9: Promote county-wide complaint tracking and response system	14
Activity #10: Promote county household hazardous waste reduction program.....	15
V. EXISTING AND PROPOSED INDIVIDUAL PUBLIC EDUCATION BMPs	16
Activity #11: Host and run the Watershed Management and Information City Webpage	16
VI. OTHER INVOLVED ORGANIZATIONS	17
VII. EVALUATION OF EFFECTIVENESS.....	18
VIII. PERIODIC PROGRESS REPORT	18

Exhibit A – Table of PEP Tasks by Topic and Activity

I. INTRODUCTION

Purpose of Public Education Plan

In accordance with the permit requirements for Federal Phase II Storm Water Regulations, this Public Education Plan (PEP) was prepared to instill within the residents, businesses, and officials of the communities in regulated watersheds a heightened level of awareness of the connection between individual actions and the health of their watershed and water resources. The objective of this plan is to promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce the discharge of pollutants in storm water.

Federal Phase II Storm Water Regulations

A 1987 amendment to the Federal Clean Water Act required the U.S. Environmental Protection Agency (EPA) to develop regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for storm water discharges from municipal separate storm sewer systems (MS4s). An MS4 is a drainage system that discharges to waters of the State and is owned or operated by a federal, state, county, city, village, township, district, association or other public body of government. Such drainage systems may include roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels.

Phase I of the NPDES regulations went into effect in 1990, which regulated discharges from communities with populations greater than 100,000. The rules for Phase II of the NPDES regulations were issued in 1999, requiring stormwater discharge permits for communities with populations under 100,000 that have MS4s in “urbanized areas” as defined by the U.S. Bureau of the Census.

The Michigan Department of Environment, Great Lakes and Energy (EGLE) is administering the federal Phase II permitting process.

Required Public Education Plan Elements

The PEP program is designed to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. The plan describes current and proposed best management practices (BMPs) to meet the minimum control measure requirements in a Public Education Plan (PEP).

The PEP may involve watershed or regional partners collaborating to combine or coordinate existing programs for public stewardship of water resources. Permittees shall indicate if they are or will be working collaboratively with watershed or regional partners on any or all activities in the PEP during the permit cycle.

The PEP is designed to implement a sufficient amount of educational activities to ensure that the targeted audiences are reached with the appropriate messages to the maximum extent practicable. The permittee shall identify applicable topics from the topics listed below.

Each applicable topic shall be prioritized based on a procedure for assessing high-priority community-wide issues and targeted issues to reduce pollutants in stormwater runoff.

- A. Promote public responsibility and stewardship in the applicant(s) watershed.
- B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
- C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
- D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
- E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
- F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
- G. Identify and promote 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.
- H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
- I. Educate the public on and promote the benefits of green infrastructure and Low Impact Development.
- J. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

For all applicable topics, the PEP shall identify:

1. Target audience
2. Key message
3. Delivery mechanism
4. Schedule (months and years) and Frequency the BMP will be implemented
5. Responsible party
6. Measurable Goal with a Measure of Assessment

A measurable goal with a measure of assessment shall be included for each BMP and as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP.

The PEP shall provide the procedure for evaluating and determining the effectiveness of the overall PEP. The procedure shall include a method for assessing changes in public awareness and behavior resulting from the implementation of the PEP and the process for modifying the PEP to address ineffective implementation.

II. COLLABORATION OF WATERSHED PARTNERS

The permittees identified below have elected to meet the PEP requirements by working with each other and other watershed and regional partners to develop, submit, and implement a PEP that includes both collaborative and individual BMPs:

Allen Park	Rockwood
Belleville	Romulus
Dearborn Heights	Southgate
Ecorse	Sumpter Township
Flat Rock	Trenton
Gibraltar	Taylor
Grosse Ile Township	Van Buren Township
Inkster	Wayne County
Lincoln Park	Westland
Melvindale	Woodhaven-Brownstown School District
Riverview	Wyandotte

These permittees are members of the Alliance of Downriver Watersheds (ADW). The ADW is a permanent watershed organization in Southeast Michigan, formed under Public Act 517 of the Public Laws of 2004. Its membership consists of public agencies in the Ecorse Creek, Combined Downriver, and Lower Huron River Watersheds within Wayne and Monroe Counties.

The ADW was formed in 2007 to build on its members' ongoing efforts to work together in managing the area's water resources. The ADW is relatively urban consisting of 203.3 square miles and more than 450,000 people (2010 census). Major watercourses within the ADW that drain to the Detroit River and Lake Erie include Ecorse Creek, Sexton Kilfoil Drain, Frank and Poet Drain, Blakely Drain, Brownstown Creek, Huron River, Silver Creek and Woods Creek.

The consortium of agencies that make up the ADW meet regularly and work together to cooperatively manage the rivers, lakes, and streams within the watershed. Examples of ADW efforts include long-term water quality monitoring, stormwater permit compliance and reporting to the State of Michigan, submittal of grant applications for water quality improvements, and public education on items such as rain barrel use, phosphorus fertilizer, and proper pet waste management.

The consortium is governed by adopted bylaws that set forth its composition, duties, and responsibilities. The member agencies assess themselves annually or bi-annually based on population and land areas within the watershed to establish an operating budget that they use to work toward water quality improvements.

Member agencies designate a person to represent them and vote at ADW meetings. Members can be a township, city, village, county, public school district, public college or university, or any other local or regional public agency that meets the following criteria:

- Has been issued a state permit for a water discharge into waterways within the three ADW watersheds
- Whose legal jurisdiction incorporates areas wholly or partially within the watershed boundaries
- Whose governing body by resolution, voluntarily adopts the ADW Bylaws

The ADW also includes Cooperating Partners, who are nonprofit organizations, businesses, residents, etc., who provide their time, services, expertise and resources toward the common goal of protecting and restoring the watershed. Cooperating Partners are recognized as non-voting members.

III. PROCEDURE FOR IDENTIFYING AND PRIORITIZING APPLICABLE PEP TOPICS

The public education topics A-J listed above in Section II were identified in the permit application. These topics are referred to by their corresponding letter in the Public Education BMPs below as well as on the PEP table.

Watershed-Wide Priority Topics

The procedure for identifying high-priority watershed-wide or targeted issues suited for collaborative public education efforts includes:

- A review of Watershed Management Plans for the Ecorse Creek, Combined Downriver and Lower Huron River watersheds including any established Total Maximum Daily Loads for waterbodies in each area.
- A review of data from ongoing Wayne County, Huron River Watershed Council, and ADW Stream Monitoring and Water Quality Monitoring Programs.
- A review of public opinion surveys on watershed issues and water quality concerns conducted by the Southeast Michigan Council of Governments (SEMCOG) in 2004 and the ADW in 2016 and 2022.
- Topics identified by permittees at quarterly group meetings, in periodic subcommittee meetings, and in permittee opinion surveys before and throughout the permit cycle.
- Discussion and input from the permitted entities regarding individual jurisdictional versus watershed-wide needs, potential public outreach opportunities, and existing and future programs.

The ADW's high-priority community-wide issues and targeted issues for collaborative efforts are:

- High yet stable levels of phosphorus in stormwater runoff from most monitored streams indicating broad sources;
- High and increasing *E. coli* counts in most monitored streams;
- High conductivity levels (indicating potential dissolved contaminants) in most monitored streams;
- Moderate to high flashy flows in monitored streams indicating the need for infiltration and storage across the watersheds;
- The benefits of green infrastructure and low-impact development in mitigating stormwater runoff impacts; Target audience research and public survey results indicating a need for continued education about stormwater pollution and specific residential responsibilities.

The high priority community-wide issues and targeted issues were used to **prioritize** topics A-J for **collaborative efforts**. Existing and Proposed Collaborative Public Education BMPs include in some way all topics, but the emphasis will be on Collaborative High Priority Topics. Individual permittees may have

additional or other priorities for individual education efforts as shown below and may address these in Existing and Proposed Individual Public Education BMPs (Section V.):

Collaborative Priority Level	Permittee Priority	Topic Letter	Topic Description
High	High	A	Public responsibility and stewardship in the watershed.
High	High	B	The connection of the MS4 to area waterbodies and the potential impacts of discharges.
High	High	C	Illicit discharges and public reporting of illicit discharges and improper disposal of materials.
Medium	Medium	D	Promote preferred cleaning materials and procedures for car, pavement, and power washing.
High	High	E	Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
High	High	F	Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4
High	High	G	Identify and promote 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.
Low	Low	H	Proper septic system care and maintenance, and how to recognize system failure.
High	High	I	Benefits of green infrastructure and low impact development.
Medium	Medium	J	Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.

IV. EXISTING AND PROPOSED COLLABORATIVE PUBLIC EDUCATION BMPs

To address each of the PEP requirements, the permittee will, individually or collaboratively, implement the following specific activities, which include a description, timeline, evaluation component, and the required topic that the activity meets. Activities will be completed with the involvement of responsible parties as noted in each activity description, and/or in cooperation with identified permitted communities.

Timelines for implementation of proposed activities extend from permit issuance (year 1) when implementation of the PEP begins for a period of five (5) years.

Activity #1: Distribute a printed watershed community calendar and hold a photo contest

Delivery Mechanism:

Coordinated by the ADW, permittees will participate in the bulk printing and distribution of a Watershed Community Calendar to residents. The calendar will also include an online photo contest.

Key Messages:

Calendars feature a different tip each month for increasing public awareness of watershed issues and improving personal actions affecting the health of their watershed. Tips include key messages associated with A-I of the PEP topics that are suited for homeowners, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; green stormwater infrastructure; and illegal dumping in storm drains.

Target Audience: Residents

Schedule and Frequency:

The calendar will be produced and distributed and the photo contest held at least once during a five-year permit cycle.

Measurable Goal:

The goal is to bring awareness of pollution and possible solutions and personal actions to prevent stormwater pollution among calendar recipients and photo contest participants.

Assessment:

- Number of calendars distributed by the ADW and permittees;
- Number of photo contest participants;
- Number of views of calendar and photo contest landing pages on ADW website;
- Measures of audience awareness of pollution and possible solutions or commitment to engage in pollution prevention activities.

Responsible Parties:

The ADW produces calendars and coordinates and runs the photo contest. Permittees distribute calendars individually and participate in promoting the photo contest within their communities.

Topics Addressed: A-I

Activity #2: Organize and run a focused-topic pollution prevention outreach campaign

Delivery Mechanism:

The ADW will organize and run a pollution prevention campaign that is focused on a single message or topic and that seeks commitment from residents for positive action. Examples include a pet waste campaign where participants pledge to pick up pet waste and properly dispose of it (targeting customers of pet service providers) and an adopt a storm drain campaign where participants pledge to remove trash and debris from neighborhood storm drains (targeting school audiences).

Key Messages:

Topics/messages are likely to include a key message associated with A-I of the PEP topics that are suited for homeowners, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; green stormwater infrastructure; and illegal dumping in storm drains.

Target Audience: Residents

Schedule and Frequency:

At least once during a five-year permit cycle

Measurable Goal:

The goal is to create public awareness of watershed issues and improve personal actions to prevent stormwater pollution among campaign participants.

Assessment:

- Number of views on ADW social media sites and on the ADW website;
- Number of people committing to do positive actions.

Responsible Parties:

ADW to coordinate and run the campaign as a collaborative effort. Permittees to participate in promoting the campaign individually within their communities.

Topics Addressed: A-I

Activity #3: Provide displays for community venues and outreach activities at events

Delivery Mechanism:

The ADW will produce and make available a shared pop-up display or educational posters for use at community venues, regional fairs and events, and/or community meetings and events. The ADW will host the pop-up display at regional fairs/events or place it at public venues. Individually, permittees will promote and support stormwater education by displaying posters or the pop-up display at their locations and other key public venues in their community such as municipal libraries, city/township halls, or schools or at community meetings, fairs and/or events.

Key Messages:

Public awareness of watershed issues and improving personal actions affecting the health of the watershed also including key messages associated with A-I of the PEP topics, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; benefits of native plants; and illegal dumping in storm drains.

Target Audience: Residents, visitors, community leaders

Schedule and Frequency:

One fair/event or public venue annually for the ADW collaboratively. Permittees will place ADW educational posters or pop-up displays at a public venue, meeting, or event in their community at least once during a five-year permit cycle.

Measurable Goal:

Bring awareness of watershed issues and personal actions to prevent stormwater pollution among residents, visitors and community leaders who engage with the ADW pop-up display and materials.

Assessment:

- Names, dates and locations of events where the ADW hosted the pop-up display and attendance estimate, if available;
- Measures of audience interest in engaging in pollution prevention activities will include newsletter signups and/or resulting website traffic directed by posters or the pop-up display;
- Permittees will also report the location, date and names of meetings or events (if applicable) where they placed posters or hosted the pop-up display.

Responsible Parties: ADW and permittees

Topics Addressed: A-I

Activity #4: Support schools with incentives and educational opportunities for student learning

Delivery Mechanism:

The ADW will support student-focused watershed education with incentives and educational opportunities for schools in the ADW area. Examples include facilitating school tree planting activities by providing trees and tree-focused educational materials; providing professionally run, curriculum-based in school watershed workshops and programming; or offering funding for environmental and nature-based educational field trips and other sustainability focused education activities.

Key Message: Watershed awareness and stewardship

Target Audience: Students, teachers

Schedule and Frequency: Annually

Measurable Goal:

To create opportunities for students to learn about watershed issues, the ADW will engage three schools in the ADW area each year during the permit cycle in incentives and educational opportunities.

Assessment:

- The ADW will report a list of schools with the number of students participating and a description of the educational activity.

Responsible Parties: ADW

Topics Addressed: A, B

Activity #5: Support and promote volunteer stream and water quality monitoring

Delivery Mechanism:

Permittees will support and assist in promoting the volunteer stream and water quality monitoring programs coordinated by the Huron River Watershed Council (HRWC) and others to their residents. The ADW will produce publicity materials including flyers and press releases, seek earned media placement and run digital or print advertising on social media or in watershed media outlets. The ADW will also seek help from regional cooperating partners to distribute these materials. Permittees will help promote these programs by distributing materials individually within their communities, providing literature and posting volunteer event opportunities at customer service locations, on web sites, on social media channels and in print or digital newsletters. The ADW will collect and provide information ongoing to permittees on volunteer opportunities before events.

Key Messages:

Volunteer monitoring for water quality is conducted spring through fall at stream sites in the ADW waterbodies. Additionally, watershed volunteers and students assess habitat, water quality, and aquatic life via benthic macroinvertebrate monitoring. These programs strive to educate participating watershed residents about their connection to the river and the current conditions. A central goal of the programs is to inspire people to take actions that lead to better river protection at home and in their communities.

Target Audience: Residents, teachers, students

Schedule and Frequency:

Stream monitoring occurs annually at unique events in winter, spring, fall. Water quality monitoring happens annually from spring through fall, with training in the spring.

Measurable Goal:

ADW residents participate in three one-day volunteer macro-invertebrate monitoring events and a seasonal volunteer chemistry and flow monitoring program in the Huron River and ADW area that are coordinated by HRWC.

Assessment:

- Compilation of all promotional efforts by the ADW;
- Number of people participating in events as recorded by HRWC;

- Resulting stewardship actions taken as reported by participants through event surveys, if conducted by HRWC;
- Permittees will also report individual efforts to distribute promotional event materials.

Responsible Parties: Permittees, ADW, HRWC.

Topics Addressed: A in particular, but also B-I

Activity #6: Stream and river crossing road signs

Description:

Through an ADW program, permittees have previously installed 80 stream crossing and watershed signs along roads where creeks or streams cross as well as at locations near watershed boundaries. Permittees will maintain these existing signs and the ADW will review and promote the placement of additional signs in areas where a need for signage has been identified and not met, coordinating or facilitating sign production for members.

Key Messages: Location of waterbody or watershed boundaries and call to action to protect

Target Audience: Visitors, residents

Schedule and Frequency: Ongoing throughout the permit cycle

Measurable Goal:

The ADW will facilitate the production of replacement signs and new signs as needed during the permit cycle. Permittees will install and maintain signage.

Assessment:

- Signage survey results, map inventory and recommendations;
- Number of new and replacement signs produced by the ADW;
- Permittees will report installation and maintenance activities.

Responsible Parties: ADW and local community officials, permittees

Topics Addressed: A

Activity #7: Participate in regional partnership activities

Delivery Mechanism:

The ADW and permittees will seek to participate and collaborate with regional partners such as SEMCOG, the Alliance of Rouge Communities, Great Lakes Commission, Friends of the Detroit River, Friends of the Rouge, Huron River Watershed Council, Detroit International Wildlife Refuge, International Wildlife Refuge Alliance, Michigan Sea Grant and others in activities that further public education on watershed awareness and stormwater issues. The ADW will attend regional partner meetings and report potential opportunities to ADW members. The ADW will also promote regional

partnership activities and public learning opportunities through its communication networks: email, social media, and the ADW website.

Key Messages: Collaborative efforts are needed to address the region's water quality issues.

Target Audience: Stakeholders of partner organizations and residents

Schedule and Frequency: Annually

Measurable Goal:

ADW participation in collaborative public education efforts by groups in the region that are working on watershed awareness and stormwater issues.

Assessment:

- ADW provided list of meetings with date, location, meeting topic and participating groups and any resulting opportunities identified and reported to permittees;
- Description of partner activities shared and promoted on communication networks.

Responsible Parties: ADW and individual permittees.

Topics Addressed: A-J

Activity #8: Promote water resource protection learning opportunities and programs

Delivery Mechanism:

The ADW and permittees will promote regional educational opportunities and programs for residential, business and municipal target audiences that are organized through agencies such as Wayne County, MSU Extension, SEMCOG, the Michigan Water Environment Association, the Natural Shorelines Partnership, the Friends of the Detroit River, the Alliance of Rouge Communities, Friends of the Rouge, the Huron River Watershed Council, Michigan Sea Grant and/or others. The ADW will use its communication networks: email, social media and the ADW website. Permittee efforts will include providing public information and promoting workshops via their communications networks.

Key Messages:

Programs may include the following: Watershed Management Short Course, Master Rain Gardener program, Master Composter program, the Michigan Water Stewards program, watershed-friendly golf course management workshop, illicit discharge and connections elimination workshop, road salt BMPs/de-icing alternatives workshop, land use/stormwater planning workshops and others.

Target Audience: Residents, government officials and employees, construction contractors, and developers

Schedule and Frequency:

Throughout the permit cycle when dates are established and needs for promotional assistance are identified by others.

Measurable Goal:

To generate interest and participation in regional educational workshops and programs focused on topics A-J.

Assessment:

- Learning opportunities/programs publicized by the ADW;
- Where applicable the number of views on the ADW website and social media channels.

Responsible Parties:

ADW promoting opportunities through its communications networks. Permittees promoting opportunities through their communications networks.

Topics Addressed: J in particular, but also A-I

Activity #9: Promote county-wide complaint tracking and response system**Delivery Mechanism:**

Permittees will educate the public on illicit discharges and work with Wayne County to publicize county-wide public reporting and response system for illicit discharges or improper disposal of materials into local storm drain systems. A 24-Hour Environmental Hotline is in place and administered by the Wayne County Department of Public Services. The County promotes the use of the 24- Hour Environmental Hotline on County websites. Permittee efforts will include providing public information and promoting the Hotline at their customer service locations, on websites and social media outlets and in newsletters.

Key Messages: Prevention and reporting of illicit discharges and/or improper disposal of materials into MS4s.

Target Audience: Residents, visitors, commercial and industrial businesses, local government officials and employees.

Schedule and Frequency: Ongoing promotional efforts

Measurable Goal: Audiences in the ADW will use the hotline to report concerns.

Assessment:

- Number of materials distributed annually with hotline number referenced reported by ADW for collaborative efforts and reported by permittees for permittee efforts;
- Number of views on ADW website and social media reported by ADW;
- If available, the number of reports coming into the hotline reported by Wayne County.

Responsible Parties: ADW, Wayne County, permittees.

Topics Addressed: B, C, J

Activity #10: Promote county household hazardous waste reduction program

Delivery Mechanism:

Permittees will work with Wayne County to publicize residential disposal options for flammable, poisonous, toxic and corrosive materials through community collection events, and informational materials for the public that promote the collection events and proper disposal of household hazardous waste and recycling. Permittee efforts will include providing public information and promoting collection events and information at their customer service locations, on web sites and social media outlets and in newsletters.

Key Messages:

The program seeks to address the environmental (including water quality) and public health effects resulting from improper handling and disposal of household hazardous waste and is committed to reducing the use of home toxics and keeping citizens informed about the choices and responsibilities associated with purchasing, handling and disposing of toxic substances.

Target Audience: ADW residents, business, and government audiences.

Schedule and Frequency: Annually. HHW collections are typically held by the Wayne County Department of Public Services four times each year in different communities.

Measurable Goal:

Creating resident awareness of proper HHW disposal options. The ADW and permittees will annually distribute information and promotional materials for all HHW collections scheduled by Wayne County through customer service locations websites, social media outlets, and newsletters. When in use by the County, the ADW will also promote the digital Resource Recovery Guide and the recycling voucher program on the same platforms.

Assessment:

- Number of materials distributed annually reported by ADW for collaborative efforts and reported by permittees for permittee efforts
- Number of views on ADW website and social media reported by ADW.

Responsible Parties: Resource Recovery Guide is produced by Wayne County. Events and informational materials are promoted by Wayne County, ADW, and permittees.

Topics Addressed: G

V. EXISTING AND PROPOSED INDIVIDUAL PUBLIC EDUCATION BMPs

Activity 11: Host and run the Watershed Management and Information City Webpage

Delivery Mechanism:

City of Trenton will host and post informational materials for the public on the City's Storm Water Management webpage to promote pollution prevention, Storm Water Education and Watershed News. See <https://www.trentonmi.org/352/Storm-Drainage> for content.

Key Messages:

Topics/messages are likely to include a key message associated with A-I of the PEP topics that are suited for homeowners, such as general watershed stewardship; household hazardous waste disposal; proper lawn care; car washing; storm drain pollutants; pet waste; green stormwater infrastructure; and illegal dumping in storm drains.

Target Audience: Residents

Schedule and Frequency:

Annually

Measurable Goal:

The goal is to create public awareness of watershed issues and improve personal actions to prevent stormwater pollution among campaign participants.

Assessment:

- Number of views on website;

Responsible Parties:

City to coordinate and run the Webpage.

Topics Addressed: A-I

VI. OTHER INVOLVED ORGANIZATIONS

In implementing this Public Education Plan, the ADW and permittees may pursue cooperative partnerships, information, and resource sharing with several organizations, including but not limited to:

Organization	Program	Contact If Known
Alliance of Downriver Watersheds	Chairperson and Facilitation Team Leader	John Danci, Sumpter Township; Valerie Novaes, OHM
Huron-Clinton Metropark Authority, Pointe Mouillée State Game Area (Michigan Department of Natural Resources), Detroit River International Wildlife Refuge, Friends of the Detroit River, Detroit Riverkeeper, International Wildlife Refuge Alliance	Environmental education and interpretive programs	Jennifer Hollenbeck, HCMA; Zach Cooley, Pointe Mouillée State Game Area; Joann Van Aken, Executive Director, DRIWR; Robert Burns, Detroit Riverkeeper; McKenzi Waliczek, Stewardship Director and Kaylee Peterson, Community Outreach Coordinator Friends of the Detroit River; Nicole LaFleur, International Wildlife Refuge Alliance
Huron River Watershed Council	Water quality monitoring program, public education, facilitation of collaborative permittee activities	Ric Lawson; Andrea Paine; Pam Labadie; Maaie Wielenga; Kelly McCabe
Wayne County Department of Public Services, Water Quality Management Division	Workshops, Illicit Discharge & Dumping Response System, water quality monitoring; watershed signs and informational displays; Green Schools program	Sue Thompson
Wayne County Department of Public Services, Land Resource Management Division	Household hazardous waste collection sites, composting, waste disposal and recycling	John Demerjian
MSU Extension – Wayne County	Horticulture and natural resources, watershed management, and other educational programs	Mary Bohling, Great Lakes Fisheries Education and Management - Michigan Sea Grant; Lindsey Kerr, Consumer Horticulture Educator; Erica Clites, Extension Program Coordinator specializing in habitat restoration and coastal community development
Michigan Department of Environment Great Lakes and Energy and EGLE Classroom	Water Resources Division, Field Operations Section, MS4 Staff; EGLE Classroom, a resource for educators, families, and youth to access information and opportunities to learn about Michigan's environment and EGLE's work to protect it	MS4 Staff TBD; Eileen Boekestain, EGLE Classroom coordinator
Michigan Water Environment Association	Nonprofit organization of members whose careers involve the water environment – information, education, resources	Cheryl Vosburg, Executive Director
Southeast Michigan Council of Governments	Workshops, educational events, and public education materials, SEMCOG Partners for Clean Water, regional planning-transportation, land use, water resources, etc.	Katherine Grantham

VII. EVALUATION OF EFFECTIVENESS

Evaluation of the overall effectiveness of the PEP will consist of a combination of both the accumulated measures of the effectiveness of the PEP's individual activities and a measure of the effectiveness of the sum of all the activities once during a five-year permit cycle.

Evaluation of accumulated measures of the effectiveness of the PEP's individual activities success can be categorized in terms of output (i.e., effort or activity) that measures short-term goals and milestones. Examples of output measurements include tracking web site visits, or the number of literature pieces distributed to a target audience.

When practicable, measurements of outcome (i.e., results that indicate actual changes in awareness, attitudes, or behavior) will be incorporated into BMP activity evaluations. Such measures are expected to include public comment and feedback, level of participation in programs and activities, and tools that measure behavior change. When applicable, these measures will be reasonably coordinated with other communities and organizations and will be designed to supplement or provide a comparison to previous collaborative efforts to survey residents.

The results of efforts to evaluate effectiveness will provide a basis for evaluating PEP activities going forward and will identify opportunities to adjust PEP activity strategies and tactics to improve their impact in reaching and engaging watershed audiences.

VIII. PERIODIC PROGRESS REPORT

Permittees will provide documentation of PEP efforts, a summary of the evaluation of its effectiveness when appropriate, and any proposed revisions or amendments to the PEP program in the periodic stormwater reports to EGLE. Reporting on PEP efforts will reflect data gathered on a calendar year basis for progress reports submitted biennially in April.

**STORMWATER DISCHARGE PERMIT
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE
For the Alliance of Downriver Watersheds Member MS4s**

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Responsible Party	Goal	Assessment
A-I	1	Watershed community calendar and photo contest	Yes	Residents	A-I	Distributed print calendar and photo contest		At least once during a 5-year permit cycle	ADW and Permittees	Bring awareness of pollution and possible solutions and personal actions to prevent stormwater pollution among calendar recipients and photo contest participants.	Number of calendars distributed. Number of posts/views on ADW social media sites and on the ADW website. Number of photo contest participants.
A-I	2	Focused topic pollution prevention outreach campaigns	Yes	Residents	A-I	Distributed print or digital public awareness campaign focused on a single topic seeking commitment to a positive action from individuals		At least once during a 5-year permit cycle	ADW and Permittees	Create public awareness of watershed issues and improve personal actions to prevent stormwater pollution among campaign participants.	Number of posts/views on ADW social media sites and on the ADW website. Number of people reporting a commitment to positive actions.
A-I	3	Displays at community venues and outreach activities at events	No	Residents, visitors, community leaders	A-I	Pop-up display or educational posters at regional and community venues and events	1-5	1 per year for ADW. At least once during a 5-year permit cycle by permittees	ADW and Permittees	Bring awareness of watershed issues and personal actions to prevent stormwater pollution among residents, visitors and community leaders who engage with the ADW pop-up display and materials.	Name, date and location of event where the ADW hosted the pop-up display. Resulting newsletter signups or website traffic. Permittees will also individually report the location, date and name of meeting/event (if applicable) where they placed posters or hosted the pop-up display in their permittee locations, public venues, meetings/events.
A, B	4	Support schools with incentives for environmental education opportunities	No	Elementary, middle and high school students and teachers in the ADW	A, B	Incentives provided to schools to support participation in environmental education programming	1-5	Annually	ADW	Three schools in the ADW area each year during the permit cycle participate in environmental educational opportunities.	Schools with number of students participating in ADW supported education opportunities.
A primary, B-I secondary	5	Support and promote volunteer stream monitoring	Yes	Residents, teachers, students	A, B-I	Permittees promote HRWC chemistry and flow monitoring; and benthic macroinvertebrate monitoring as volunteer stewardship opportunities for residents	1-5	Annually	HRWC, ADW and Permittees	ADW residents participate in volunteer stream monitoring programs.	Compilation of all promotional efforts by the ADW. Number of people participating in events as recorded by HRWC. Resulting stewardship actions taken as reported by participants through event surveys if conducted by HRWC. Permittees will also report individual efforts to distribute promotional event materials.

**STORMWATER DISCHARGE PERMIT
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE
For the Alliance of Downriver Watersheds Member MS4s**

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Responsible Party	Goal	Assessment
A, B	6	Stream and river crossing road signs	Yes (to install and/or maintain)	Residents, visitors	A, B	Roadside signage	1-5	Ongoing throughout the permit cycle	ADW/local community officials/Permittees	Stream and river crossing watershed signs are placed throughout the ADW area.	Signage survey results, map inventory and recommendations. Number of new and replacement signs produced by the ADW. Permittees will report installation and maintenance activities
A-J	7	Participate in regional partnership activities	No	Stakeholders of partner organizations; residents	A-J	The ADW will attend regional partner meetings and report potential opportunities to ADW members and amplify activities through the ADW communication networks: email, social media, and the ADW website.	1-5	Annual	ADW	The ADW supports public education efforts by groups in the region that are working on watershed awareness and stormwater issues.	ADW provided list of meetings with date, location, meeting topic and participating groups and any resulting opportunities identified and reported to permittees. Description of activities shared and promoted on communication networks.
A-J	8	Promote water resource protection learning opportunities and programs	Yes	Residents, local govt officials and employees; construction contractors and developers	A-J	ADW and permittees will publicize and promote regional learning opportunities and programs using their communication networks	1-5	Ongoing throughout the permit cycle when dates are established and needs for promotion are identified	ADW and Permittees	Generate interest and participation in regional educational workshops and programs.	Learning opportunities promoted. Number of views on ADW website and social media reported by ADW.
B, C, J	9	Promote county-wide complaint tracking and response systems	Yes	Residents; visitors; commercial and industrial businesses; local govt officials and employees	B, C, J	Permittees will publicize and promote regional reporting lines with print and digital promotional information	1-5	Ongoing	ADW and Permittees	Audiences in the ADW use the hotline to report concerns.	Number of materials distributed annually with hotline number referenced reported by ADW for collaborative efforts and reported by permittees for permittee efforts. Number of views on ADW website and social media. If available, number of reports coming into the hotline reported by Wayne County.

**STORMWATER DISCHARGE PERMIT
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE
For the Alliance of Downriver Watersheds Member MS4s**

Prepared for ADW members by the Huron River Watershed Council
March 8, 2024

Public Education Topic	BMP Activity #	BMP Activity Description	Partner Collaboration	Target Audience	Key Message	Delivery Mechanism	Year	Frequency	Responsible Party	Goal	Assessment
C, E, G	10	Promote county household hazardous waste reduction program	Yes	Residents	C, E, G	Permittees will publicize and promote county collection events and proper disposal of household hazardous waste and recycling with print and digital promotional information	1-5	Annually	ADW and Permittees	Create resident awareness and use of proper household hazardous waste disposal options.	Number of materials distributed or posted annually by ADW. Number of views on ADW website and social media reported by ADW.

Permittees in the Alliance of Downriver Watersheds:

Allen Park

Belleville

Dearborn Heights

Ecorse

Flat Rock

Gibraltar

Grosse Ile Township

Inkster

Lincoln Park

Melvindale

Riverview

Rockwood

Romulus

Southgate

Sumpter Township

Taylor

Trenton

Van Buren Township

Wayne County

Westland

Woodhaven-Brownstown School District

Wyandotte

STORMWATER DISCHARGE PERMIT APPLICATION
COLLABORATIVE PUBLIC EDUCATION PLAN TABLE

Public Education Topic	Key Message
A. Promote public responsibility and stewardship in the applicant(s) watershed.	Watershed definition, location, purpose for protecting, ways to affect, also including recreational and economic benefits of local water resources.
B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.	Recognition of and how to locate. Lack of treatment and flow impacts to water quality and water body to which MS4 is connected.
C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.	What it is, promotion of reporting system and how to use, water quality impacts, identification of on-site sewage disposal and symptoms of failure, consequences to water quality.
D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.	Preferred cleaning materials and procedures.
E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.	Proper application and disposal.
F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.	Proper disposal.
G. Identify and promote 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.	Identification of household hazardous wastes and proper disposal.
H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.	Proper care and maintenance, recognition of failure, water quality impacts.
I. Educate the public on and promote the benefits of green infrastructure and low impact development.	Benefits of green infrastructure and low impact development and implementing landscaping for water quality in residential applications.
J. Identify and educate commercial, industrial and institutional entities likely to contribute pollutants to stormwater runoff.	Storage of chemicals to prevent exposure to stormwater runoff, proper disposal of grease and waste from food preparation, best practices for kitchen maintenance and recycling to prevent improper disposal.

**STORMWATER DISCHARGE
PERMIT APPLICATION
COLLABORATIVE
ILLICIT DISCHARGE ELIMINATION PLAN**



For the Alliance of Downriver Watersheds MS4s

Effective upon NPDES Permit issuance for a period of five (5) years.

Allen Park
Belleville
Dearborn Heights
Ecorse
Flat Rock
Gibraltar
Grosse Ile Township

Inkster
Lincoln Park
Melvindale
Riverview
Rockwood
Romulus
Southgate
Sumpter Township

Taylor
Trenton
Van Buren Township
Wayne County
Westland
Woodhaven-Brownstown
School District
Wyandotte

Table of Contents

I. INTRODUCTION	3
II. PRIORITY AREAS	3
Priority IDEP Work Areas	4
Routine IDEP Areas.....	5
III. COLLABORATIVE IDEP ACTIVITIES	5
IDEP# 1: IDEP Investigative & Progress Evaluation Monitoring.....	5
IDEP #2: Environmental Hotline and Coordinated Complaint Response	6
IDEP #3: Priority Area IDEP Advanced Investigations	7
IDEP #4: Staff Training.....	8
IDEP #5: Inspection of ADW Member Owned Facilities	9
IDEP #6: Visual Inspection during Routine Field Operations.....	10
IDEP #7: Point of Storm Water Discharge – Dry Weather Screening	11
IDEP #8: Mapping of Storm Water Outfalls to Waters of the State.....	12
IDEP #9: Volunteer Training.....	13
IDEP #10: Method to Evaluate IDEP Effectiveness.....	13
IV. CORRECTIVE ACTION NOTIFICATION	15
V. LEGAL AUTHORITY	16

ATTACHMENTS

- ATTACHMENT A: Complaint Track Form & Routine Field Work Log
- ATTACHMENT B: Advanced Investigation Procedure for Locating the Source of Suspicious Discharges
- ATTACHMENT C: ADW Member Facilities to be Dye-Tested
- ATTACHMENT D: Outfall Screening Procedure for Identifying Potential Illicit Discharges
- ATTACHMENT E: Corrective Action Notification Letter
- ATTACHMENT F: State and Federal Regulatory Mechanisms

I. INTRODUCTION

This Collaborative Illicit Discharge Elimination Plan (IDEP) presents **the watershed-wide priority action plan that is being pursued to effectively and efficiently identify and eliminate illicit discharges within the Alliance of Downriver Watersheds (ADW)**. This Plan consists of existing and planned activities and strategies, anticipated through the duration of the permit, that ADW members are individually and collectively implementing to identify and eliminate illicit discharges and reduce pathogen levels in Ecorse Creek, Combined Downriver, and Lower Huron River watersheds. This collaborative plan builds on the collective knowledge of the ADW members and implementation team. Specifically, the plan starts by evaluating efforts from the previous collaborative plan, the status and trends of surface waters in the ADW to identify new priorities, followed by investigation and remediation of problem areas. Such a strategy focuses resources on the most likely sources of pollution or illicit discharge, rather than on areas with low likelihoods of problems.

The Alliance of Downriver Watersheds (ADW) is a permanent watershed organization in southeast Michigan and formed under Public Act 517 of the Public Laws of 2004. The ADW formally established themselves in 2007, but members have been working together for many more years to manage the area's water resources. The ADW consists of 22 public agencies in the Ecorse Creek, Combined Downriver, and Lower Huron River Watersheds within Wayne County. The ADW is relatively urban in nature consisting of 203.3 square miles of land mass and more than 450,000 people (2010 census). Major watercourses within the ADW that flow into the Detroit River and Lake Erie include Ecorse Creek, Sexton Kilfoil Drain, Frank and Poet Drain, Blakely Drain, Brownstown Creek, Huron River, Silver Creek, and Woods Creek.

The consortium of agencies that make up the ADW meet on a regular basis and work together to cooperatively manage the rivers, lakes, and streams within the watershed. Examples of ADW efforts include long-term water quality monitoring, stormwater permit compliance and reporting to the State, submittal of grant applications for water quality improvements, public education, total maximum daily load (TMDL) activities, and illicit discharge identification and elimination. Collaborative IDEP efforts began in 2007 when the ADW budgeted \$101,094 for Wayne County Department of Public Services to provide staff training and to perform problem area identification across the watershed area over a two-year period. Since 2010, the ADW has budgeted over \$1M for collaborative IDEP activities. Over 150 ADW member staff have received IDEP training and Wayne County alone has performed IDEP advance investigation (specifically facility dye-testing) at over 300 commercial and municipal facilities throughout the ADW watersheds.

II. PRIORITY AREAS

There is evidence of elevated levels of *E.coli* throughout portions of the ADW. An *E.coli* TMDL allocation plan was developed for the Ecorse Creek watershed by the Department of Environment, Great Lakes and Energy (EGLE) in 2008. ADW member municipalities support a robust program to monitor surface waters for chemistry, biology and stream flow. Monitoring conducted by citizen volunteers, Huron River Watershed Council (HRWC), Wayne County, and EGLE staff have established baseline conditions, current status and trends over the last eleven years in the ADW. Analysis of the monitoring data has allowed the ADW Technical committee to prioritize IDEP work areas. The data used includes: EGLE Bacterial Source Tracking (BST) studies conducted in 2007 within the Ecorse Creek watershed; HRWC BST studies conducted in 2020; monitoring conducted by Wayne County across the ADW through the EGLE grant in 2007-2008; monitoring conducted by Wayne County in 2015 through a SAW grant; and, annual volunteer and staff monitoring funded by the ADW beginning in 2012 that continues through the

present. Priority areas may change during the course of the permit based on new data and/or elimination of certain areas based on investigation.

To identify priority IDEP work areas, the ADW Technical Committee uses the following process and criteria. At the end of each sampling season (usually in February or March), the committee evaluates the past year's surface water monitoring results. The monitoring includes a number of long-term sampling stations and 3-5 one-season investigative stations. Investigative stations are used to subdivide watersheds in an attempt to narrow in on potential pollutant sources. New or unusual results are flagged and discussed. The team evaluates the biological and chemical status at each monitoring site and summarizes results for subdrainages across the three watersheds. The direction and amplitude of trends are also evaluated. Drainages with the worst current conditions and trends are listed for prioritization according to the below criteria. Further evaluation of the worst conditions may be completed using bacterial source tracking to determine if the origin of bacteria is human or animal. Observations by the monitoring team and volunteer collectors about short-term conditions, climatic variables and other influences are also discussed. The criteria are regularly evaluated for revision.

The criteria used to identify them as a priority included:

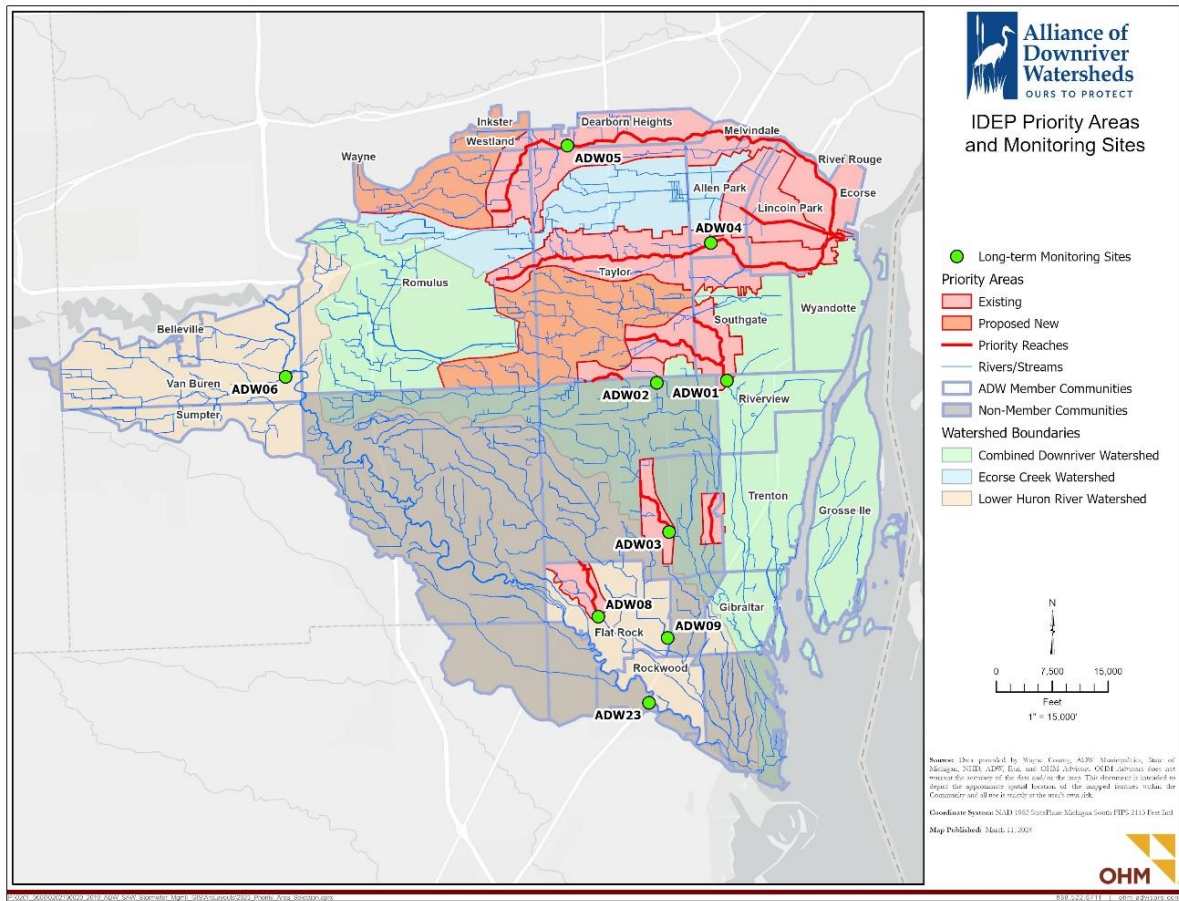
- Multiple events with *E. coli* concentrations in excess of 1,000 cfu/100 mL of water during dry weather
- Dry weather Human *E. coli* (based on watershed specific BST studies)
- Upstream of known CSO areas
- High mean *E. coli* concentrations from sampling
- Elevated mean total phosphorus levels from sampling
- Wayne County's 2007 IDEP Monitoring found 3 or more monitoring events with one or more elevated IDEP monitoring parameters
- Areas upstream of sites with unexplained, declining macroinvertebrate populations
- Areas in the most urbanized sections (e.g. downtown) of communities

Priority IDEP Work Areas

The eight stream segments identified by the ADW Technical Committee as Priority IDEP Work Areas (Figure 1) for the previous permit period are again included for priority IDEP work activities. Expansion of the priority areas for this permit cycle includes tributaries that feed into these main stream segments. Three of the 8 areas are within the Ecorse Creek watershed (*North Branch Ecorse Creek, LeBlanc Drain, S. Branch Ecorse Creek*); 4 areas are within the Combined Downriver watershed (*Blakely Drain, Frank & Poet Drain and Brownstown Creek*); and 1 of the 8 areas are within the Lower Huron River watershed (*Silver Creek*). The areas that drain to these eight stream segments constitute approximately 28% of the total ADW area. These areas are shown in Figure 1.

Within the Priority Areas, ADW members will implement all of the Collaborative IDEP Activities described below. The ADW will also dedicate the majority of their annual ADW IDEP budget, during the term of the permit, to perform IDEP Advanced Investigations (IDEP#2) and Inspection of ADW Member Facilities (IDEP#6) to aggressively identify and eliminate sources of human sewage and elevated bacteria in these Priority Areas.

Figure 1: IDEP Priority Work Areas and Monitoring Sites



Routine IDEP Areas

All other areas of the ADW are being classified as Routine IDEP Areas. Within these Routine Areas, ADW members will implement the Collaborative IDEP Activities as described below, with a small allocation of the annual ADW IDEP budget utilized to implement these activities. Collaborative IDEP activities in these routine areas will primarily focus on (IDEP #3: Staff Training) and (IDEP #10: Volunteer Training) to identify and report suspicious discharges including sanitary sewer discharges to storm sewers or surface waters. In addition, the Inspection of ADW Member Facilities (IDEP#6) will be performed in the Routine IDEP Areas that were not inspected in the previous permit cycle to identify and eliminate sources of human sewage and elevated bacteria.

III. COLLABORATIVE IDEP ACTIVITIES

IDEP# 1: IDEP Investigative & Progress Evaluation Monitoring

Funding: ADW

Activity Description:

Consistent with the ADW's 5-year monitoring strategy, the ADW will utilize HRWC, Wayne County, and volunteers to perform instream water quality monitoring to identify problem areas, prioritize advanced investigation activities, and track water quality data trends to assess IDEP progress. Eight (8) long-term sites have been established and will be monitored annually along with four (4) additional annual rotating

investigative sites to attempt to identify new problems and/or refine priority action areas and advance investigation activities (see Figure 1).

Schedule: Annually, April – September

ADW Member Responsibilities:

- ADW
 - Review and approve annual budgets and work plans to ensure resources are directed to the appropriate areas.
 - Conduct annual monitoring at 8 long-term sites and 4 investigative sites as outlined in the ADW monitoring plan (see TMDL Implementation Plan).

Measure of Assessment:

- Number/portion of sites sampled

BMP Goal:

- 100% of long-term and investigative sites sampled, as outlined in the ADW monitoring plan

IDEP #2: Environmental Hotline and Coordinated Complaint Response

Funding: Wayne County, ADW Members

Activity Description:

Wayne County operates an environmental hotline to field and respond to environmental complaints including illegal dumping and suspicious discharges. Local communities also receive pollution complaints directly from residents. Local communities will promote the use of the County hotline number by their residents (as discussed in the ADW Collaborative Public Education Plan) and assist with and/or perform follow up complaint response as appropriate. Community staff may also identify a potential pollution issue during their day-to-day activities. These issues will be handled just like a pollution complaint from a resident.

Investigative responses will range from a site visit that fails to confirm a problem to full scale advanced investigation to identify the source and eliminate the illicit discharge.

Schedule: Continuous

ADW Member Responsibilities:

- ADW
 - Maintain and annually distribute a log sheet that ADW member's field staff will use to document that illicit discharges were looked for during routine maintenance activities. See Attachment A.
 - Maintain and annually distribute a complaint response form to be utilized by ADW members. See Attachment A.
 - Maintain a list of community contacts and update annually via annual ADW membership General Facilitation survey.
- Communities and nested school districts
 - Provide the county with a contact person for addressing pollution complaints.
 - Track status of complaints handled internally or those referred to them.
 - Track and record follow up communication from resident complaints as appropriate.

- Investigate and resolve complaints within their MS4.
- Wayne County
 - Provide technical guidance as requested by local communities.
 - Track the status of any pollution complaints that they investigate.
 - Track and record follow up communication regarding complaints as appropriate.
 - Investigate and resolve complaints within their MS4.

Measures of Assessment:

- Number of complaints received, referred, and investigated
- Number of issues identified
- Number of issues resolved

BMP Goal:

- 100% of complaints addressed and plan for resolution identified

IDEP #3: Priority Area IDEP Advanced Investigations

Funding: ADW

Activity Description:

Using water quality data, system data/knowledge, and/or pollution complaints, the ADW Technical Committee will continue to prioritize areas for advanced investigations to identify and eliminate the source of illicit discharge/poor water quality. Priority areas may change during the course of the permit based on new data and/or elimination of certain areas based on investigation. The ADW facilitation team will lead investigation efforts in the priority areas, as identified in Section II of this plan, with assistance from Wayne County and the local member communities. Advanced investigations may include outfall/stream surveys, instream water quality investigative monitoring, manhole inspection or sampling, dye-testing, smoke testing, or televising. Procedures for these investigative methods can be found in Attachment B. When a potential IDEP issue is suspected outside the participating members/ jurisdictions, it will be referred to the appropriate jurisdiction for their follow-up. The referral will occur in writing and include the rationale for the referral.

Schedule: Years 1-5 of permit for IDEP Priority Work Areas

ADW Member Responsibilities:

- ADW
 - Review and approve annual budgets and work plans to ensure resources are directed to the appropriate areas.
 - Hold ADW Technical Committee discussions to review ongoing investigations. The Technical Committee will also provide its recommendations for priority areas to Members. Members will provide feedback on the appropriateness of the selected priority areas and can also nominate areas for priority investigations. Nominations will be taken once every 5 years or more frequently if deemed necessary by the Technical Committee. Nominations will be reviewed by the Technical Committee to determine if they should be included for priority investigation.
 - Facilitate between ADW facilitation team and MS4s on strategies to locate sources.

- Communities and Nested School Districts
 - Assist the ADW facilitation team in conducting advanced investigations to locate sources. This may include providing maps and staff, tracking suspicious discharges up their MS4s, and supplying staff/equipment/contractor as the situation requires (e.g. closed circuit televising equipment).
 - Work with property owners to eliminate identified sources and track correction measures.
 - Lead enforcement measures as appropriate.
- ADW Facilitation Team
 - Lead investigations in priority to identify illicit discharge sources.
 - Track investigation efforts and provide reports.

Measures of Assessment:

- Number of outfalls inspected/dry weather screened
- Length of streams surveyed
- Amount of instream water quality investigative monitoring performed
- Number of manhole inspections
- Amount of dye testing performed
- Amount of smoke testing performed
- Amount of televising performed
- Number of illicit connections/discharges found and resolved

BMP Goals:

- Follow the advanced investigation protocol for Priority Area and Routine Area IDEP Advanced Investigations (Attachment B).
- 100% of known illicit connections resolved or plan in place for resolution

IDEP #4: Staff Training

Funding: ADW

Activity Description:

There are several mechanisms available for IDEP training for various competencies as described below. Each permittee will have at least one person trained at the Investigator Level and 50% of field staff at the Alert Observer Level. Field staff is defined as those working at least 50% of their day out-of-the-office and includes Department of Public Works/Services staff and community building/plumbing inspectors. The Southeast Michigan Illicit Discharge Elimination Training Program (Module 1 - Alert Observer and Module 2 - Investigator) meets this requirement. Other training programs that cover the topics are allowable as well.

Investigator Level

The Southeast Michigan Illicit Discharge Investigator Training (a half day training workshop) where attendees are taught how to identify and investigate the sources of illicit discharges including failing septic systems, seepage from sanitary sewers, illegal dumping, and suspicious discharges from outfalls. A competency exam is also administered at the end of the workshop. Other training programs that cover the topics are allowable as well.

Alert Observer Level

Training at this level can consist of one of the following:

- The Southeast Michigan Alert Observer IDEP Training (a 30 minute to 1 hour workshop) which provides the goals of the IDEP program, how to recognize illicit discharges and conduct field screenings, and the mechanisms to report suspicious discharges.
- Previously recorded Alert Observer training is provided on the ADW website.
- Other training programs that cover the topics are allowable as well.

In addition, an IDEP Tip Card for Municipal Staff, which was developed by the Southeast Michigan IDEP Work Group, will be provided to field staff for both training programs. The Tip Card provides photographic examples of illicit discharges and phone numbers to report complaints. The tip card is provided on the ADW website.

Schedule: One person trained at the Investigator Level in Year 1 of the permit cycle
50% of field staff will be trained at the Alert Observer Level by Year 3 of the permit cycle

ADW Member Responsibilities:

- ADW
 - Provide recorded training videos on ADW website.
 - Provide Tip Card on ADW website.
- Communities, Wayne County
 - Provide IDEP training to field staff.
 - Provide field staff the IDEP Tip Card for Municipal Staff in conjunction with the training sessions.
 - Document and track staff training.

Measures of Assessment:

- Number of staff trained

BMP Goals:

- 1 person per MS4 trained at Investigator Level
- 50% of field staff trained at the Alert Observer Level

IDEP #5: Inspection of ADW Member Owned Facilities

Funding: ADW

Activity Description:

Dye-testing will be conducted on ADW member-owned or operated facilities by the ADW facilitation team, with support from Wayne County, for the purpose of identifying any illicit connections or illicit discharges. Additional support may be requested by ADW member communities to complete dye testing of properties that are suspected of an illicit discharge (identified through advanced IDEP investigations). Any identified issues will be corrected by owner. Many of the ADW member-owned facilities have already been dye-tested. A list of facilities that have not yet been dye-tested is included as Attachment C. Any changes to this list during the course of the permit will be submitted to the EGLE.

Schedule: Remaining ADW member-owned facilities in routine IDEP Areas – permit cycle
Additional facility dye testing - as requested by member communities

ADW Member Responsibilities:

- ADW
 - Provide funding for facility dye-testing.
- ADW Facilitation Team with Wayne County support
 - Provide staff to conduct facility inspections.
- Communities and School Districts:
 - Provide the ADW a list of facilities needing to be dye tested.
 - Provide access to facilities and plans, if available, and storm/ sanitary sewer maps for the immediate area.
 - Repair/correct illicit connections/discharges that were revealed during the site inspection. If the discharge is significant, take immediate steps to stop the illicit discharge.

Measures of Assessment:

- Number of facilities dye tested
- Number of issues identified
- Number of issues resolved

BMP Goals:

- Remaining 50% of ADW member-owned facilities dye tested in routine areas
- Number of additional facilities dye-tested, as requested by communities
- 100% of issues addressed, or a plan in place to address

IDEP #6: Visual Inspection during Routine Field Operations

Funding: ADW, Wayne County, and Communities

Activity Description:

Consistent with IDEP#4 & IDEP#9, field staff involved in various work programs have been trained to identify and report suspicious discharges during routine field operations. Routine field operations may include:

- Catch basin cleaning/repairs
- Mosquito treatment of catch basins for West Nile Virus
- Street and parking lot sweeping
- Re-ditching and open ditch maintenance, and
- Sanitary sewer maintenance (cleaning, CCTV, lining)

In order to aid in this activity, the ADW will annually distribute a consistent procedure and forms for ADW members to appropriately document their response to potential illicit discharge complaints and corrective actions taken to eliminate illicit discharges. A log form will also be distributed that ADW member's field staff will use to document that illicit discharges were looked for during routine maintenance activities (form to include Wayne County hotline number).

Community field staff will be reminded to be alert for illicit or suspicious discharges, especially those in Priority Areas. This reminder will include key points in identifying and reporting suspected illicit discharges.

Schedule: Routine Maintenance Field Work - Continuous
Training – see IDEP #4 and IDEP #9
Distribute consistent template for IDEP procedures and recommended responses for use by field staff - annually
Distribute checklist for ADW field staff to document that illicit discharges were looked for during routine maintenance activities - annually
Reminder to Priority Area Members– two times per year

ADW Member Responsibilities:

- ADW
 - Distribute a consistent procedure and forms for ADW members to appropriately document their response to potential illicit discharge complaints and corrective actions taken to eliminate illicit discharges. See Attachment A.
 - Distribute a log sheet that ADW member’s field staff will use to document that illicit discharges were looked for during routine maintenance activities (log to include Wayne County hotline number). See Attachment A.

- Communities, Wayne County and nested school districts
 - Train appropriate field staff to identify signs of illicit discharges and respond accordingly.
 - Require field staff to use the ADW’s illicit discharge checklist to document that illicit discharges were looked for during routine MS4 maintenance activities.
 - Require field staff to utilize the ADW procedure and forms for documenting responses to potential illicit discharge complaints/reports and corrective actions taken to eliminate illicit discharges.
 - For Priority IDEP Work Areas, notify field staff that there is an *E. coli* issue and instruct them to be especially observant and report any suspicious areas to ADW or county staff.

Measures of Assessment:

- Number of IDEP issues referred and investigations completed
- Number of illicit connections/discharges found and resolved

BMP Goals:

- Track all known illicit connections/discharges
- 100% of known illicit connections/discharges resolved, or plan in place to resolve

IDEP #7: Point of Storm Water Discharge – Dry Weather Screening

Funding: Communities and nested school districts

Activity Description:

Dry weather screening of points of stormwater discharge will occur in Priority IDEP Work Areas when identified as the appropriate IDEP advanced investigation technique. Additional dry weather screening will occur in a small portion of the Routine IDEP work areas. Dry weather screening may also occur in response to suspicious discharge complaints. Any new outfalls identified by permittees will also be screened once. A procedure for performing outfall screening was developed for use by the ADW members as part of the development of this Collaborative IDEP.

Schedule: Years 1-5 of permit for Priority IDEP Work Areas, as part of Priority Area IDEP Advanced Investigations
Years 1-5 of permit for 10% of non-IDEP priority work areas with known MS4 outfalls
As needed based on complaints

ADW Member Responsibilities:

- ADW
 - Annually distribute a consistent procedure and forms for ADW members to appropriately document dry weather screening activities (Attachment D).
 - Maintain a list of community contacts and update annually.
 - Review of reported issues at quarterly ADW Technical Committee meetings.
- Communities and nested school districts
 - Document dry weather screening inspections.
 - Track status of complaints handled internally or those referred to them.
 - Track and record follow up communication from resident complaints as appropriate.
 - Investigate and resolve complaints within their MS4.
 - Require field staff to utilize the ADW procedure and forms for documenting responses to potential illicit discharge complaints/reports and corrective actions taken to eliminate illicit discharges.
 - Perform dry weather screening of new outfalls within 6 months of construction or taking ownership.
- ADW Facilitation Team (with support from Wayne County)
 - Provide technical guidance as requested by local communities.
 - Track the status of any pollution complaints that they investigate.
 - Track and record follow up communication regarding complaints as appropriate.
 - Lead dry weather screening and investigations in priority and routine IDEP areas using ARC/ADW dry weather screening procedures.

Measures of Assessment:

- Number of inspections
- Number of illicit discharges found/corrected

BMP Goals:

- 100% of known illicit connections/discharges resolved, or plan in place to resolve

IDEP #8: Mapping of Storm Water Outfalls to Waters of the State

Funding: ADW with Wayne County providing GIS data management

Activity Description:

A watershed-wide GIS database and map of known outfalls to waters of the State was compiled as part of the previous collaborative IDEP plan. Efforts for this task will be focused on maintaining and updating the known outfall GIS database.

Schedule: Annual survey and map/database update

ADW Member Responsibilities:

- ADW/ADW Facilitation Team
 - Update the watershed's outfall/discharge point map on an annual basis.

- Communities and ADW Facilitation Team
 - Provide existing GIS datasets of storm sewer systems and points of discharge to continually update the centralized dataset of known stormwater outfalls, discharge points and MS4 system assets.
 - Update maps of outfalls/discharge points on an annual basis and provide to the ADW.

Measures of assessment:

- Portion of watershed area with known outfalls mapped in GIS

BMP Goal:

- 100% of available data from ADW members incorporated into centralized dataset and updated annually

IDEP #9: Volunteer Training

Funding: ADW via Public Education and Progress Evaluation budgets

Activity Description:

Participants in the various volunteer monitoring activities being implemented in the ADW have been and will be instructed and given informational materials as part of their training on how to identify and report illegal dumping and suspicious discharges. This will be carried out by Wayne County and/or HRWC staff during training for the various volunteer monitoring programs.

Schedule: Annually as volunteer monitoring training occurs.

ADW Member Responsibilities:

- ADW
 - Financially support volunteer monitoring activities.
 - Provide annual volunteer training.
- Communities, Wayne County and nested school districts
 - Promote citizen involvement in Volunteer monitoring efforts at which volunteers will receive training on the identification and reporting of suspicious discharges.

Measures of Assessment:

- Number of volunteers trained

BMP Goal:

- Training held annually during each year of the permit cycle

IDEP #10: Method to Evaluate IDEP Effectiveness

Funding: ADW, Wayne County, communities, nested school districts

Activity Description:

Records for each of the above IDEP activities will be kept and a biennial summary report submitted documenting the output of each activity and the summary number of illicit discharges identified and eliminated. Overall effectiveness will be based on the long-term natural resource response as determined through the progress evaluation monitoring described below (see Progress Evaluation Monitoring below).

Schedule: Continuous with summary report submitted biennially.

ADW Member Responsibilities:

- ADW
 - Conduct instream monitoring for select indicators to determine the effectiveness of IDEP efforts. The monitoring information will be evaluated and assessed during future priority area discussions.
 - Continue watershed-wide monitoring for select parameters to assess the general health of the river.
- Communities, Wayne County and nested school districts
 - Keep records of their activities with respect to the above IDEP activities and provide such information to ADW staff annually to assist with the collaborative reporting and IDEP effectiveness evaluation.

IV. CORRECTIVE ACTION NOTIFICATION

The procedure for responding to illicit discharges will vary depending on the nature of the discharge (ex: illicit connection to a storm sewer, failing septic system, illegal dumping, etc.) and jurisdiction of the discharge. Similarly, the timeline for eliminating a discharge will vary depending on the geographic extent of the issue, the complexity of the corrective action, responsible party's financial constraints, etc. Deviations to the procedures below may be made on a case-by-case basis and will be documented in the Permit Progress Report. In all cases, corrective action measures will be implemented to the maximum extent practicable and as soon as practicable. The status of corrective actions will be included in the Permit Progress Report to EGLE.

Discharges from Private Sources to MS4s

If the source of an illicit discharge has been determined to be privately owned, discharging to an MS4, and regulated by the MS4, the MS4 owner (city, village, county) will use the procedure below to notify and correct the illicit discharge.

It should be noted that discharges to drains within townships are typically under the jurisdiction of the county road agency, who is ultimately responsible for elimination. However, corrective action and enforcement for discharges to their MS4 is handled under the local jurisdiction's codes and ordinances, the county health department's sanitary code or other appropriate regulatory authority. In these situations, corrective action notification and enforcement will be led by the township, who will coordinate with the health department or other agencies, as needed.

First Notice: Notification of Problem and Correction Needed Once the source(s) of an illicit discharge has been identified, the MS4 owner will provide the first written notice to the responsible party of the illicit discharge by registered mail within 7 days. The first written notice will notify the responsible party of the illicit discharge, the MS4 owner's regulatory authority to require correction, and the potential enforcement actions if the discharge is not addressed. The responsible party will be required to contact the MS4 owner regarding plans for correction within 14 days. Tracking of all notifications and documentation of registered mail receipts shall be retained by the MS4 owner. A sample letter is included in Attachment E.

Final Notice: If 14 days have passed from the date of the 1st written notice and no response has been received from the responsible party, a second written notice will be sent. The second written notice will remind the responsible party of the illicit discharge, the prior notice, the regulatory authority to require correction, and the potential enforcement actions that will occur if the discharge is not addressed. The responsible party will be given an additional 14 days to contact the MS4 owner regarding plans for correction.

Enforcement: If 30 days have passed from the date of the first written notice, a citation will be issued. The MS4 owner will issue civil infractions as described in the Enforcement Response Procedure (ERP) for the violation of the applicable IDEP-related ordinances as listed in individual permittee stormwater management plans. A citation shall include fines and may require a court appearance.

Corrections/Repairs:

In the event that the owner does not contact the MS4 owner within 14 days of the Final Notice and/or the discharge is not addressed by the owner 30 days after civil infractions have been issued, the MS4 owner will pursue other enforcement actions such as: discontinue water service to the property and designate the property uninhabitable, place a lien on the property, and initiate efforts to complete the necessary repairs, as authorized by law.

Discharges from Public Properties to MS4s

If the discharge is emanating from a public property (other than the permittee’s property), the MS4 owner will request correction or a written corrective action plan be submitted within 60 days of notification. If the discharge cannot be corrected within 60 days of notification, interim measures shall be implemented, as practical, to reduce the impact of the discharge on the receiving water. The corrective action plan will include a schedule for completion with a goal of completion within 18 months of plan approval. The plan will be reviewed by the MS4 owner within 60 days and approved or denied with explanation. Approval of the plan will not waive any local permitting requirements of the community.

Discharges from Permittee’s Properties

For discharges emanating from the permittee’s own property, a corrective action plan will be developed within 60 days of discovery of the discharge. The plan will include a schedule for completion with a goal of completion within 18 months of plan completion. If the discharge cannot be corrected within 60 days of discovery, interim measures shall be implemented, as practical, to reduce the impact of the discharge on the receiving water.

Discharges from Septic Systems

For illicit discharges from failed septic systems, the corrective action procedures of the Wayne County Health Department will be followed. This procedure is documented in the County’s stormwater management plan.

V. LEGAL AUTHORITY

The legal authority that allows permittees to prohibit, investigate and/or enforce the correction of illicit discharges is established on an individual permittee basis. For most communities, legal authority is granted via the Plumbing Code, Sewer Use Ordinance, Nuisances Ordinance, and Municipal Civil Infraction Ordinance as indicated in the table below. Permittees will review their existing codes/ordinances/rules and provide a table that cross references the regulatory mechanism (chapter and section) with the items included in the table below. Table 1 provides the list of regulatory mechanisms by type of illicit discharge that are available to local, school and county agencies to investigate and eliminate illicit discharges. In some cases, permittees can seek the assistance of state and federal agencies to investigate and eliminate illicit discharges. Examples include sewage discharges from mobile home parks, discharges from non-municipal facilities that have a NPDES permit and agricultural properties as shown in Table 2.

Table 1. IDEP Regulatory Mechanisms Available to Permittees

Discharge Type or Source	Lead Enforcement Agency	Regulatory Authority
Discharges to city and village MS4s (except as noted below)	Local DPWs and Building Depts.	Varies by community. See individual stormwater management plans.
Discharges to school or township MS4s	School or Township	See individual stormwater management plans
Sanitary sewage and waste matter into County Drains	County Drain or Water Resource Commissions	<p>Section 280.423 of the Michigan Drain Code of 1956, as amended. Under the Michigan Drain Code, pollution of a county drain is a criminal misdemeanor and punishable by a fine of \$25,000 or imprisonment.</p> <p>See Items 1-10 of Chapter 18, Section 280.423 of the Michigan Drain Code at: http://legislature.mi.gov/doc.aspx?mcl280-423</p> <p>See also Section 280.421: Obstructions; removal; expenses, notice; livestock; criminal complaint of Chapter 18 of the Drain Code at: http://www.legislature.mi.gov/%28S%28fpcedzixcmfe3wvtvqmyto3x%29%29/mileg.aspx?page=getObject&objectName=mcl-280-421</p>
Discharges to County Road Drains	Road Agencies	Public Highways and Private Roads Act 283, 1909 Sect. 224.19b
Soil Erosion from Construction Sites	Part 91 Authority	Part 91, Soil Erosion and Sedimentation Control (SESC), of NREPA, Public Act 451 of 1994
Discharges from Onsite Sewage Disposal Systems (OSDS)	Wayne County Dept. of Health	<p>http://www.waynecounty.com/hhs/onsitesewage.htm</p> <p><i>Specifications Governing On-Site Disposal of Sanitary Sewage and Human Excreta as follows:</i></p> <ul style="list-style-type: none"> -Prohibit discharges: Article III, Sec. 3.13.2 -Right to inspect: Article IV, Sec. 4.3 -Corrective action: Article IV, Sec. 4.5-4.7 -Penalties: Article XVI, Sec. 16.1 <p><i>Wayne County On-Site Sewage Disposal Operation and Maintenance Ordinance as follows:</i></p> <ul style="list-style-type: none"> -Right to inspect: Sec. 803 -Corrective action: Sec. 802 -Penalties: Sec. 804-815

Source: Modified from a table included in the Alliance of Rouge Communities Collaborative IDEP

Table 2 – IDEP Regulatory Mechanisms Available to State and Federal Agencies to Assist Permittees

Discharge Type or Source	State or Federal Enforcement Agency	Regulatory Authority
Discharges from Mobile Home Parks	MDLEG	Mobile Home Commission Act Public Act 96 of 1987 http://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-96of-1987.pdf
Discharges from Part 5 facilities and industrial NPDES regulated facilities	EGLE-WRD	Part 31, NREPA, PA 451 of 1994
Discharges from agricultural properties and livestock facilities	MDARD	Michigan Right to Farm Act, Public Act 93 of 1981
Releases of Oil and Polluting Materials, Sewage, Flammable and Combustible Liquids, Hazardous Materials, Hazardous Substances, Infectious Substances, Hazardous Wastes, Leaking Above Ground and Underground Storage Tanks, Bulk Commercial Fertilizers and Pesticides, and Liquid Industrial Wastes	EGLE - WRD & RRD, USEPA, USCG, NRCS, USDOT, MSP, Local Police & Fire Depts., LEPC, LARA, MDARD, Local Health Dept., and CDC	See Attachment F for appropriate regulatory authority

Notes: CDC = Center for Disease Control, LARA= Michigan Dept. of Licensing and Regulatory Affairs, LEPC=Local Emergency Planning Commission, MDA=Michigan Dept. of Agriculture & Rural Development, EGLE WRD=Michigan Dept. of Environment, Great Lakes and Energy Water Resources Division, EGLE RRD= EGLE Remediation and Redevelopment Division, MDLEG=Michigan Dept. of Labor and Economic Growth, MSP=Michigan State Police, NRCS=Natural Resources Conservation Service, USCG=US Coast Guard, USDOT=US Dept. of Transportation, USEPA=US Environmental Protection Agency.

Source: Oakland County Water Resources Commissioner’s Office

**STORMWATER DISCHARGE
PERMIT APPLICATION**



**Complaint Tracking Form &
Routine Field Work Log**

For the Alliance of Downriver Watersheds MS4s

Pollution Complaint Tracking Form Illicit Discharge Elimination Program

Community Name: _____

Complaint made by: _____ Phone #: _____

Date: _____ Time: _____

Location of Problem: _____

Offending Party (if known) _____

Nature of Problem (i.e. paper waste, odor, color, etc.):

Is this an Emergency? No Yes (then call 911)

Nature of Emergency: _____

Initial contact made to: 911 City Dept _____

Wayne County 888-223-2363 PEAS Hotline (State) 800-292-4706

Other _____

Pollution Complaint Tracking Form Illicit Discharge Elimination Program

Investigation Summary Initial Investigation Follow-up Investigation

Date of Investigation: _____ Investigating Agency: _____

Crew Members _____

Location of Discharge: _____

Investigation Location: _____

Observations (odor, color, volume, etc.): _____

Actions Taken (dye testing, notification letter, etc.): _____

Were photos taken? No Yes

Agency Referred to: _____ Agency Contact: _____

Method of Communication: E-mail* Letter/memo* Phone *Attached copies

Content of Communication: _____

Date Corrected or Resolved: _____

Routine Fieldwork Log – Illicit Discharge Elimination Program
Wayne County 24 hr Environmental Hotline 1-888-223-2363

Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		
Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		
Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		
Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		
Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		
Date:	Crew:	Suspicious Discharge Observed? <input type="checkbox"/> No <input type="checkbox"/> Yes*
Location of Field Work:		

* If "Yes" is checked, the Pollution Complaint Tracking Form must be completed

**STORMWATER DISCHARGE
PERMIT APPLICATION**



**Advanced Investigation Procedure for Locating the
Source of Suspicious Discharges**

For the Alliance of Downriver Watersheds MS4s

Attachment B

I. Purpose

The purpose of this procedure is to describe the protocols to conduct advanced investigations in storm sewer systems to identify the source of a suspicious discharge. These investigations would be performed based on the priority area designation, results of field screening procedures or based on a pollution complaint. The Michigan Department of Environmental Quality (MDEQ) requires this procedure for stormwater discharges from municipal separate storm sewer systems (MS4) as part of an entity's National Pollutant Discharge Elimination System (NPDES) permit application.

II. Performing Source Investigations

The investigation parameters will be selected based on the nature of the complaint or initial field screening results according to the parameters and threshold values indicated in the Field Screening Procedure for Identifying Potential Illicit Discharges Standard Operating Procedure. If working within a river/stream/open drain, then samples or observations will be taken at the origin of the suspicious discharge and at upstream locations. This will continue until the source is found or an enclosed storm sewer is located.

Determining Ownership

For complaint-based investigations, the owner/operator of the enclosed storm sewer will be determined. If it is suspected that a discharge originates from another jurisdiction, the other jurisdiction will be notified in writing of the suspicious discharge and any pertinent information about the discharge. This will occur within 10 working days of the discovery of the discharge from the other jurisdiction.

For investigations based on outfall screening results, the ownership step is not required because it is assumed that outfall screening was completed by the owner/operator.

For investigations based on instream sampling results and the owner/operator is participating in the ADW Collaborative IDEP Plan, the owner/operator will be notified of the suspicious discharge and storm and sanitary sewer maps will be obtained. Investigations will continue with the assistance of the owner/operator. If the owner/operator is not participating in the ADW Collaborative IDEP Plan, then they will be notified in writing of the suspicious discharge and any pertinent information about the discharge. This will occur within a timeframe ranging from immediately/within 24 hours (for sources posing an imminent threat) or for non-emergency issues up to 5 working days of the discovery of the discharge from the other jurisdiction.

Source Investigations

Enclosed drain investigations will proceed, following discovery of a suspicious discharge. The site of the discharge will be resampled during dry conditions for the appropriate indicator parameter. The sample parameters will be the same as those used during the initial field screening. If no flow is present, a second site visit will be conducted within 4 weeks of discovery, weather permitting. If no flow is present during the second site, a third site visit will be conducted within 2 months of the date of the second visit, weather permitting.

Additional sampling/observations will be conducted upstream within the drainage system to narrow down the section of pipe from which the suspicious discharge is emanating. Sampling will be conducted as outlined in the Field Screening Procedure for Identifying Potential Illicit Discharges SOP.

Attachment B

Ideally, the sampling data or observations will allow staff to isolate a section of storm sewer to employ advanced investigation techniques. These techniques include televising the storm sewer, smoke testing, and conducting dye testing of homes, facilities, or sewers to verify a suspected illicit connection or discharge. The lead investigator will determine which of these techniques (or other technique) will be employed.

III. Closed Circuit Televising (CCTV)

CCTV inspections may be performed to determine if illicit connections are present in a storm drain. This allows for inspectors to identify suspicious taps to the drain. This work will be performed by a qualified staff or contractor. If possible, a video recording of the inspection will be performed. If possible, the lead investigator will be present during the CCTV inspection in order to direct additional efforts.

IV. Smoke Testing

Smoke testing may be performed to determine if a residence or facility is illicitly connected to the storm drain. This work will be performed by a qualified staff or contractor. This testing requires homeowner notification to ensure all plumbing traps are filled with water and to make them aware of the potential intrusion of smoke into their homes. The local fire department should also be notified prior to testing. Non-toxic smoke is used. The drain may be plugged at various locations to ensure the testing is limited to the area of interest. Smoke found exiting a building plumbing vent indicates that the home is illicitly connected to the storm sewer. Care must be taken to perform this testing during the appropriate weather conditions in order not to mistaken steam from a heating system or fog as smoke. This testing may also identify improper connections between the storm and sanitary system.

V. Dye Testing

Dye testing may be performed on plumbing fixtures (i.e. sinks, toilets, floor drains, etc.) within facilities/structures that are suspected of illicitly discharging non-stormwater flows into the MS4 to determine if they are properly connected to the appropriate sewer. Prior to administering a tracer dye, the lead investigator will submit a Notice of Intent to the MDEQ under General Rule 97 Certification of Approval Authorizing Tracer Dyes in Surface Waters. In addition, the following agencies shall be notified 48 hours prior to the application:

- Local Municipality
- Local Health Department
- Downstream Municipalities and Health Departments potentially affected
- Local Fire Department

Once approved, tracer dye will be applied to the appropriate plumbing fixture(s) per the manufacturer's recommendations and in a manner that will minimize potential effects to surface water. The following information will be documented when conducting a dye test:

- Facility or Building Name
- Date
- Location where dye is applied (i.e. second floor men's restroom)
- Time the dye is applied
- Time dye is observed in the field

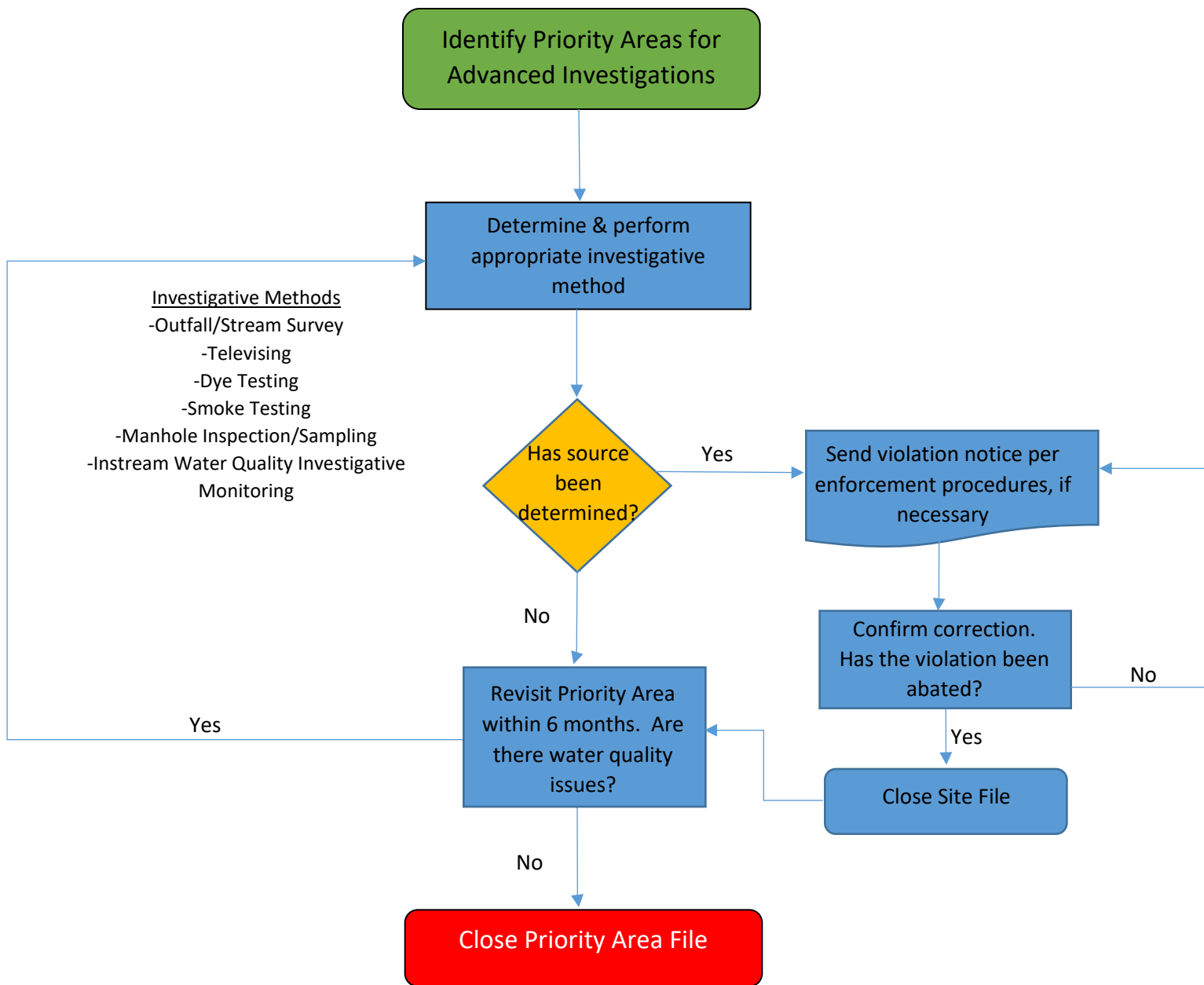
Attachment B

- Location where dye is observed (i.e. sanitary manhole, northeast of building)
- Time of Travel
- Follow up action, if needed

Sample dye test forms are included with this Attachment.

VI. Process for Revision

Any questions on this procedure should be directed to the entity's Stormwater Manager or the ADW Technical Committee. This procedure shall be reviewed once per permit cycle by the ADW Technical Committee for any updates.





Alliance of Downriver Watersheds

*Dye Testing Form adapted from
Wayne County Department of Public Services (Environment)
Water Quality Management Division*

Facility Information Sheet

Field Inspection Survey WMD Complaint, # _____

Date: _____

Address: _____ Community: _____

Name of Facility: _____

Type of Business: _____

Contact Person: _____ Phone Number: _____

Title: _____

SIC Code: _____ Priority: _____

Watershed: _____ Subwatershed: _____ Subarea: _____

Field Representative(s): _____

River Friendly Partners Program Information Requested: _____



Alliance of Downriver Watersheds

*Dye Testing Form adapted from
Wayne County Department of Public Services (Environment)
Water Quality Management Division*

Field Inspection Results

Date: _____

Address: _____ Community: _____

Name of Facility: _____

- Proper Connection - The Fixtures “dye tested” in this establishment have been found to be properly connected to the sanitary sewer system. No problems were noticed at time of inspection.

- Incomplete: _____
reason

- No Show - Unsuccessful attempt, unable to detect “dye” in the sanitary sewer.

- Violation/Illicit Connection/Improper discharge - Situation resulting in pollution of surface waters.
 - Illicit Connection
 - Improper Discharge
 - House Keeping

LIST ALL FIXTURES DYE TESTED:

**STORMWATER DISCHARGE
PERMIT APPLICATION**



**ADW Member Facilities
To be Dye-Tested**

For the Alliance of Downriver Watersheds MS4s

Community	Facilities
Allen Park	Fire Station
	DPS Building
Belleville	Belleville Fire Department
	Public Golf Courses
Dearborn Heights	No facilities left to test
Ecorse	No facilities in ADW to test
Flat Rock	Library
Gibraltar	Community Center - Annex
	School District Transportation & Maintenance Garage with salt storage
	DPW Building
	Carlson High School/Shumate Middle School
	Parsons Elementary School
Grosse Ile	Animal Shelter
	Water's Edge Municipal Golf Course
	Grosse Ile Township Schools
	Grosse Ile High School
	Grosse Ile Middle School
	Meridian Elementary School
	Parke Lane Elementary School
Inkster	No facilities in ADW to test
Lincoln Park	No facilities in ADW to test
Melvindale	Melvindale Library: 18650 Allen Rd (City reports already dye tested - confirm)
Riverview	Riverview Highland Golf Course Maintenance
	Forest Elementary School
	Huntington Elementary
	Memorial Elementary
	Riverview High School
	Riverview Schools Operations Building
	Riverview Schools Warehouse
	Seitz Middle School
	GSRP Preschool
Rockwood	Municipal Building (includes Fire & Police Stations)
	Public Works & Salt Storage
	Community Center
Romulus	Animal Shelter
	Romulus Athletic Center
	Romulus Community Schools
	Romulus Elementary School
	Barth Elementary School
	Romulus Senior High School
	Wick Elementary School
	Hale Creek Elementary School
	Romulus Middle School
	Romulus Virtual Learning Center
	Southgate
Southgate Municipal Golf Course	
Sumpter Twp	no facilities list
Taylor	Lakes of Taylor Golf Course
	Library
	Kinyon Elementary School
	Taylor School District
	Blair Moody Elementary School
	Taylor Parks Elementary School
	Robert J. West Middle School
	Clarence Randall Elem. School
	Bernice McDowell Elem. School
	Holland Elementary School
	Myers Elementary School
	Taylor Virtual Learning Academy
	Eureka Heights Elementary School
	Hoover Middle School
	Taylor High School
	Johnson Preschool
Taylor SportsPlex	
Van Buren	No facilities in ADW to test
Westland	No facilities in ADW to test
Woodhaven - Brownstown Schools	No facilities left to test
Wyandotte	Recreation Center/Yack Arena
	Police Station
	Wyandotte Animal Pound
	Fire Station #1
	Fire Station #2
	Public Schools Wilson Middle School
DPW Yard	

**STORMWATER DISCHARGE
PERMIT APPLICATION**



**Outfall Screening Procedure for
Identifying Potential Illicit Discharges**

For the Alliance of Downriver Watersheds MS4s

Attachment D

I. Purpose

The purpose of this procedure is to describe the protocols to inspect stormwater outfalls for the presence of illicit discharges. The Michigan Department of Environmental Quality (MDEQ) requires this procedure for stormwater discharges from municipal separate storm sewer systems (MS4) as part of an entity's National Pollutant Discharge Elimination System (NPDES) permit application.

II. Performing Field Observations at Outfalls

Outfalls will be assessed during dry weather conditions focusing on the criteria listed below. This assessment will be conducted following at least 48 hours with no precipitation.

1. Presence/absence of flow
2. Deposits/stains on the discharge structure or bank
3. Vegetation condition
4. Structural condition
5. Biology, such as bacterial sheens, algae, and slimes
6. Water clarity
7. Color
8. Odor
9. Floatable materials

A field form (provided at the end of this procedure) that documents the condition of the outfall and any discharge will be completed. In addition to the assessment of the field screening criteria, GPS positioning will be obtained for new or previously unscreened outfalls.

III. Performing Field Screening

Only individuals that have been trained to do so will perform field screening activities. Acceptable training includes the following elements: goals of the IDEP program, how to recognize illicit discharges and sampling techniques. Four months of IDEP field experience consisting of outfall screening and/or advanced investigations can be substituted for classroom training.

If the visual observations indicate a potential illicit discharge, flow is observed and the source of the flow is not immediately identifiable then sampling will be performed. Based on the suspected discharge or the pollutant of concern, some or all of the following parameters will be assessed:

1. pH will be sampled if an industrial discharge is suspected. A pH measurement will be obtained using calibrated portable field meter such as pH pen or multi-parameter probe.
2. Detergents will be sampled if flow is observed to have foam or suds or if a sanitary discharge is suspected. The sample will be field screened for surfactants using a colorimetric method such as CHEMets kit # K-9400 (www.chemetrics.com). The operating range of the test should be between 0 and 3 mg/L.
3. *E. coli* will be sampled if a sanitary discharge is suspected. These samples will be collected in a sterile 100 mL bottle, stored on ice, and transported to a laboratory for analysis. The analytical range should be between 10 and approximately 24,000 colonies/100 mL. Care should be taken not to disturb any accumulated sediment when collecting the *E. coli* sample.
4. Other parameters – Additional samples may be collected depending on the suspected source.

Attachment D

Disposable gloves will be worn to collect all samples. Gloves will be changed out between sampling sites. *E. coli* samples must be collected directly into the laboratory container, while sample collection cups may be used for pH and surfactants. Decontamination procedures for reusable sample collection containers consists of a triple rinsed with site water prior to taking a measurement.

E. coli samples shall be delivered to the laboratory with sufficient time for the samples to be analyzed within the method specific hold time. Confirmation of method specific hold times shall be obtained from the laboratory at the onset of sampling efforts. For *E. coli* analysis, the goal of the sampling team will be to deliver samples to the laboratory within 6 hours of collection where sample processing will occur within 2 hours for a total hold time of 8 hours. However, as these samples are intended to be used for screening purposes, a total hold time of 24 hours will be acceptable if it is not cost effective to meet the shorter hold time.

If sample result exceeds the threshold(s) provided in Table 1, additional investigations are recommended to locate the source of the suspicious discharge.

Field screenings will be conducted in conjunction with field observation procedures as described in Section II. Screenings may also be conducted on an as needed basis if suspicious discharges are discovered by field staff during day-to-day operations, or if a pollution complaint or referral is received from the public or other agencies.

Table 1 – Guidance for Screening Results

Typical Parameters	
Parameter	Follow-up Threshold
pH	>9 or <6.5
Surfactants	>0.75 mg/L
<i>E. coli</i>	>1,000 cfu/100 mL or MPN/100 mL resampled up to two more times within 12 months
	>5,000 cfu/100 mL or MPN/100 mL for advanced investigations
Physical signs	unusual odor, color, clarity, floatables, deposits, stains, vegetation change, outfall structural damage
Additional Parameters	
Parameter	Follow-up Threshold
Ammonia	>1 mg/L
Conductivity	>1,000 uS/cm
Turbidity	>5 NTU
TDS	>500 mg/L
Dissolved oxygen	< 5 mg/L
Temperature	+5°F warm water stream +2°F cold water stream

IV. Process for Revision

Any questions on this procedure should be directed to the entity’s Stormwater Manager. This procedure shall be reviewed once per permit cycle by the ADW Technical Committee.

Outfall ID:		Community:	
Section 1: BACKGROUND DATA			
Date:	Time:	Inspector:	
Weather: <input type="checkbox"/> 48 hrs no rain <input type="checkbox"/> Sunny <input type="checkbox"/> Cloudy <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Rainy <input type="checkbox"/> Winter Inspection			
Photos Taken:		Receiving Water:	
Nearest Property Address/Location Description:			
Land Use: <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Other _____			
Section 2: OUTLET DESCRIPTION			
Type/Shape/Size	Size (in) Width/Height or Diameter: Type/Shape <input type="checkbox"/> Round <input type="checkbox"/> Arch <input type="checkbox"/> Box <input type="checkbox"/> Other _____ Material: <input type="checkbox"/> RCP <input type="checkbox"/> PVC <input type="checkbox"/> CMP <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Submerged	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully In Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully		
Outfall Damage	<input type="checkbox"/> Yes <input type="checkbox"/> Spalling/ <input type="checkbox"/> Corrosion <input type="checkbox"/> Other _____ <input type="checkbox"/> No		
Deposits/Stains	<input type="checkbox"/> Yes <input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other _____ <input type="checkbox"/> No		
Turbid/Cloudy Plunge Pool Below Outlet	<input type="checkbox"/> Yes <input type="checkbox"/> Odors <input type="checkbox"/> Floatables <input type="checkbox"/> Color <input type="checkbox"/> Other _____ <input type="checkbox"/> No <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae		
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> No		
Section 3: PHYSICAL INDICATORS FOR OUTFALLS WITH WATER			
Odor of Water	<input type="checkbox"/> Sewage <input type="checkbox"/> Sulfide <input type="checkbox"/> Oil/Gas <input type="checkbox"/> Other _____ <input type="checkbox"/> None <input type="checkbox"/> Rancid/Sour		
Color of Water:	<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Dark Brown/ Tannic <input type="checkbox"/> Muddy <input type="checkbox"/> Other _____		
Floatables (not including trash)	<input type="checkbox"/> Paint <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Algae <input type="checkbox"/> Other _____ <input type="checkbox"/> None <input type="checkbox"/> Sewage <input type="checkbox"/> Suds/bubbles		
Trash/debris	<input type="checkbox"/> Glass <input type="checkbox"/> Yard Waste <input type="checkbox"/> Paper <input type="checkbox"/> Plastics <input type="checkbox"/> None <input type="checkbox"/> Mixed Mate: <input type="checkbox"/> Metal <input type="checkbox"/> Other _____		
Sample Obtained	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Section 4: PRIMARY SCREENING/SAMPLES COLLECTED			
Screening Parameters	Result	Possible Illicit Discharge?	Equipment
pH		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Temperature (F)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Conductivity (μ S/cm)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Ammonia (ppm)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Detergents (ppm)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Section 5: ILLICIT DISCHARGE POTENTIAL			
Do the screening results above indicate that an illicit discharge may be present?			
<input type="checkbox"/> Yes <input type="checkbox"/> No			
Section 6: NOTES			

**STORMWATER DISCHARGE
PERMIT APPLICATION**



**Corrective Action Notification
Sample Letter**

For the Alliance of Downriver Watersheds MS4s

Attachment E

NOTICE OF ILLEGAL DISCHARGE OR CONNECTION SAMPLE LETTER

<Person or Business Name>

<Address Line 1>

<Address Line 2>

Dear <Property Owner>:

The Michigan Department of Environmental Quality (MDEQ) Municipal Separate Storm Sewer System Permit requires the <CVT> to control the amount of pollutants entering the drainage system. This includes the detection and elimination of illegal discharges or connections to the system that may contain pollutants or are otherwise not allowed. Left uncorrected, any pollutants entering the system will ultimately impact nearby lakes or streams as storm drainage is not treated at any sort of treatment facility. Any discharge/connection without permission is illegal and requires immediate termination of the discharge.

An inspection of the drainage system has occurred in the vicinity of your property and an illegal connection/discharge was discovered entering into the <CVT> system. The discharge/connection was discovered on <date> at <business name and address>. <Description of indicators or source>.

This discharge directly pollutes the surface waters of the State of Michigan. This is a violation of the Federal Clean Water Act, PL 92-500, as amended, State of Michigan Natural Resources and Environmental Protect Act 451, Public Act of 1994, as amended, Part 31, and the Michigan Department of Environmental Quality NPDES Storm Water General Permit (MIG610000). Please contact me within 14 days to report plans for correction of the violation.

A follow-up investigation will be conducted to ensure compliance. If the illegal discharge/connection cannot be removed immediately, you do not understand this notice, or you disagree that an illegal discharge/connection exists at your property, please contact me with further details or explanation by calling <phone number> or via email at <email address>.

Sincerely,

<Name>

<Title>

**STORMWATER DISCHARGE
PERMIT APPLICATION**



State and Federal Regulatory Mechanisms

For the Alliance of Downriver Watersheds MS4s

SECTION ONE: Environmental Regulations

Release Notification Requirements in Michigan*

Act & Regulation	Reporting Criteria	Initial Notification	Written Follow-up Report	Notes
<p>325 A Definition of Navigable waters Oil and Hazardous Substances</p>	<p>Oil or hazardous substance in or on navigable waters or adjacent shorelines.</p> <p>Oil or hazardous substance in or on navigable waters or adjacent shorelines or in or on navigable waters or adjacent shorelines.</p> <p>Oil or hazardous substance in or on navigable waters or adjacent shorelines or in or on navigable waters or adjacent shorelines.</p>	<p>Notify the person in charge of the facility.</p> <p>Direct reporting to the appropriate reporting jurisdiction or MA designated.</p>	<p>Required.</p>	<p>MA or online www.nrc.uscg.mil</p> <p>MA or online www.nrc.uscg.mil</p> <p>MA or online www.nrc.uscg.mil</p>
<p>325 A Discharge of Oil</p>	<p>Oil or hazardous substance in or on navigable waters or adjacent shorelines or in or on navigable waters or adjacent shorelines.</p> <p>Oil or hazardous substance in or on navigable waters or adjacent shorelines or in or on navigable waters or adjacent shorelines.</p>	<p>Notify the person in charge of the facility.</p>	<p>Required.</p>	<p>MA or online www.nrc.uscg.mil</p> <p>MA or online www.nrc.uscg.mil</p>
<p>325 A Sewer Systems</p>	<p>Oil or hazardous substance in or on sewer system in or on the shore of the water.</p> <p>Oil or hazardous substance in or on sewer system in or on the shore of the water.</p>	<p>Notify the MA designated the appropriate person in charge of the facility.</p>	<p>Attend the appropriate person in charge of the facility.</p>	<p>MA or online www.nrc.uscg.mil</p> <p>MA or online www.nrc.uscg.mil</p>
<p>325 A Sewerage Systems</p>	<p>Oil or hazardous substance in or on sewerage systems in or on the shore of the water.</p> <p>Oil or hazardous substance in or on sewerage systems in or on the shore of the water.</p>	<p>Notify the MA designated the appropriate person in charge of the facility.</p>	<p>Attend the appropriate person in charge of the facility.</p>	<p>MA or online www.nrc.uscg.mil</p> <p>MA or online www.nrc.uscg.mil</p>

*Releases that are a THREAT TO HUMAN HEALTH or SAFETY or that require departmental action.

*Releases that are reportable under multiple regulations. Releases might be reportable under multiple regulations.

Additional reporting requirements include those in permits, contingency and pollution prevention plans and other applicable laws.



STANDARD OPERATING PROCEDURE CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF Trenton
2800 3rd Street, Trenton, MICHIGAN 48183



March 2024

APRIL 2017

SECTION A – PURPOSE

The EGLE NPDES Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum control measure requirements for the construction stormwater runoff control program to the maximum extent practicable. The City of Trenton administers a Part 91 program and is a designated municipal enforcement agency. The following standard operating procedure provides a description of the procedures the City employs for construction site runoff control that includes notification procedures and ensuring proper permits are obtained by those disturbing greater than one acre of soil.

SECTION B – NOTIFICATION PROCEDURE

Any construction project over one acre or within 500 feet of any waters of the state currently require a permit from the City of Trenton for Soil Erosion and Sedimentation Control (SESC) per the requirements of Part 91. All permits require a thorough SESC plan review, including all measures to be undertaken to protect the environment from soil erosion. The City of Trenton maintains a MEA and APA status with the State of Michigan under Part 91. This program has been approved by the EGLE.

Sites that do not require a Soil Erosion and Sedimentation Control permit will be reviewed to verify that the contractors and developers responsible for construction within a site shall maintain control of waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary wastes that may cause adverse impacts to water quality.

Construction sites which have soil erosion permits are inspected weekly and after every major rainfall event. All complaints regarding soil erosion issues are investigated by the Engineering Department within in 48 hours.

Should a construction activity result in a discharge of soil, sediment, or other pollutants into the City's MS4, the Engineering Department will take immediate action to correct the discharge as well as report the occurrence to EGLE within 24 hours of discovery of the discharge.

Construction activities that proceed in defiance of SESC laws will be halted and fully prosecuted. The City pledges to work with other agencies such as EGLE or Wayne County should other laws or ordinances be violated concurrently.

The landowner or recorded easement holder of the property where the construction activity will occur will be notified during the SESC permit application process per the State of Michigan Permit by Rule (Rule 323.2190).

SECTION C – MEASUREABLE GOALS

To demonstrate the effectiveness of the County's Part 91 program, the following metrics will be tracked for reporting purposes:

- Number of Part 91 related complaints received and by the City.
- Number of Part 91 permits issued by the City.

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION D – REPORTABLE DISCHARGES

The City will not report instances of *de minimis* soil discharges to EGLE. For instances where the discharge of sediment cannot be immediately contained on site, or if there are other pollutants that include pesticides, petroleum derivatives, construction chemicals, and solid waste associated with the discharge in quantities that are consistent with the spill response plan as defined in the collaborative IDEP, the City will notify EGLE through the Pollution Emergency Alert System (PEAS) at 1-800-292-4706.

SECTION E –STATE OF MICHIGAN PERMIT BY RULE

The City shall advise the landowner or recorded easement holder of the State of Michigan Permit by Rule (Rule 323.2190) for storm water discharge from construction activity if the area of the disturbance is greater than 5 acres. These criteria will be identified during the site plan review process and will be included in correspondence with the landowner as appropriate.

SECTION F – PROCESS FOR REVISION

Any questions on this policy and procedure should be directed to the Stormwater Manager or the City Building Official. This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

STANDARD OPERATING PROCEDURE POST CONSTRUCTION STORMWATER RUNOFF CONTROL

PREPARED FOR:

THE CITY OF Trenton
2800 3rd Street, Trenton, MICHIGAN 48183



March 2024

SECTION A – PURPOSE

The Michigan Department of Environment, Great Lakes, And Energy (EGLE) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum control measure requirements for the post-construction stormwater runoff control program to the maximum extent practicable. Post-construction stormwater runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.

SECTION B – ADOPTION OF COUNTY STANDARDS

The City of Trenton intends to adopt the updated Wayne County Stormwater Management Standards. The City has submitted the Draft Stormwater Management Ordinance to EGLE on 8-25-2023 and is awaiting comments from EGLE before bringing in front of City Council for Adoption. The City will review the comments when available and will make any necessary updates to the Draft Stormwater Management Ordinance and adopt within 6 months of being finalized.

SECTION C – MEASURABLE GOALS

To demonstrate the effectiveness of the post construction stormwater runoff control program, the following metrics will be tracked for reporting purposes:

- Number of stormwater site plan reviews requested and completed
- Number of maintenance violations of constructed BMPs
- Number of instances where the City had to undertake corrective measures

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION D – PROCESS FOR REVISION

This procedure shall be reviewed every two years by the Stormwater Manager for any updates to streamline the requirements.

STANDARD OPERATING PROCEDURE POLLUTION PREVENTION AND GOOD HOUSEKEEPING

GENERAL PROCEDURES

PREPARED FOR:

THE CITY OF Trenton
2800 3rd Street, Trenton, MICHIGAN 48183



March 2024

SECTION A – PURPOSE

The Michigan Department of Environment, Great Lakes, and Energy Quality (EGLE) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II Stormwater Discharge Permit Application requires a description of current and proposed BMPs to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable to prevent or reduce the discharge of pollutants from municipal facilities and operations.

SECTION B – FACILITY ASSESSMENT AND PRIORITIZATION

City owned and operated facilities have been assessed for their potential to discharge pollutants to the waters of the state. Each facility was evaluated based on the following criteria:

1. Amount of urban pollutants stored at the site (i.e. sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
2. Identification of improperly stored materials
3. Potential for polluting activities to be conducted outside (i.e. vehicle washing)
4. Proximity to waterbodies
5. Poor housekeeping practices
6. Discharge of pollutants of concern to impaired waters

Based on these criteria, the potential for each facility to discharge pollutants to the waters of the state were rated high, medium, or low. For **“low” priority facilities** where no assessment factors are present, catch basin cleaning and street sweeping will be performed as indicated in the applicable procedures for these activities. For **“medium” priority facilities**, appropriate BMPs are considered based on the assessment factors present to prevent or minimize the potential for pollutants from entering surface waters of the state. **“High” priority facilities** have specific procedures in place in order to ensure that proper steps are followed in order to minimize and prevent the discharge of pollutants to storm water from the site.

SECTION C– UPDATES AND PRIORITY REVISION

This inventory shall be updated within 30 days as facilities and structural stormwater controls are added, removed, or no longer owned or operated by the applicant. Priority level assessments shall be revised within 30 days prior to discharging stormwater at a new facility, or when the storage of materials, equipment, or vehicles changes at a facility.

SECTION D – MUNICIPAL INVENTORY AND ASSESSMENT

The following table identifies the City’s owned or operated facilities with a discharge of stormwater to surface waters of the state. **Table 1** includes a list of properties owned or operated by the City that has stormwater controls on site and provides the estimated number of stormwater structural controls (i.e. catch basins, detention basins, etc.) at each site, along with the priority level of potential discharge of pollutants to waters of the state. An up-to-date map(s) showing the location of the facilities and structural storm water controls is available at Trenton City Hall, DPS Building, or the City Engineers Office.

Table 1: City or Operated Properties with Stormwater Controls

Facility Name	Structural Controls	Priority Level	Assessment Factors	BMP's Implemented
Trenton Department of Public Services 1431 West Rd.	1. Salt Barn 2. Secondary Containment 3. Fuel Farm 4. Dumpsters 5. Stock Pile 6. # Storm Structures/Catch Basins 23	High	1, 3	See Section E
Police Storage & Gun Range 1401 West Rd.	1. # Storm Structure/ Catch Basins 3	Medium	1	Catch basin cleaning Street sweeping
Resident Recycling Drop-off / Transfer Facility 1801 Van Horn Rd.	1. Waste Oil Holding Tank 2. Drainage Structures (8)	Low	1	Street sweeping Onsite Structures drain to Trenton WWTP
Kennedy Aquatic Center 3101 West Rd.	N/A See Kennedy Rec Center shared parking lot	Low	1	Catch basin cleaning Street sweeping
Kennedy Recreation Center/ Ice Arena 3101 West Rd.	1. Underground Detention / Stormceptor 2. # Storm Structures/Catch Basins 16	Low	1	Catch basin cleaning Street sweeping Stormceptor Maintenance
Trenton City Hall 2800 3rd St.	1. # Storm Structures/Catch Basins 8	Low	1	Catch basin cleaning Street sweeping
Trenton Department of Public Safety 2872 W. Jefferson Ave	1. # Storm Structures/Catch Basins 1	Low	1	Catch basin cleaning Street sweeping
Arthurs Court Sub 1632 Arthurs Ct	1. Underground Detention / Stormceptor 2. # Storm Structures/ Catch Basins 19	Low	1	Catch basin cleaning Street sweeping Stormceptor Maintenance

In addition to the properties listed in Table 1, City of Trenton owns additional properties assessed as Low Priority Level. A full list of all the properties are located in the TR Facility Priority List with Structural Controls Table attached. This table also includes the Sub basin outfalls associated to each property and if the sites have been facility dye tested.

SECTION E –SITE SPECIFIC SOP FOR HIGH PRIORITY SITES

The EGLE NPDES Phase II Stormwater Discharge Permit Application requires a standard operating procedure (SOP) for identifying the structural and non-structural stormwater controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff.

E.1 Inventory and Description of Materials and Activities

The City's Department of Public Services (DPS) operations are conducted at their facility at 1431 West Road. This site is considered a high priority site due to the following operations:

DPS Facility – 1431 West Rd

- Fuel/Oil Storage and Fueling
- Salt Storage
- Stockpiled materials
- Maintenance and cleaning of vehicles and equipment

Site specific standard operating procedures have been developed for the above facility and are included as a separate document.

SECTION F –CATCH BASIN MAINTENANCE PRIORITY

Catch basins that are inspected and maintained by the City will be prioritized for routine inspection, maintenance, and cleaning. The criteria for the priority levels that include low, medium, and high are defined as follows:

Low Priority – Catch basins that are of low priority have very little sediment accumulation and do not require routine maintenance. Low priority catch basins are inspected on an as needed basis based on complaints or by DPS staff during normal work activities.

Medium Priority – Catch basins that are of medium priority have a higher rate of sediment accumulation and will require maintenance more frequently than low priority catch basins.

High Priority – Catch basins that are of high priority have a high rate of sediment accumulation and will require regular routine maintenance and inspection. These catch basins are typically located in areas where sediment is easily mobilized and transported by runoff.

All of the community's catch basins have very little sediment accumulation rates, require little maintenance and are of low priority. Catch basins that prompt resident complaints or are subject to isolated instances where structures are plugged or damaged will be maintained and inspected by DPS as needed. At that time, it will be determined if the catch basin will require maintenance on a more

frequent interval and warrants a reclassification to a medium priority rating. In the event the priority rating of a catch basin is changed, or new catch basins are constructed, this procedure will be updated and revised to reflect the change in priority within 30 days.

SECTION G – CATCH BASIN INSPECTION, MAINTENANCE, AND CLEANING

Catch basins are visually inspected during normal work activities or if a complaint is registered by a resident. The City has set a goal to inspect 20% of the City owned catch basins annually. A visual inspection of the structure will identify any structural defects which may include collapse, cracking, frame damage, pipe collapse, blockage, etc. and will be documented using a standardized form. Catch basin structures in need of structural repairs are identified during the inspection and regular maintenance process based on the results of visual assessments conducted by the City. Structure repairs are prioritized based on public safety concerns and when the sump of any catch basin is identified as 50% full after inspection. DPS field staff utilize a vactor truck to remove all solids and liquids from the structure to the extent possible. At no time is collected sediment and water allowed to be discharged back into the storm sewer system during the cleaning process. Catch basins that are located on private property are not inspected, cleaned, or maintained by the City.

Measureable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of catch basins repaired/cleaned

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION H – DISPOSAL OF COLLECTED MATERIAL

Collected material from catch basin maintenance remains in the Vactor Truck and is driven by DPS staff to the DPS Drying Pad for decanting and solid disposal at Riverview Land Preserve. Material collected from street sweeping activities is transported to a covered 20 cubic yard roll off container where it is stored at the DPS yard. Once the container reaches capacity, it is transported off-site to the Riverview Land Preserve.

SECTION I – STREET SWEEPING PRIORITIZATION

City owned and maintained streets/parking lots have been prioritized for street sweeping. The criteria for the priority levels that include low, medium, and high are defined as follows:

Low Priority – Residential streets within the City are of low priority due to their minimal sediment accumulation rates. They are generally swept at least two times per year.

Medium Priority – Major roads throughout the City are of medium priority due to the higher rate of sediment accumulation rates in comparison to low priority residential streets. Medium priority areas that have been identified by the City are swept at least three times, or as needed.

High Priority – Areas that are of high priority have a high rate of sediment accumulation and will require regular, frequent sweeping. These areas are typically located in areas where sediment is easily mobilized and transported by runoff. Additionally, areas that prompt resident complaint or are subject to excessive road sediments are also considered a high priority area. There are currently no areas that have been assigned a high priority rating due to excessive road sediments and resident complaints. However, if DPS receives a complaint, a determination of the area will be made by DPS staff to increase sweeping on a more frequent interval as well as a reclassify the area to high priority rating.

If the DPS receives a complaint, a determination of the area will be made by DPS staff on whether to increase sweeping on a more frequent interval as well as a reclassify the area to higher priority rating. In the event a priority rating is changed, or new City owned streets are constructed, this procedure will be updated and revised to reflect the change in priority within 30 days.

Street sweeping activities are conducted by the City DPS staff using Mechanical Sweeper in accordance with manufacturers operating instructions. Collected sediment from street sweeping activities is disposed of as described in Section H. Street sweeping program activities are not implemented under the following conditions:

- Street sweeping is not conducted on County or State roads
- Sweeping activities are not conducted during inclement weather
- Street sweeping activities is not conducted on private streets, private parking lots, uncurbed streets

Measureable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Summary of frequency of street sweeping, or total miles swept

These metrics will be tracked over the reporting cycle that is specified in the City's Certificate of Coverage.

SECTION J – OTHER STRUCTURAL STORMWATER CONTROLS

In the event additional structural stormwater controls are constructed, this procedure will be updated and revised to include the new controls within 30 days.

SECTION K – NEW APPLICANT OWNED FACILITIES

In the event the City acquires or constructs new structural stormwater controls, the design of these structures will comply with the stormwater standards that have been adopted by the City and Wayne County. Site plans will be reviewed by the City, or its consultants, to ensure the appropriate standards are met.

SECTION L – CERTIFIED PESTICIDE APPLICATOR

The DPS has four certified pesticide applicators on staff. The City’s pesticide application is only applied by personnel that possess a state applicator’s license to ensure quality of work and proper application and disposal.

SECTION M – EMPLOYEE TRAINING

Employee training programs will be implemented to inform appropriate personnel at all levels of responsibility of safety, environmental impacts, and good housekeeping practices. The City participates in training opportunities that are made available by SEMCOG, Wayne County, the Alliance of Downriver Watersheds, and others as deemed appropriate. Employee training components for the City DPS Department includes:

Employees Trained	Training Description and Frequency
New DPS Employees	Upon hire, employees will: <ul style="list-style-type: none">• View the Municipal Storm Water Pollution Prevention Storm Watch training video.• Read and become familiar with the City’s SOPs.
All DPS Field Employees	Annually, employees will: <ul style="list-style-type: none">• View the Municipal Stormwater Pollution Prevention Storm Watch training video.• Review proper materials storage and handling.• Review good housekeeping and pollution prevention practices.• Review examples of illicit discharges to the storm sewer system• Review City Spill Response Procedures
Key staff	Once per permit cycle: <ul style="list-style-type: none">• Attendance of key staff to relevant training workshops by the Alliance of Downriver Watersheds, Wayne County, SEMCOG, EGLE, or others, when available.

Measurable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of new employees trained
- Number of existing field employees trained
- Number of key staff trained

These metrics will be tracked over the reporting cycle that is specified in the City’s Certificate of Coverage.

SECTION N – CONTRACT REQUIREMENTS AND OVERSIGHT

The contractors hired by the City to perform municipal operations that potentially impact stormwater are required to follow appropriate pollution prevention BMPs indicated in the City’s contract language. In cases where an outside contractor is hired to perform services that could impact stormwater, the contracting company will be required to follow appropriate pollution prevention BMPs. All work performed by outside contractors are monitored by City staff through daily observation to ensure quality of work, adherence to the specified contract language, and to ensure that potential impacts to stormwater are minimized.

Measurable Goals – To demonstrate the effectiveness of this procedure, the following metrics will be tracked for reporting purposes.

- Number of stormwater pollution related incidents pertaining to activities or work performed by the contractor.
- Number of incidents where the City required corrective action by the contractor

These metrics will be tracked over the reporting cycle that is specified in the City’s Certificate of Coverage.

SECTION O – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

CITY OF TRENTON
FACILITY LIST WITH STRUCTURAL CONTROLS

FACILITY	ADDRESS	CITY	SUBBASIN/ OUTFALL	IDEP PRIORITY	STRUCTURAL CONTROLS	DYE TESTED
Trenton Department of Public Services	1431 West Rd.	Trenton	Ditch on east side of DPS & Railroad grade on west side/ Detroit River	HIGH	1. Salt Barn 2. Secondary Containment 3. Fuel Farm 4. Dumpsters 5. Stock Pile 6. # Storm Structures/Catch Basins 23	
Kennedy Aquatic Center	3101 West Rd.	Trenton	FP-15 & FP-16	LOW	N/A See Kennedy Rec Center shared parking lot	
Kennedy Recreation Center/ Ice Arena	3101 West Rd.	Trenton	FP-15 & FP-16	LOW	1. Underground Detention / Stormceptor 2. # Storm Structures/Catch Basins 16	
Trenton City Hall	2800 3rd St.	Trenton	DT-15	LOW	1. # Storm Structures/Catch Basins 8	
Trenton Department of Public Safety	2872 W. Jefferson Ave	Trenton	DT-15	LOW	1. # Storm Structures/ Catch Basins 1	

CITY OF TRENTON
FACILITY LIST WITH STRUCTURAL CONTROLS

FACILITY	ADDRESS	OWNER	SUBBASIN	IDEP PRIORITY	STRUCTURAL CONTROLS	DYE TESTED
Trenton Library/ Administration	2790 Westfield	Trenton	Combined Downriver Watershed/ Frank & Poet FP-22	LOW	1. # Storm Structures/ Catch Basins 6	
Trenton Cultural Center	2427 West Rd.	Trenton	FP-12	LOW	1. # Storm Structures/ Catch Basins 1	
Westfield Center	2700 Westfield	Trenton		LOW	N/A	
Trenton Fire Hall No.2	1989 King Rd.	Trenton		LOW	N/A	
Affholter Park	E. of Lodge Ln., N of West Rd.	Trenton	BD-4 - Blakely Drain	LOW	1. # Storm Structures 2	N/A
Haas Park	S. of Sibley, @ Washington Ave.	Trenton		LOW	N/A	N/A
Kennedy Park	Located @ Kennedy Recreation Center	Trenton		LOW	N/A	N/A
Lathrop Park	E. of Lathrop, midway bet. Van Horn & Toledo	Trenton		LOW	N/A	N/A
Lexington Park	N. of Van Horn along Frank & Poet Drain	Trenton		LOW	N/A	N/A
Lions Park	N. of Toledo, E. of Julie Dr.	Trenton		LOW	N/A	N/A
MacArthur Park	N. of West Rd., W. of Newman Dr.	Trenton		LOW	N/A	N/A

CITY OF TRENTON
FACILITY LIST WITH STRUCTURAL CONTROLS

FACILITY	ADDRESS	OWNER	SUBBASIN	IDEP PRIORITY	STRUCTURAL CONTROLS	DYE TESTED
Meyer Ellias Park	E. of W. Jefferson, N. of Helen	Trenton		LOW	N/A	N/A
North McLouth Park	Bet. Harrison and King Rd., @ Frank & Poet Drain	Trenton	FP-33A	LOW	1. # Storm Structure 1	
Rotary Park	S. of Harrison, E. of Riverside	Trenton	Trenton Channel DT-15	LOW	1. # Storm Structure/ Catch Basins 5	
South McLouth Park	Bet. Harrison & West Rd., @ Frank & Poet Drain	Trenton	FP-23 & FP-24	LOW	1. # Storm Structure/ Catch Basins 2	
Slocum – Truax Park	S. of Harrison, bet 3rd & 5th	Trenton		LOW	N/A	
Tefend Park	N.W. of Fort St off of Tomson St.	Trenton		LOW	N/A	
Teifer Park	N. of Clyde, E. of William R.	Trenton	DT-4	LOW	1. # Storm Structure/ Catch Basins 2	
Williamson Park	Adjacent to the Frank & Poet Drain off Coucy Ave.	Trenton		LOW	N/A	
Police Storage & Gun Range	1401 West Rd.	Trenton	Railroad Grade on west side/ Detroit River	MEDIUM	1. # Storm Structure/ Catch Basins 3	
Elizabeth Park Pump Station	3501 West Jefferson	Trenton		LOW	N/A	
Jefferson Pump Station	4735 West Jefferson	Trenton		LOW	N/A	
Brookview Pump Station	East end of Brookview	Trenton		LOW	N/A	
George St. Pump Station - Storm water	East end of George	Trenton	DT-18	LOW	1. # Storm Structure/ Catch Basins 1	

CITY OF TRENTON
FACILITY LIST WITH STRUCTURAL CONTROLS

FACILITY	ADDRESS	OWNER	SUBBASIN	IDEP PRIORITY	STRUCTURAL CONTROLS	DYE TESTED
Van Horn Pump Station	4539 Fort St.	Trenton		LOW	N/A	
Third St. Parking Lot	Third St. & Maple	Trenton	DT-15	LOW	1. # Storm Structure/ Catch Basins 3	
Elm St. Parking Lot	Elm & West Jefferson	Trenton		LOW	N/A	
Birchwood Parking Lot	Birchwood & West	Trenton	FP-20	LOW	1. # Storm Structure/ Catch Basins 1	
Arthurs Court Sub	1632 Arthurs Ct	Trenton	DT-13	Low	1. Underground Detention / Stormcepter 2. # Storm Structures/ Catch Basins 19	
Parkside	Harrison & Edsel - SE corner	Trenton		LOW	N/A	
Bloomdale Cemetery	King Rd. west of Jefferson	Trenton		LOW	N/A	
Masonic Cemetery	Jefferson & 5th	Trenton		LOW	N/A	
Syckelmoore Tot Lot	Syckelmoore & Marian	Trenton		LOW	N/A	
Cora Tot Lot	Cora & Longmeadow	Trenton		LOW	N/A	
Fox Ct. Tot Lot	Fox Ct. & Van Horn	Trenton		LOW	N/A	
Water Bldg.	121 King Rd.	Trenton		LOW	N/A	
Resident Recycling Drop-off / Transfer Facility	1801 Van Horn Rd.	Trenton	DT-1	NA	1. Waste Oil Holding Tank 2. All Structures On Site Enter Sanitary Sewer System / DOES NOT DISCHARGE TO MS4	YES- Verified all structures to discharge to Sanitary Sewer System / WWTP

City of Trenton
Department of Public Works Facility

STANDARD OPERATING PROCEDURES

Pollution Incident Prevention Plan

May 2024

Table of Contents

Chapter 1: General Facility Information.....	3
Chapter 2: Spill Response Team.....	4
Chapter 3: Site Map.....	4-5
Chapter 4: Material Inventory.....	6-11
Chapter 5: Routine Inspections.....	12
Chapter 6: Three-Year Plan Review.....	12
Appendix A: PIPP Routine Inspection Form.....	13-16
Appendix B: Three Year PIPP Review Form.....	17
Appendix C: City of Trenton DPS Facility Spill Response Plan.....	18-21
Appendix D: SPILL REPORTING SHEET.....	22

Chapter 1: General Facility Information

Table 1: General Facility Information

NAME OF FACILITY:	Trenton Department of Public Works (DPS) Facility
FACILITY ADDRESS:	1411 West Road, Trenton, MI 48183
FACILITY CONTACT INFORMATION	
Name and Title:	Kevin Sargent
Mailing Address:	1411 West Road, Trenton, MI 48183
Telephone:	734-675-8470
Email:	ksargent@trenton-mi.com
SPILL PREVENTION AND CONTROL COORDINATOR	
Name and Title:	Robert Baker
Telephone:	734-675-8251
Email:	rbaker@trenton-mi.com
24-Hour Emergency Telephone:	734-676-1313 (Fire Department)

Chapter 2: Spill Response Team

The City of Trenton DPS Maintenance Garage houses vehicles and materials for vehicle road maintenance and outdoor storage piles of aggregate materials. The facility also stores road salt, oil and aboveground storage of gasoline and diesel fuel in threshold management quantities that require the development of a Pollution Incident Prevention Plan (PIPP). The City of Trenton DPS staff identified to assist in pollution incident prevention activities are as follows:

Table 2: Spill Response Team

NAME AND TITLE	RESPONSIBILITY
Kevin Sargent, Department of Public Services Director	Stormwater Program Oversight
Kevin Sargent, Department of Public Services Superintendent	Spill Response Coordinator, Oversight of Day-to-Day
Robert Baker, Motor Pool/ Facilities Supervisor	Onsite Vehicle Maintenance, Routine Inspections.

Chapter 3: Site Map

The Trenton DPS Facility consists of aggregate, sand, topsoil and cold-patch storage piles, a fueling station, a dewatering bed, a salt shed, a covered storage shed, two trailers, a Pole Barn, Steel Building and the DPS Maintenance Garage. The descriptions of stormwater flow through these areas are as follows:

1. Aggregate, Sand, Topsoil and Cold-Patch Storage Piles

Several different types of material are stored inside in a pervious gravel area of the DPS yard. There are no catch basins in the gravel area of the lot. Stormwater either infiltrates into the ground, or occurs as sheetflow towards the south end of the property and infiltrates along the railroad easement, which is heavily vegetated.

2. Fueling Station

The DPS yard has two above ground 6,000 gallon double-walled tanks for gasoline and diesel storage and use. These tanks are covered with a solid roof with spill prevention measures in place. The closest storm drain has a solid manhole covering to prevent any potential spills from reaching the storm drain.

3. Dewatering Bed

A dewatering bed has been created for the decanting of liquids from catch basin cleanings and street sweeping material. This bed consists of a concrete pad with cement curbing that drains directly to the sanitary sewer. All decanted liquid enters the sanitary system. The solid material is then hauled to a landfill for proper disposal.

4. Salt Shed

The Salt Shed has the capacity to hold 1,200 tons of aggregate salt and rests on a concrete pad with a 4' concrete wall, wooden walls that stretch from the cement footing to the shingled roof, and downspouts that direct stormwater away from the open door to the shed. All stormwater runoff is directed to a vegetated area just south of the shed. There are no storm drains near the Salt Shed.

5. Covered Storage Shed

The Covered Storage Shed consists of a gravel floor and metal walls to provide for equipment storage. This covering protects equipment from coming into contact with stormwater. The Covered Storage Shed has no interior floor drains.

6. Trailers

There are two trailers on site in the DPS yard. One stores City holiday decorations, while the other belongs to the local Boy Scout troop and stores scout supplies. No materials stored inside these trailers could lead to stormwater pollution.

7. Pole Barn

The Pole Barn rests on a concrete pad and stores equipment to prevent contact with stormwater. The interior floor drains of the Pole Barn are connected to the storm system, however drip pans are used to capture any equipment leaks and a spill kit is stored inside this building to prevent spills from entering the storm sewer system. All equipment is washed prior to its storage in the pole barn.

8. Steel Building

This building has metal walls and a concrete floor that stores bagged salt on pallets and provides for equipment storage. The interior floor drains are connected to the storm system, however drip pans are used to capture any equipment leaks and a spill kit is stored inside this building to prevent spills from entering the storm sewer system.

9. DPS Maintenance Garage

The DPS Maintenance Garage houses city vehicles, vehicle fluids, and is a site for vehicle and equipment maintenance operations. The interior floor drains are connected directly to the sanitary sewer.

Chapter 4: Material Inventory

Inventory and Description of Polluting Materials

To identify potential sources of significant materials, City staff, with the assistance of the Southeast Michigan Council of Governments (SEMCOG) conducted an inventory of municipal buildings, activities and materials that may be identified as polluting materials under Part 5 at the City of Trenton DPS facility. The MSDS for all materials are located inside the DPS Maintenance Office. The polluting materials stored onsite requiring a PIPP include the following:

Material Name	Quantity Stored	Location
Salt in aggregate, solid form	1,200 tons	Salt Shed
Fuel (gasoline, diesel)	6,000 gallons (gasoline) 6,000 gallons (diesel)	Each tank is located aboveground
Oil	1,350 total gallons Of the following: (2) 275-gallon tank 15W40 (1) 275 gallon tank AW-46 (1) 250 gallon tank used oil (7) 55 gallon drums of a combination of 30W oil, tractor oil, 10W40, 10W30	Inside the maintenance garage

Salt Storage & Vehicle Wash Description

The City of Trenton DPS Facility stores road salt inside a covered Salt Shed on the south side of the Property. The shed has a concrete floor, 4' cement walls that are topped with wooden slot walls, and a shingled roof. The Salt Shed roof also has a two foot overhang to provide covering for a loading area. The roof also has gutters with downspouts located on the corners of the shed. All downspouts are directed away from the front of the Salt Shed (to avoid picking up any potential excess salt from the loading area) which outlet to the vegetated area. The capacity of the shed is 1,200 tons. There are no interior floor drains inside the shed.

The Salt Shed is surrounded by a concrete loading area and DPS lot. Salt is delivered to the Trenton DPS Facility and is placed on concrete loading area just outside the shed. A staff person is present onsite during all salt deliveries to direct where and how the salt is delivered. No loads of salt are placed near storm drains or left uncovered. Trenton staff immediately load all delivered salt into the shed using a front end loader. Employees are trained in the procedure to immediately sweep excess salt from track out or spills back into the shed to prevent stormwater runoff.

Salt is loaded into DPS trucks for usage just outside the Salt Shed. The two foot overhang provides cover for loading during precipitation events. A loader scoops material from inside the shed and loads each vehicle as it pulls in front of the Shed. Any spilled salt material is immediately swept back into the shed to prevent exposure to stormwater runoff.

City of Trenton DPS Maintenance Staff performs onsite maintenance for the vehicles and equipment used in the department, including the loader and dump trucks used for snow and salt activities. When problems occur, the vehicle drivers indicate the problems to the DPS Maintenance Staff. Maintenance is immediately scheduled on the vehicle. If fluid leaks are present, drip pans are used to catch fluids to prevent spills or releases. These vehicles are washed in a dedicated interior wash bay, where the wash water is discharged directly to the sanitary sewer.

The DPS Facility is completely fenced with a gate that remains locked when not in use and during non-business hours.

The Salt Shed is not located within 50 feet of a lake shore, stream bank, or wetland, nor is it located in a 100-year flood plain.

Fuel Storage Description

The City of Trenton DPS stores gasoline and diesel fuel onsite in two above-ground storage tanks. Each tank is a 6,000 gallon double-walled metal tank with automatic leak detection monitoring devices. The gasoline stored onsite is Sunoco regular with 10% ethanol. The diesel stored onsite is HWY Dyed Diesel #2 15 MV. The leak detection system on the tanks monitors the interstitial space between the tanks on a monthly basis using a probe. It also provides automatic daily reads on the volume of material in each tank. These reads are evaluated for potential fuel losses, spills, and leaks. Each pump has automatic shut-off valves to stop the flow of fuel when the tank reaches capacity. The hoses on each pump are all breakaway hoses, to ensure that the hose will automatically detach during an emergency situation.

The tanks are located on a concrete pad with a shingled roof and surrounded by bollards.

There is a spill kit located at the fuel pumps to assist in smaller spills from everyday use.

There are also large amounts of sand on hand to create dikes in the case of a large emergency spill. A fire extinguisher is located at the pump, along with a well-labeled emergency stop button, located on the north-facing exterior wall of the Salt Shed.

The fuel tanks are loaded by a commercial hauler when quantities being to run low. The tanker fuel directly into the tank at a filling port, which has a secondary containment trough to capture leaks and small spills during loading activities.

Multiple city staff, use the DPS fuel pumps to fuel their vehicles including DPS, Trenton City Police and Trenton Fire staff.

Oil Storage Description

The City of Trenton DPS Facility has met the Part 5 requirements of designing, constructing, maintaining, and operating indoor storage areas for oil to prevent the release of polluting materials through sewers, drains, or otherwise directly or indirectly into any public sewer system on to the surface or groundwater's of this state through the proper storage and pollution prevention method currently in place. The vehicle fluid materials currently stored onsite include the following:

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>	<u>QUANTITY</u>	<u>UNIT</u>
#46 Hyd. Oil	Hydraulic Oil Chevron	Shop Wall	275	Gallons
15W40	Motor Oil Chevron	Shop Wall	275	Gallons
5W20	Motor Oil Chevron	Shop Wall	275	Gallons
Used Oil	Used Motor oil Generated onsite	Shop Wall	250	Gallons
Anti-Freeze	Full Strength Gal. Chevron Supreme	Shop wall	55	Gallons
Anti-Freeze Mix	50/50 Mix Gal.	Shop Wall	110	Gallons
ATF	Auto Trans. Fluid Chevron MD-3	Shop Wall	55	Gallons
Chevron 1000 THT	Tractor Hyd. Oil	Shop Wall	55	Gallons
Chevron 80W90	Gear Oil	Shop Wall	55	Gallons
Chevron MV	Rando HDZ ISO 22 Plow Oil	Shop Wall	55	Gallons

Chevron SAE 30	30 WT. HD Motor Oil	Shop Wall	55	Gallons
Delo 85W140	Gear Lube Qt. Synthetic	Parts Room	20	Gallons
Delo EP2 LB. Grease	Grease Lb.	Shop Wall	120	Lbs.
Delo ESI 85W40	Gear Lube Lb.	Shop Wall	56	Quarts
Havoline/DEX COOL	50/50 Antifreeze Extended Life	Shop Wall	55	Gallons
Chevron ATF	ATF Dextron III Mercon	Shop Wall	55	Gallons
Wind/Washer Solvent	Blue King Concentrate	Shop Wall	30	Gallons
Chevron SAE 30 HD	HD 30 TRANSOIL	Shop Wall	55	Gallons
ATI Purity	142 Solvent	Shop Wall	55	Gallons
Chevron 10W-30	Motor Oil Chevron	Shop Wall	55	Gallons
Chevron Gear Lube	80 W-90 Lube	Shop Wall	55	Gallons
Permalube	Grease	Shop Floor	360	Lbs.
Zep Solvent	Dyna 143	Shop Floor	55	Gallons

Truck Wash	Zep Touch Free Detergent	Wash Rack	55	Gallons
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All vehicle fluids are stored inside the DPS Maintenance Garage in clean, well-labeled containers. The interior floor drains of the Maintenance Garage discharge to the sanitary sewer. All interior floor drains are vacuored by City DPS staff approximately four times per year to help prevent material from entering the sanitary system.

All vehicle maintenance activities are tracked, with inspections performed on a routine basis. Preventative maintenance is performed on vehicles and equipment to help reduce costs and maintain a healthy fleet, while preventing potential spills and leaks of fluids.

- Storage of three (3) 275-gallon metal tanks of new oil inside the DPS Maintenance Garage. Each of the three (3) 275-gallon metal tanks storing oil are single walled, but stored inside the Maintenance Garage and away from any interior floor drains. When new material is loaded into these tanks, the manufacturer drives the material into the DPS garage and pumps the material directly from truck inside the tank to minimize exposure of potential spills.
- Storage of one (1) 250-gallon metal tank of used oil inside the DPS Maintenance Garage. The used oil tank stores the oil drained from oil filters that are changed in the Maintenance Garage along with the used oil drained from the motors during oil changes of City vehicles and equipment. The oil is drained into a holding port which is pumped into the used oil tank to minimize spills. When full, DPS staff contact Buck's Oil who is a licensed hauler contracted by the City to transport and dispose of the City's used oil material.
- Storage of 55-gallon drums of oil-based materials inside the DPS Maintenance Garage. The 55-gallon drums are stored inside the Maintenance Garage, on secondary containment moveable pallets that capture drips, leaks, and spills. These pallets are emptied whenever leaks occur, although it is rather infrequently. All drums are labeled with clear, readable labels and a spill kit is located nearby to capture leaks or drips that occur on the garage floor to prevent trackout of material or discharge to the sanitary system.

Spill Response Procedures and Equipment

If the following materials are released to environment in the identified quantities, the *Spill Response Plan for Large Spills* will be followed:

To The Ground:		To Waters of the State:		To Sanitary Sewer (contact WWTP only):	
Diesel	7 gallons	Salt, oil gas or diesel, any significant material	Any quantity that causes visible sheens, oil films, unnatural turbidity, foams or deposits in water body	Salt, gas, diesel, oil, any significant material	Any quantity not currently authorized by receiving WWTP
Gasoline	8 gallons				
Salt	50 pounds				
Oil (new or Used)	7 gallons				

A Spill Response Plan for different size spills and a Spill Response Form have been created for the City of Trenton DPS Facility and are located in **Appendix C**.

Chapter 5: Routine Inspections

Preventive maintenance at the City of Trenton DPS Facility involves the regular inspection, testing, and cleaning of facility equipment, vehicles and operational systems. A Routine Inspection Form has been created for the City of Trenton DPS Facility and is located in Appendix A. The Routine Inspection Form will be used by facility staff during site walk-throughs that will be conducted on a **monthly** basis to observe the salt storage area, oil storage area, and fuel storage area. The purpose of these inspections is to identify and prevent conditions that could lead to the release of polluting materials to sewers, drains, or otherwise directly or indirectly into any public sewer system or to the surface or groundwater's of the state. Good housekeeping procedures reduce the potential for pollutants to come into contact with the environment. A log of the routine inspections and corrective actions shall be maintained on file and shall be retained for three years. Comprehensive Site Inspections will occur at a minimum of once per 6 months for the whole facility. The Comprehensive Site Inspection shall include the areas and equipment identified in the good housekeeping procedures, a review of the Routine Inspection Forms, and any other paperwork associated with storm water at the Facility, as well as an assessment of good housekeeping and maintenance of the School District.

Chapter 6: Annual Plan Review

The completed SOP/PIPP requires that the City of Trenton will notify the EGLE Water Resources Division District Office within 30 days at:

SE Michigan District Office
27700 Donald Ct.
Warren, MI 48092-2793
(586) 753-3700

City of Trenton will also notify the following agencies that the SOP/PIPP requirements have been completed:

Wayne County Public Health Department	Local Emergency Planning Committee
Health Administration Building	FEMA Emergency Management
33030 Van Born	10250 Middlebelt
Wayne, MI 48184	Detroit, MI 48242
(734) 727-7030	734-942-5289

Part 5 requires that the SOP/PIPP be evaluated every three years and after any release requiring implementation of the plan. The Plan will also be updated if any facility personnel, processes, materials, or procedures that are included in the plan change (See **Appendix C** for SOP/PIPP Review Form).

Based on the three-year review, the City of Trenton DPS Facility will amend the PIPP as needed to ensure continued compliance with the terms and conditions of Part 5. Recertification and re-notification of updates need to be sent to the MDNRE District Office, the Wayne County Health Department, and the Local Emergency Planning Committee.

City of Trenton DPS Facility will maintain records of all PIPP-related inspections and activities, including Routine Inspections, Three-Year Review, and Spill Reports. Records will also be kept describing other Illicit discharges that can affect the quality of stormwater runoff. All such records will be retained for three years.

Appendix A: PIPP Routine Inspection Forms

Date:	Facility Name:
Inspector Name:	
Routine Inspection Schedule: Monthly	

Salt Storage Area

Check Box	Method	Comment/Action Taken
	Inspect roof of Salt Shed for holes and loose shingles. <i>(If defects are detected, schedule roof for necessary repairs.)</i>	
	Inspect the outside of the Salt Shed to look for seepage of salt outside of the structure. Inspect joints between the floor and the walls, between the boards, the roof and the walls, and all areas of the ground. <i>(If material is detected, clean up salt immediately and schedule shed for necessary repairs.)</i>	
	During salt deliveries, ensure staff is present to prevent salt from entering storm drains and to immediately load salt into bays. <i>Do not allow deliveries to stand outside of the barn uncovered.</i>	
	Inspect loading area for presence of salt. Ensure the approach area is swept regularly to contain trackout, and salt is returned for reuse (don't hose down the area.)	
	Perform an inspection of the loading equipment. Check for leaks, loose connections, and proper operations.	
	Ensure equipment and vehicles are washed in designated inside bay where the water goes to the sanitary sewer.	

Gasoline and Diesel Storage Area

Check Box	Method	Comment/Action Taken
	Inspect spill kit located at the pumps to ensure supplies are stocked and the kit is clearly accessible to employees.	
	Inspect fuel pump automatic shutoff valves to ensure they are working properly.	
	Inspect each tank for cracks, holes, or leaks. <i>(If present, repair immediately.)</i>	
	Inspect the ground surrounding each tank for presence of fuel or oily sheen. If found, identify source of the spill or leak and make repairs immediately.	
	Inspect the Vendor Root Monitoring System to ensure it is functioning properly.	
	Review Vendor Root monthly reports to ensure interstitial space for each tank remains free of leaks or spills.	
	Procedures are in place to have employees avoid topping off tank to prevent spills.	
	Employees are trained (or signs are posted) to report fuel leaks as soon as possible.	

Oil Storage Area

Check Box	Method	Comment/Action Taken
	Inspect garage for spill clean-up materials (<i>oil dry absorbent pads, oil dry, brooms, shovels, etc.</i>). Ensure supplies are stocked and clearly accessible to employees.	
	Inspect garage floors for debris (oil dry, etc.). Sweep floors as necessary and dispose of debris in dumpster (<i>floors are not hosed down</i>).	
	<i>Inspect fluid filling area for funnels. Ensure they are used when transferring fluids.</i>	
	Inspect each tank and drum containing oil for leaks or cracks (<i>make any needed repairs immediately</i>).	
	Inspect each tank and drum for clear, readable labels, including Used Oil tank and Used Antifreeze drum.	
	Inspect each tank and drum for fluid residue (use spill pads and absorbents to clean and prevent leaks).	
	Inspect the openings of each tank and drum to ensure all lids are kept closed at all times, except when filling.	
	Inspect the used oil filter container for leaks or cracks. Ensure no used oil is being spilled onto the ground nearby.	
	Inspect the fluid drum secondary containment pallets for presence of material. Ensure the pallets are emptied as needed to avoid overflow and to maintain capacity.	

Structural Stormwater Controls

Check Box	Method	Comment/Action Taken
	Inspect catch basin sumps and, if full, examine connecting sewers for siltation. <i>(Only required where storm sewer is present, not where structures connect to the sanitary system.)</i>	
	Where appropriate, check filter fabric in catch basin/inlet structures.	
	In paved areas, check for cleanliness of pavement/presence of particulates that may wash into storm sewer. Note when street sweeper last cleaned area/check for adherence to sweeping schedule.	
	Examine areas adjacent to property lines where storm water may sheet flow from site. Check for presence of vegetated strip or silt fence.	

Appendix B: Three-Year PIPP Review Form

Date of Review:

Reviewer Name: <i>Please Print</i>	Signature:
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1) Facility general information and Spill Response Team information is current and accurate.	Yes	No
2) Site Map is current accurate	Yes	No
3) Polluting material inventory is current and accurate.	Yes	No
4) New exposures, processes and related controls have been documented.	Yes	No
5) Spills have been recorded and reported as appropriate.	Yes	No
6) Review Routine Inspections to ensure all repairs or actions have been made as necessary.	Yes	No
7) Review spill reports (if applicable).	Yes	No
8) Review Spill Response Procedures and phone numbers for updates.	Yes	No
9) Ensure Material Safety Data Sheets are up-to-date and available for all chemicals onsite.	Yes	No
10) Review of Structural Stormwater Controls	Yes	No

Additional Comments:

Appendix C: City of Trenton DPS Facility Spill Response Plan

EMERGENCY NUMBERS (To be posted at key telephones throughout facility)

Agency Name	Phone Number
Local Fire Department	
Emergency	911
Nonemergency	1-734-676-1315
Police	
Emergency	911
Nonemergency	1-734-676-3737
Wayne County Environmental Health Department	
Nonemergency	1-734-727-7400
U. S. Coast Guard	
National Response Center	1-800-424-8802
Environment, Great Lakes and Energy (Formerly MDEQ)	
<u>8:00am – 5:00pm</u> Southeast District Office	1-586-753-3700
<u>After Hours:</u> PEAS Hotline	1-800-292-4706
Marine Pollution Control	
To be called for spill response services in the event the City is unable to properly respond, if not the Fire Dept. (i.e., large hazardous spills).	1-313-849-2333 1-800-521-8232
Waste Water Treatment Plant	
For spills into the sanitary system, contact the local WWTP	1-734-676-0646 or 1-734-675-5381 (after hours)

SPILL RESPONSE PLAN – FOR SMALL SPILLS

(Less than 5 gallons)

1. Make sure area is safe for entry and the spill does not pose an immediate threat to health or safety of responder.
2. Stop source of spill (plug hole, upright the container, shut off valve).
3. Check for hazards (flammable material, noxious fumes, cause of spill). If flammable liquid is spilled, turn off engines and nearby electrical equipment). If serious hazards are present leave the area and call 911. When in doubt consult the Material Safety Data Sheets for hazards.
4. Notify Supervisor.
5. Block the nearest storm drain (use absorbent or other material as necessary, close valve to drain, cover or plug drain).
6. If spilled material has entered a storm sewer, check catch basins and contact: Kevin Sargent at 1-734-341-8802.
7. Clean up spilled material/absorbent (do not flush with water).
8. Dispose of cleaned material/absorbent into secure container for proper disposal.
9. Complete a Spill Reporting Sheet (for internal review purposes).

SPILL RESPONSE EQUIPMENT

- ✓ **5 lb. floor dry**
- ✓ **1 – Shovel**
- ✓ **1 – Broom**
- ✓ **5 – Absorbent Pads**
- ✓ **Container for clean-up (dustpan, 5-gallon container, etc.)**

SPILL RESPONSE PLAN – MEDIUM SPILLS

(5 < 50 Gallons)

1. Make sure area is safe for entry and the spill does not pose an immediate threat to health or safety of responder.
2. Stop source of spill (plug hole, upright the container, shut off valve).
3. Check for hazards (flammable material, noxious fumes, cause of spill). If flammable liquid is spilled, turn off engines and nearby electrical equipment). If serious hazards are present leave the area and call 911. When in doubt consult the Material Safety Data Sheets for hazards.
4. Contact co-workers and Supervisor for assistance and to make them aware of the spill and potential dangers.
5. Block the nearest storm drain (use absorbent or other material as necessary, close valve to drain, cover or plug drain).
6. Stop spill from spreading (use absorbent or other material).

7. If spilled material has entered a storm sewer, check catch basins and contact: Kevin Sargent at 1-734-341-8802.
8. Clean up spilled material/absorbent (do not flush with water). If outside clean-up services is required contact.
9. Dispose of cleaned material/absorbent into secure container for proper disposal.
10. Complete a Spill Reporting Sheet (for internal review purposes).

SPILL RESPONSE EQUIPMENT

- ✓ **20 lb. Floor Dry**
- ✓ **1 – Shovel**
- ✓ **1 – Broom**
- ✓ **Absorbent Pads**
- ✓ **Container for clean-up (30 gallon)**

SPILL RESPONSE PLAN – LARGE SPILLS

(Greater than 50 Gallons or 50 pounds)

1. Make sure area is safe for entry and the spill does not pose an immediate threat to health or safety of responder.
2. Stop source of spill (plug hole, upright the container, shut off valve).
3. Check for hazards (flammable material, noxious fumes, cause of spill). If flammable liquid is spilled, turn off engines and nearby electrical equipment. If serious hazards are present leave the area and call 911.
4. Call Kevin Sargent @ 734-341-8802 to make him aware of the spill and potential dangers. Notify police And fire departments if necessary for possible lane closure and need for assistance.

LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD AND WILL REQUIRE SPILL RESPONSE SERVICES FROM MARINE POLLUTION CONTROL AT 1-313-849-2333 AND THE TRENTON FIRE DEPARTMENT.

5. Protect all drains from spilled material (use absorbent or other material as necessary, cover or Plug drain).
 - a. A spill kit is located at: Fuel Island and DPS Garage and consists of absorbent Pads and floor dry.
 - b. The MSDS for all materials are kept: In the DPS Supervisors office and garage.
6. Stop spill from spreading (use absorbent or other diking material such as sand, dirt, etc.a0
7. For spills of materials indoors, clean up spilled material with absorbents, oil dry, etc. (Do not Flush with water). If material is spilled outside, a clean-up service may be required.
8. Spilled salt will be swept up and either transferred to the Salt Barn, or into a truck for road Application use. Industry standards will be followed regarding usage concentration and application Rates using normally accepted practices.

9. Dispose of cleaned material/absorbent into secure container for proper disposal.

10. A call to EGLE or PEAS will be made to report the release:

During Regular Business Hours:

SE Michigan District Office
27700 Donald Ct.
Warren, MI 48092-2793
(586) 753-3700

During Non-Business Hours:

Pollution Emergency Alert System
(PEAS)
1-800-292-4706

11. A written report **MUST** be submitted within 10 days after the release to:

EGLE Water Bureau Chief
525 West Allegan Street
P. O. Box 30473
Lansing, MI 48909-7973

Wayne County Public Health Department
Health Administration Building
33030 Van Born
Wayne, MI 48184

SPILL RESPONSE EQUIPMENT

- ✓ **250 LB. FLOOR DRY**
- ✓ **Brooms**
- ✓ **Shovels**
- ✓ **Caution Tape**
- ✓ **Absorbent Pads**
- ✓ **Sand and truck spreader**
- ✓ **Front Loader**
- ✓ **Lined dumpster boxes**
- ✓ **Container for clean-up (30 gallon)**

Appendix D: SPILL REPORTING SHEET

Date of Incident	
Time of Incident	
Location & Cross Streets	
Type of Spill	
Estimated Quantity	
Reported To	
Time Reported	
Responsible Party	
Address	
Phone Number/Contact	
Describe materials used to clean up spill:	
Describe response measures that have been done, and the schedule for completion of other measures to be taken, or both.	
Describe measures taken to prevent recurrence of similar releases.	
Completed By:	
Additional Notes:	

STANDARD OPERATING PROCEDURE POLLUTION PREVENTION AND GOOD HOUSEKEEPING

SPILL RESPONSE

PREPARED FOR:

THE CITY OF Trenton
2800 3rd Street, Trenton, MICHIGAN 48183



May 2026

SECTION A – PERSONNEL

The following City of Trenton personnel have been identified as key staff in charge of spill response planning, implementation and maintenance of the Spill Response Plan.

Name	Phone
Mike Hawkins – Chief of Police	(734) 676-7095
Keith Anderson – Fire Chief	(734) 676-1314
Kevin Sargent – DPS Director	(734) 675-8470

A.1 Responsibilities

- The **Facility Responsible Person** has primary responsibility for coordinating the response to emergencies, including chemical spills
- **Supervisors** should ensure that employees are familiar with these procedures and receive the necessary training
- **All employees** should follow these procedures in the event of a chemical spill

A.2 Emergency Contact Numbers

The following telephone numbers should be posted near telephones and in other conspicuous locations:

Name	Affiliation	Phone
Trenton Police & Fire Dispatch	Trenton Police & Department	(734)676-1314
Dean Creech, City Administrator	City Administrator	(734) 675-6500
Kevin Sargent, DPS Director	Trenton DPS	(734) 341-8802
EGLE 24-Hour Pollution Emergency Alerting System (PEAS)		1-800-292-4706
EGLE Southeast Michigan District Office		(586) 753-3700
Trenton Wastewater Treatment Plant		(734) 676-0646
National Response Center		1-800-424-8802
Marine Pollution Control	Environmental Contractor	(313) 849-2333

SECTION B – CLEAN-UP PROCEDURES

Spilled chemical should be effectively and quickly contained and cleaned up. Employees should clean up spills themselves **only if properly trained and protected**. Employees who are not trained in spill cleanup procedures should report the spill to the Responsible Person(s) listed above, warn other employees, and leave the area.

The following general guidelines should be followed for evacuation, spill control, notification of proper authorities, and general emergency procedures in the event of a chemical incident in which there is potential for a significant release of hazardous materials.

B.1 Evacuation

Persons in the immediate vicinity of a spill should *immediately evacuate* the premises (except for employees with training in spill response in circumstances described below). If the spill is of “medium” or “large” size, or if the spill seems hazardous, immediately notify emergency response personnel.

B.2 Spill Control Techniques

Once a spill has occurred, the employee needs to decide whether the spill is small enough to handle without outside assistance. Only employees with training in spill response should attempt to contain or clean up a spill.

NOTE: If you are cleaning up a spill yourself, make sure you are aware of the hazards associated with the materials spilled, have adequate ventilation, and proper personal protective equipment. Treat all residual chemical and cleanup materials as hazardous waste.

Spill control equipment should be located wherever significant quantities of hazardous materials are received or stored. Material Safety Data Sheets (SDSs), absorbents, over-pack containers, container patch kits, spill dams, shovels, floor dry, acid/base neutralizers, and “caution-keep out” signs are common spill response items.

B.3 Spill Response and Clean-up

Chemical spills are divided into three categories: Small, Medium, and Large. Response and cleanup procedures vary depending on the size of the spill.

Small Spills: Any spill where the major dimension is less than 18 inches in diameter. Small spills are generally handled by internal personnel and usually do not require an emergency response by police or fire department HAZMAT teams.

- Make sure area is safe for entry and the spill does not pose an immediate threat to health or safety of responder.
- Check for hazards (flammable material, noxious fumes, cause of spill). If flammable liquid is spilled, turn off engines and (nearby electrical

equipment). If serious hazards are present leave the area and call 911. When in doubt consult the SDS for hazards.

- Stop source of spill (plug hole, up-right the container, shut off valve).
- Notify Spill Response Coordinator.
- Block the nearest storm drain (use absorbent or other material as necessary, close valve to drain, cover or plug drain).
- If spilled material has entered a storm sewer, check catch basins and attempt to isolate contaminated material. Also, contact **Kevin Sargent, DPS Director at 734-341-8802** with a location and description of the spill.
- Clean up spilled material/absorbent (do not flush with water).
- Dispose of cleaned material/absorbent into secure container for proper disposal as required by state and federal law.
- Ensure entire spill area is properly cleaned and all hazards have been removed.
- Complete a Spill Reporting Sheet.

Medium Spills: Spills where the major dimension exceeds 18 inches, but is less than 6 feet. Outside emergency response personnel (police and fire department HAZMAT teams) may be called for medium spills. Common sense, however, will dictate when it is necessary to call them.

- Immediately try to help contain the spill at its source by simple measures only. This means quickly up-righting a container, or putting a lid on a container, if possible. Do not use absorbents unless they are immediately available. Once you have made a quick attempt to contain the spill, or once you have quickly determined you cannot take any brief containment measures, leave the area and alert Emergency Responders at 911. Closing doors behind you while leaving helps contain fumes from spills. Give police accurate information as to the location, chemical, and estimated amount of the spill.
- Evaluate the area outside the spill. Engines and electrical equipment near the spill area must be turned off. This eliminates various sources of ignition in the area. Advise Emergency Responders on how to turn off engines or electrical sources. Do not go back into the spill area once you have left. Help emergency responders by trying to determine how to shut off heating, air conditioning equipment, or air circulating equipment, if necessary.
- If emergency responders evacuate the spill area, follow their instructions in leaving the area.
- After emergency responders have contained the spill, be prepared to assist them with any other information that may be necessary, such as SDSs and questions about the facility. Emergency responders or trained personnel with proper personal protective equipment will then clean up the spill residue. Do not re-enter the area until the responder in charge gives the all clear. Be

prepared to assist these persons from outside the spill area with SDSs, absorbents, and containers.

- Reports must be filed with proper authorities. It is the responsibility of the spiller to inform both his/her supervisor and the emergency responders as to what caused the spill. The response for large spills is similar to the procedures for medium spills, except that the exposure danger is greater.

Large Spills: Any spill involving flammable liquid where the major dimension exceeds 6 feet in diameter; and any “running” spill, where the source of the spill has not been contained or flow has not been stopped.

- Leave the area and notify Emergency Responders (911). Give the operator the spill location, chemical spilled, and approximate amount.
- From a safe area, attempt to get SDS information for the spilled chemical for the emergency responders to use. Also, be prepared to advise responders as to any ignition sources, engines, electrical power, or air conditioning/ventilation systems that may need to be shut off. Advise responders of any absorbents, containers, or spill control equipment that may be available. This may need to be done from a remote area, because an evacuation that would place the spiller far from the scene may be needed. Use radio or phone to assist from a distance, if necessary.
- Only emergency response personnel, in accordance with their own established procedures, should handle spills greater than 6 feet in any dimension or that are continuous. Remember, once the emergency responders or HAZMAT team is on the job cleaning up spills or putting out fires, the area is under their control and no one may re-enter the area until the responder in charge gives the all clear.
- Provide information for reports to supervisors and responders, just as in medium spills.

SECTION C – REPORTING SPILLS

All chemical spills, regardless of size, should be reported as soon as possible to the Facility Responsible Person. The Responsible Person will determine whether the spill has the potential to affect the environment outside of the facility and must be reported to local, state, or federal agencies. Examples of spills that could affect the outside environment include spills that are accompanied by fire or explosion and spills that could reach nearby water bodies.

C.1 Reporting Thresholds

The spill coordinator will report spills to EGLE PEAS for spills that involve the following:

- Salt spills over 50 pounds or 50 gallons of brine onto the ground or into water (required by Part 5 rules)

- Gasoline release of 32 gallons or more onto the ground (required by Part 201)
- Oil release of 50 pounds (approximately 7½ gallons) onto the ground (required by Part 5 rules)
- Any amount of oil or fuel that reaches surface water or shorelines, call EGLE PEAS and the National Response Center (as required by the Clean Water Act and Part 31)
- Any spill that is in doubt about reporting

C.2 Reporting Requirements

Within ten (10) days of release, submit a written report for the reportable releases to the following:

- EGLE Water Resources Division Field Operations Chief, PO Box 30273, Lansing, Michigan 48909-7773
- Wayne County Department of Public Health, 33030 Van Born Road, Wayne, Michigan 48184

Note: For spill reporting, Environmental Emergency Spill / Release Reporting (PEAS Notification) <https://www.michigan.gov/egle/faqs/environmental-assistance/spills-and-release-reporting> . **PEAS Hotline (Michigan): 800-292-4706** (24/7) Then submit any required follow-up documentation through EGLE’s reporting system.

SECTION D – SPILL KIT INVENTORY

The following is a list of spill response equipment that will be maintained by the designated spill response coordinators at all locations where fuel products are stored and dispensed.

D.1 Minimum Spill Response Equipment

- 20 pounds of floor dry
- 1 shovel
- 1 broom
- Caution tape
- 1 Absorbent boom
- Absorbent Socks
- Container for clean-up (30 gallons)
- Sample bottles

SECTION E – PROCESS FOR REVISION

This procedure shall be reviewed once per permit cycle by the Stormwater Manager for any updates to streamline the requirements.

SOP: Catch Basin Inspection and Cleaning

Introduction

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

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

Trenton DPW and School Maintenance staff perform routine inspections, cleaning, and maintenance of the approximately 1200 catch basins that are located within the MS4 regulated area. All of the community's catch basins have very little sediment accumulation rates, require little maintenance and are of low priority. Catch basins that prompt resident complaints or are subject to isolated instances where structures are plugged or damaged will be maintained and inspected by DPW and School Maintenance as needed. At that time, it will be determined if the catch basin will require maintenance on a more frequent interval and warrants a reclassification to a medium priority rating.

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

Procedures

Inspection and Cleaning Frequency

- The Goal is to inspect 20% of City owned Catch Basins annually.
- Catch basins near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) or high-use areas should be inspected and cleaned more frequently if inspection finds excessive sediments or debris loadings.
- Catch basins should be cleaned to ensure that they are no more than 50 percent full at any time. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin. Establish inspection and maintenance frequencies needed to meet this "50 percent" goal. If a catch basin sump is more than 50 percent full during two consecutive inspections, document the findings, investigate the contributing drainage area for sources of excessive sediment loading, and, if possible, address the contributing sources. If no contributing sources are found, increase the inspection and cleaning frequencies of the sump.

Standard Operating Procedures

- Street sweeping performed on an appropriate schedule will reduce the amount of sediment, debris, and organic matter entering the catch basins, which will in turn reduce the frequency with which they need to be cleaned.

Inspection and Cleaning Procedures

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

- Oil sheen
- Discoloration
- Trash and debris

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

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

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

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

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

Standard Operating Procedures

8. If contamination is suspected, chemical analysis will be required to determine if the materials comply with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) regulations. The chemical analysis required will depend on suspected contaminants. Note the identification number of the catch basin on the sample label and note sample collection on the Catch Basin Inspection Form.

Handling and Disposal of Catch Basin Cleanings

- Properly dispose of collected sediments and catch basin cleanings (solid material, such as leaves, sand, and twigs removed from stormwater collection systems during cleaning operations).
- Dewatering from stormwater-only drainage system cleaning may be discharged into the Sanitary Sewer System after contacting and receiving permission from the City of Trenton WWTP Superintendent (Julie Willison 734-676-0646).
- Cleanings from stormwater-only drainage systems may be disposed at any landfill that is permitted by to accept solid waste. EGLE does not routinely require stormwater-only catch basin cleanings to be tested before disposal, unless there is evidence that they have been contaminated by a spill or some other means.
- Catch basin cleanings must be handled and disposed in accordance with compliance with the applicable EGLE regulations, policies, and guidance.

Documentation and Reporting

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

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

Employee Training

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

Attachments

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

CATCH BASIN INSPECTION FORM

Inspector: _____ Date: _____

Catch Basin I.D.		Final Discharge from Structure? Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, Discharge to Outfall No: _____		
Catch Basin Label:	Stencil <input type="checkbox"/>	Ground Inset <input type="checkbox"/>	Sign <input type="checkbox"/>	None <input type="checkbox"/> Other _____
Basin Material:	Concrete <input type="checkbox"/> Corrugated metal <input type="checkbox"/> Stone <input type="checkbox"/> Brick <input type="checkbox"/> Other: <input type="checkbox"/>	Catch Basin Condition:		Good <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Crumbling <input type="checkbox"/>
Pipe Material:	Concrete <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Clay Tile <input type="checkbox"/> Other: _____	Pipe Measurements:		Inlet Dia. (in): d= _____ Outlet Dia. (in): D= _____
Required Maintenance/ Problems (check all that apply):				
<input type="checkbox"/> Tree Work Required <input type="checkbox"/> New Grate is Required <input type="checkbox"/> Pipe is Blocked <input type="checkbox"/> Frame Maintenance is Required <input type="checkbox"/> Remove Accumulated Sediment <input type="checkbox"/> Pipe Maintenance is Required <input type="checkbox"/> Basin Undermined or Bypassed		<input type="checkbox"/> Cannot Remove Cover <input type="checkbox"/> Ditch Work <input type="checkbox"/> Corrosion at Structure <input type="checkbox"/> Erosion Around Structure <input type="checkbox"/> Remove Trash & Debris <input type="checkbox"/> Need Cement Around Grate Other: _____		
Catch Basin Grate Type:	Sediment Buildup Depth:	More than 50% full?	Description of Flow:	Street Name/ Structure Location:
Bar: <input type="checkbox"/> Cascade: <input type="checkbox"/> Other: _____ Properly Aligned: Yes <input type="checkbox"/> No <input type="checkbox"/>	0-6 (in): _____ 6-12(in): _____ 12-18 (in): _____ 18-24 (in): _____ 24 + (in): _____	Yes <input type="checkbox"/> No <input type="checkbox"/>	Heavy <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Trickling <input type="checkbox"/>	
*If the outlet is submerged check yes and indicate approximate height of water above the outlet invert. height above invert (in): _____			Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Flow	Observations:		Circle those present:	
<input type="checkbox"/> Standing Water (check one or both)	Color: _____		Foam	Oil Sheen
	Odor: _____		Sanitary Waste	Bacterial Sheen
Weather Conditions :	Dry > 24 hours <input type="checkbox"/>	Wet <input type="checkbox"/>	Orange Staining	Floatables
Sample of Screenings Collected for Analysis? Yes <input type="checkbox"/> No <input type="checkbox"/>			Excessive sediment	Pet Waste
Amount of sediment removed:			Other: _____	Optical Enhancers
Comments:				

Total Maximum Daily Load (TMDL) Implementation Plan for the Alliance of Downriver Watersheds MS4s in Wayne County



The Michigan Department of Environment, Great Lakes and Energy (EGLE), under the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit application, requires a plan or other documentation outlining how each Municipal Separate Stormwater Sewer System (MS4) will "make progress toward achieving the pollutant load reduction requirement" in each TMDL listed in each applicant's application notice. The purpose of this document is to provide the collective watershed plan for **addressing relevant TMDLs in the Alliance of Downriver Watersheds in Wayne County by MS4s** for the purpose of stormwater permit compliance through the permit cycle starting after 2016. This document addresses the permit application sections VII.86 through VII.88. It should be noted that this plan addresses only stormwater sources of impairments related to TMDLs and is not a *comprehensive* TMDL implementation plan.

I. TMDL AND MS4 COVERAGE

This TMDL Plan is submitted on behalf of the following Phase I and II MS4s within the Alliance of Downriver Watersheds, for each of the below-listed TMDLs, with their target loads included:

A. *Excessive bacteria (E. coli), and sediment in the Ecorse River*

Targets: For bacteria, May-October – 300 E. coli per 100 ml daily maximum and 130 E. coli per 100 ml as a 30-day geometric mean. November-April – 1,000 E. coli per 100 ml daily maximum.

For sediment, Primary – macroinvertebrate Procedure 51 score of at least -4, or a rating of "acceptable." Secondary – Annual mean wet-weather TSS concentration of 80 mg/l or less.

Allen Park	Romulus
Dearborn Heights	Southgate
Ecorse	Taylor
Inkster	Wayne County
Lincoln Park	Westland
Melvindale	Wyandotte

B. *Sediment in Brownstown Creek and Blakely Drain – Marsh Creek*

Target: Primary – macroinvertebrate Procedure 51 score of at least -4, or a rating of "acceptable." Secondary – Annual mean wet-weather TSS concentration of 80 mg/l or less.

Gibraltar	Trenton
Riverview	Wayne County
Romulus	Woodhaven
Taylor	

C. *Sediment in Frank and Poet Drain*

*Target: Primary – macroinvertebrate Procedure 51 score of at least -4, or a rating of “acceptable.”
Secondary – Annual mean wet-weather TSS concentration of 80 mg/l or less.*

Gibraltar	Trenton
Lincoln Park	Wayne County
Riverview	Woodhaven
Romulus	Woodhaven-Brownstown
Southgate	School District
Taylor	

D. *Habitat and Flow Alterations in Smith and Silver Creeks*

Note: Smith and Silver creeks are listed on the impaired waters list, but do not have a TMDL developed. While no additional stormwater management effort is required for these, the ADW partners will endeavor to meet the below targets that are used in drainages with existing TMDLs.

*Target: Primary – macroinvertebrate Procedure 51 score of at least -4, or a rating of “acceptable.”
Secondary – Annual mean wet-weather TSS concentration of 80 mg/l or less.*

Flat Rock	Wayne County
Gibraltar	Woodhaven
Rockwood	

E. *Excessive bacteria (E. coli) in the Detroit River or Statewide list*

Targets: May-October – 300 E. coli per 100 ml daily maximum and 130 E. coli per 100 ml as a 30-day geometric mean. November-April – 1,000 E. coli per 100 ml daily maximum.

Allen Park	Romulus
Dearborn Heights	Southgate
Ecorse	Taylor
Flat Rock	Van Buren Township
Gibraltar	Wayne County
Grosse Ile Township	Westland
Inkster	Woodhaven
Lincoln Park	Woodhaven-Brownstown School
Melvindale	District
Riverview	Wyandotte
Rockwood	

II. PRIORITIZING AND IMPLEMENTATION BMPS

The MS4s in the Alliance of Downriver Watersheds have put forth substantial effort and resources to reduce the sources of impairments related to the TMDLs listed in the previous section. These partner organizations, along with non-MS4 entities have developed a number of general and specific plans to address watershed impairments. These plans direct the current and future project and program

priorities. The suite of projects and programs already put in place contributed to significant impairment reduction, as evidenced by data collected through on-going monitoring.

To comply with NPDES stormwater permit requirements, the above-listed MS4s submit that the suite of Best Management Practices (BMPs) contained in the attached Priority Actions Table (Attachment 1) represents each MS4's project priorities that will be implemented during the permit cycle to collectively make progress toward achieving each of the TMDL pollutant load reduction targets. Each MS4 has attached a table of BMPs that identifies the targeted TMDL pollutants (i.e. sediments, flow alterations or bacteria where relevant) and the priority of the BMP. In many cases, no additional prioritization is needed, as the activity is a general (G) stormwater treatment BMP and will be applied across the MS4 and watershed, and not specific to a particular drainage or impairment. For those BMPs that are area or pollutant specific, data from the monitoring program will be used to help establish priorities for implementation. In these cases, BMPs are classified as high (H), medium (M) or low (L) priority for each TMDL. The high priority BMPs will first be implemented in creeksheds or drainage areas that are determined (through monitoring) to be greater sources of the TMDL pollutant or impairment. Conversely, medium and low priority BMPs will be implemented in these TMDL-pollutant source areas after high priority BMPs are implemented.

III. MONITORING PLAN

A summary of past monitoring results and conclusions related to TMDLs in the watershed is included in monitoring reports found on the [ADW Initiatives page](#). The most recent published report is included in Appendix B, but updated monitoring results will be found on the webpage above. The summaries provided are based primarily on data collected through HRWC's Water Quality Monitoring Program, which has been funded in part by MS4s. Currently the MS4s and other watershed partners plan to continue to support this program to seasonally monitor ADW tributaries for TMDL pollutants. However, for the purposes of NPDES stormwater permit compliance, the MS4s commit to the following Monitoring Plan.

1. MS4s will support the collection of water quality samples from sites that are located at or near major tributary mouths. Figure 1 shows a map of the nine long-term monitoring sites. A current map of all water quality monitoring sites is located at the [Chemistry and Flow Monitoring website](#).
2. Samples will be collected at least twice during the permit cycle, not including the data included from previous monitoring. Sampling years will be in year one and year four. At least one sampling event will take place at each of the nine sites. An effort will be made to sample water quality parameters during a representative (i.e. >0.25" and <1.5") wet-weather event. For these wet-weather events, samples will be collected during the rising period of the flow hydrograph or within 6 hours of the peak storm flow. Currently, sampling under the ADW monitoring program occurs much more frequently than this – twice per month, April through September each year, with additional sampling at 1-4 upstream investigative sites each year. Several wet-weather events are sampled during this schedule. The ADW plans to continue this monitoring regime, though it commits to twice during the permit cycle.

3. Samples will be collected following procedures identified in ADW's Monitoring Program QAPP (see Appendix A). Samples will be analyzed by a local municipal laboratory or other certified lab for the following concentrations: Total Phosphorus (TP), Total Suspended Solids (TSS), and *E. coli*. HRWC also may analyze samples for *E. coli* using the IDEXX Colilert laboratory equipment.
4. Stream flow estimates will be obtained from existing stations during the dates and times water quality samples are collected.
5. The pollutant concentrations and stream flow estimates will be used to update pollutant loading estimates and estimate pollutant load reductions. These results will be summarized in a brief report to be shared with the public via HRWC and/ADW websites at least twice during the permit cycle.
6. In addition to regular chemistry and flow monitoring, outfalls will be sampled on a targeted basis. Figure 2 depicts target stream reaches. For bacteria-impaired streams, focus reaches are those with high *E. coli* annual geomeans above average for the TMDL watershed, and with multiple samples over 1,000 cfu (or count/100 ml sample). For aquatic life (TSS) impairments, focus reaches are those in high loading streams with above average comparative concentrations.

Targeted subsets of outfalls along target reaches will be selected based on source likelihood analysis using land use and aerial information for sampling during a storm window. Sites will be sampled after June 1 and before October 1 during wet weather. Bacteria samples will be analyzed for *E. coli* counts. Any results > 2,000 cfu will trigger processing of a second sample to be sent to a laboratory with the capability to perform microbial source analysis for bacteria source tracking to identify human or canine source markers. Once received, sample results will be reported to the relevant MS4 for IDEP investigation follow-up. Land uses and parcels within drainage systems to these suspect outfalls will be evaluated for potential source locations and shared with the MS4 IDEP team. The sampling team will wait for IDEP resolution before proceeding to the next sampling subset of outfalls. For TSS, high results (i.e. > 80 mg/l TSS) will trigger assessment for identification of potential sources and potential treatment practices.

Following this first year's outfall investigation, the sampling team will evaluate results and identify a new focus reach in order of greatest likelihood of high pollutant sources. Figure 2 shows focus reaches in TMDL areas with MS4 outfalls. Four focus area streams (North and South branches of Ecorse Creek, Frank & Poet Creek, and Silver Creek) have been identified for initial investigation. Depending on initial results, the sampling team will investigate other streams or other reaches along these streams. It is possible that multiple focus reaches will be sampled this way in a given sampling year.

7. Any sites with sample results above the previously listed TMDL targets will be resampled to confirm and average results.
8. A plan for implementing BMPs in TMDL areas was developed and described in section II and a list of BMPs to be implemented by MS4s was included with each MS4's permit application. BMP implementation will begin within a year in these areas. If after implementation of high-priority BMPs, TMDL targets continue to be exceeded or target parameter values increase in severity,

MS4s will re-evaluate the plan and begin implementing additional high or medium-priority BMPs within a year after making this determination. BMPs will be selected for implementation according to the strategy described in section II.

9. Based on a review of year one and year four data and summary reports, BMP implementation will be reviewed and BMP implementation plans may be updated or revised to ensure progress toward achieving TMDL pollutant load reductions. BMPs that are employed will be evaluated using a before and after analysis of the parameter that is deemed impaired in a given TMDL. For bacteria TMDL areas, a sampling event with levels exceeding the single-sample *E. coli* standard will be compared to dry-weather sampling results (during warm-weather, productive months, or other conditions similar to original samples) after the BMP (or suite of BMPs) is deployed.

For sediment-based TMDLs, wet-weather TSS sample results from before and after BMP implementation will be compared. Ideally, multiple samples will be collected before and several years after BMPs are implemented. A before-after decrease in target parameters will be considered “progress” toward TMDL targets. If the after-implementation results are below target water quality standards, the BMPs will be considered successful at meeting the TMDL targets for the waterbody sampled and the MS4s in the contributing area (watershed). If multiple samples are collected, trend lines will be established to determine the degree of progress towards TMDL targets. Geometric means of qualified (i.e. meeting sampling condition requirements) post-implementation results will be used for *E. coli*, and simple means will be used for TSS results. Ultimately, to delist an impairment, additional sampling will be needed, which is beyond the scope of MS4 permit requirements to comply with water quality standards.

In addition to this stormwater sampling plan, ADW partners currently collect macroinvertebrates three times a year at sites throughout the Watershed (see Figure 3, which helps track progress towards the primary target of biota (sediment) TMDLs. Improvements in macroinvertebrate diversity (i.e. Procedure 51) will ultimately be necessary for delisting biota impairments. Sampling protocols for macroinvertebrates are also included in Appendix A, and results are reported along with water quality results in summary reports on the [ADW Initiatives page](#).

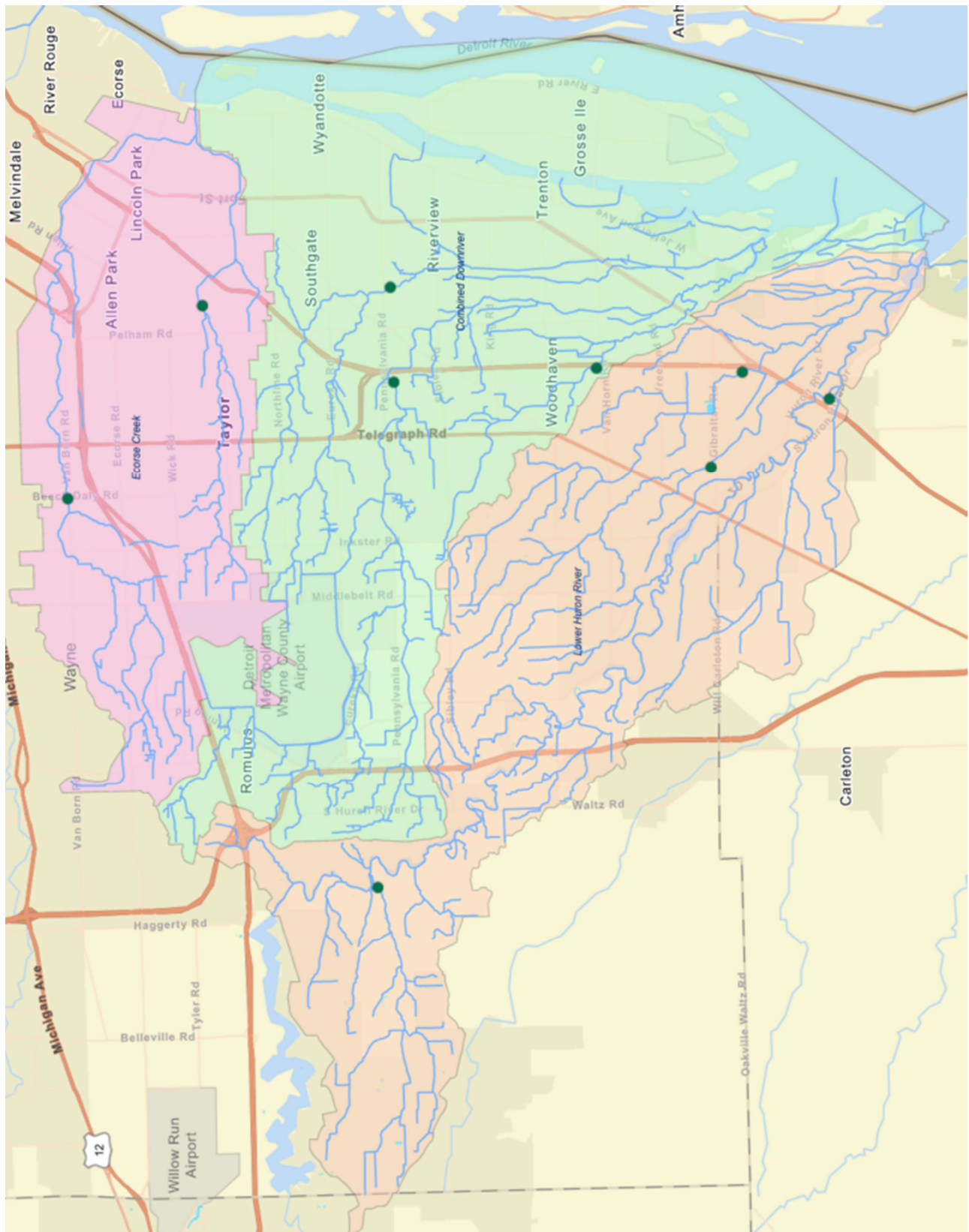


Figure 1. Long-term water quality monitoring stations in the Alliance of Downriver Watersheds

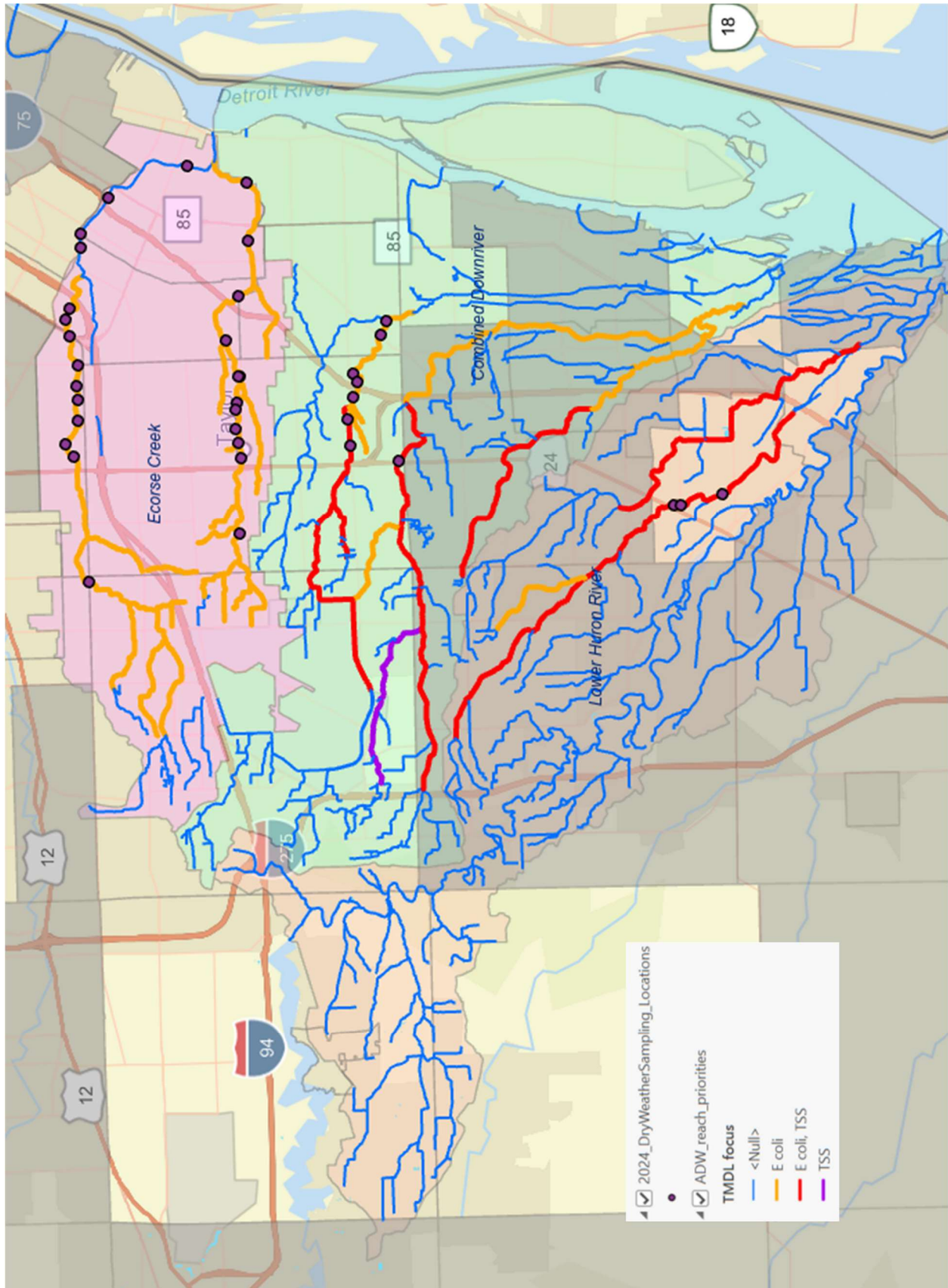


Figure 2. Priority reaches by TMDL with target IDEP outfalls for 2024 shown. Grey areas are not part of the ADW.

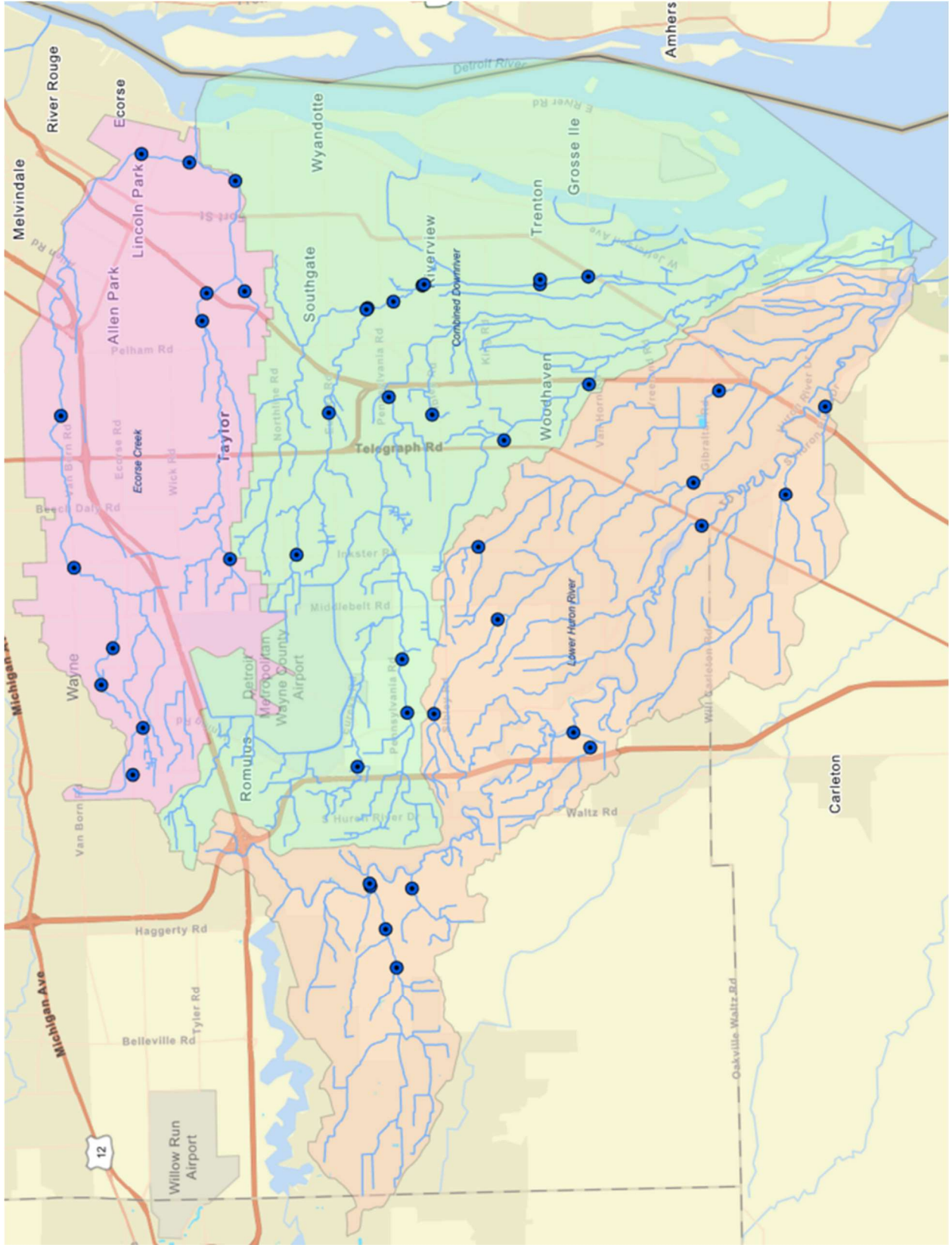


Figure 3. Macroinvertebrate sampling locations and results in ADW.

Quality Assurance Project Plan

**Grow Zones Across the Alliance of Downriver Watersheds
CMI Tracking Code: 2006-0137**

Prepared by:

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May 7, 2008

Overview

This Quality Assurance Project Plan (QAPP) is being developed to identify, in one document, the methodologies that will be utilized to evaluate the Grow Zones Across the Alliance of Downriver Watersheds Project (GZAADWP). The GZAADWP is being funded in part by a Clean Michigan Initiative grant from the Michigan Department of Environmental Quality (MDEQ) to the Wayne County Department of Environment (WCDOE) Water Quality Division (WQD). The primary water quality issues to be addressed by the GZAADWP are stream bank erosion, sedimentation and nutrient loading. Improvements in stream temperature, riparian and aquatic habitat are also anticipated as a result of this project.

The watersheds within the Alliance of Downriver Watersheds (ADW) include Ecorse Creek, Combined Downriver and the Lower Huron River watersheds. Ecorse Creek and Combined Downriver are relatively urban watersheds within Wayne County. The Lower Huron River watershed is more rural but under heavy development pressure and includes the southeastern corner of Wayne County and northern portion of Monroe County. Much of the surface water within these watersheds is designated county drain originally designed to accept agricultural flows. As these watersheds urbanize, the ability of these small drains to handle the new, higher peak flows is insufficient resulting in flashy flows, erosion, nutrient loading and sedimentation. The largest threat and/or challenge for these watersheds is the loss, and/or restoration of “green infrastructure”. Preservation, protection and restoration of Green Infrastructure is critical to the restoration and protection of the Ecorse Creek, Combined Downriver and Lower Huron River watersheds.

General findings revealed minimal riparian buffers, significant sedimentation and turbid water, evidence of flashy flows, eroded banks and debris piles. Recognizing that these practices may not be the most beneficial or efficient, Wayne County is interested in implementing new techniques for managing the riparian corridor. New riparian corridor management methods being explored by the County include creating or expanding riparian buffer areas, upland grow zone areas and increasing floodplain storage capacity. These techniques can minimize or eliminate site specific stream bank erosion while simultaneously improving riparian corridors by creating wildlife habitat and increasing the amount of riparian vegetation which provides a buffer to protect the corridor and shade to keep the stream cooler. This project will help address the problems of minimal riparian buffers, sedimentation and total suspended solids, unstable flashy flows, eroding stream banks, and nutrient (phosphorus) loadings.

The specific **GOALS** of this project are:

- To prevent non-point source pollution by reducing storm water runoff, sedimentation and nutrient pollution within the Alliance of Downriver Watersheds;
- To establish and/or expand riparian buffers and no mow zones (Grow Zones) that will increase infiltration, storm water retention and evapotranspiration;
- To provide improved terrestrial, riparian and aquatic habitat;
- To compliment other activities being implemented consistent with the Watershed Management Plans, such as construction of detention basins, bioswales, rain gardens, and other storm water management BMPs;

- To build support and capacity within the local communities, local schools and the County drain maintenance staff to manage and expand the use of “Grow Zones” along the riparian corridor within the County Drain easement, on public parklands and public school properties.
- To document and communicate measurable improvements to the condition of the river, the river corridor and the watershed.

These **GOALS** will be achieved through the realization of the following **OBJECTIVES**:

- Develop and implement a Grow Zone Mini-Grant Program to establish schoolyard habitats and local community –school district place based education and Great Lakes stewardship partnerships. *Please note: The ADW Public Education Committee will develop the criteria for selecting the grant recipients. MDEQ staff will be requested to participate in the program design and selection process to facilitate site approval and ensure consistency with grant objectives.*
- Expand riparian buffers and establish Grow Zones at a minimum of 10 sites to restore a more natural site hydrology, increase infiltration and minimize storm water runoff and stream bank erosion.
- To provide approximately 25 acres of new/improved riparian/aquatic habitat within the Combined Downriver Watershed.
- Utilize woody debris management as appropriate within riparian buffer Grow Zone project sites to protect stream banks.
- Involve approximately 20 Wayne County field and maintenance personnel, 10 Stream Team teachers, and over 50 students and additional volunteers in the planning and hands-on implementation and construction of these projects. The number of staff involved is important to ensure long-term sustainability and future widespread application of these BMPs in the Combined Downriver watershed. Involvement of volunteers will also help ensure sustainability and application of these BMPs throughout the region.
- Establish and implement a project evaluation and monitoring strategy that characterizes and communicates the before and after as well as the watershed impacts of green infrastructure and the grow zone projects. Elements of the evaluation strategy anticipated to be included are:
 - Updated high resolution aerial imagery will be processed by a contractor and Green Infrastructure Analysis tools (CityGreen©) will be used to analyze and provide before and after storm water storage volumes and economic benefits of the ADW green infrastructure. *Please note: The ADW Partnership will have the ability to calculate, model, and analyze Green Infrastructure environmental and economic benefits for both large area (watershed wide) and small area analysis (project site) as an on-going element of their watershed management decision making support system .*
 - Before and after in stream physical (flow, temperature), biological (macroinvertebrates, amphibians and other wildlife) and chemical improvements (dissolved oxygen).
 - Documentation that stream bank erosion has been minimized or eliminated at riparian grow zone sites.

- Documentation that plant communities have been established and the capacity of these sites to manage storm water and prevent pollution is increasing.
- Site Integrity Plant Surveys.

This QAPP has been developed for review and approval by the MDEQ in February of 2008. This has been done to enable WCDOE-WQD staff to initiate the in-stream biological monitoring in the 2008 to establish the baseline conditions prior to the design and construction of the GZAADWP BMPs and the implementation of the BMP Evaluation Metrics and Protocols.

May 2008
Quality Assurance Project Plan

Grow Zones Across the Alliance of Downriver Watersheds
CMI Tracking Code: 2006-0137

Approval:

NPS Unit Chief, Robert Day
Michigan Department of Environmental Quality

Table of Contents

<u>A. PROJECT MANAGEMENT</u>	<u>8-16</u>
A1. Distribution List	8
A2. Project/Task Organization	9
A3. Problem Identification/Background	10
A4. Project/Task Description	10
A5. Data Quality Objectives for Measurement Data	12
A6. Training Requirements/Certification	16
A7. Documentation and Records	16
<u>B. MEASUREMENT/DATA ACQUISITION</u>	<u>17-21</u>
B1. Sampling Sites and Sampling Frequency	17
B2. Sampling Methods	18
B3. Sampling Handling and Custody Requirements	19
B4. Quality Control Requirements	19
B5. Equipment Inspection and Maintenance	20
B6. Data Management	21
<u>C. ASSESSMENT AND OVERSIGHT</u>	<u>21</u>
C1. Assessment and Response Actions	
C2. Reports	
<u>D. DATA VALIDATION AND USABILITY</u>	<u>22</u>
D1. Data Review, Validation, and Verification Requirements	
D2. Validation and Verification Methods	
D3. Reconciliation with Data Quality Objectives	
<u>APPENDIX A</u>	<u>24</u>
A-1. Benthic Macroinvertebrate Monitoring Plan –Standard Operating Procedure	
A-2. MiCorps Stream Macroinvertebrate Data Sheet	
A-3. I Quick Habitat Assessment Form	
A-4. Site Location Map Form	

APPENDIX B 36

B-1. Geomorphology Survey Standard Operating Procedure

B-2. Geomorphology Survey Data Sheet

APPENDIX C 42

C-1. Flow Standard Operating Procedure

C-2. Flow Data Form

APPENDIX D 48

D-1. Water Chemistry Standard Operating Procedure

D-2. Water Chemistry Data Forms

APPENDIX E 62

E-1. Simple Plant Survey Standard Operating Procedure

E-2. Simple Plant Survey Data Sheet

APPENDIX F 68

F-1. Turf Tec Infiltration Measurement Standard Operating Procedure

F-2. Infiltrometer Data Sheet

APPENDIX G 72

G-1. Site Integrity and Maintenance Standard Operating Procedure

G-2. Site Integrity and Maintenance Data Sheet

APPENDIX H 75

H-1. Project Monitoring Location Map

H-2. Project Monitoring Location ID Table

A. PROJECT MANAGEMENT

A1. Distribution List

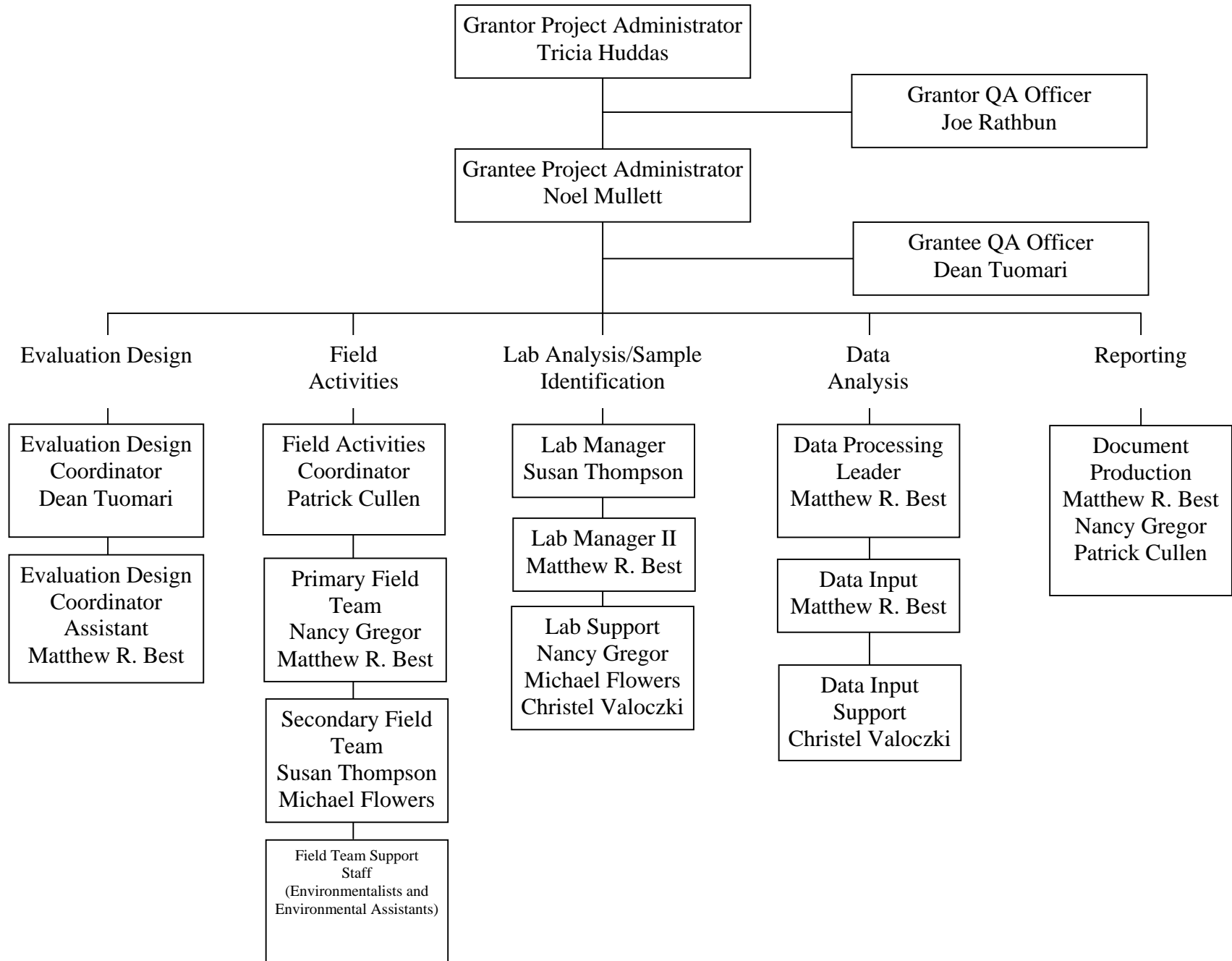
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Wayne County Staff
(See Project Organization Chart)

A2. Project Task Organization (Figure 1-1)



A 3. Problem Definition/Background

A variety of vegetative and structural best management practices will be installed throughout the Alliance of Downriver Watersheds. Under this QAPP Benthic Macroinvertebrate Monitoring and Habitat Assessment protocols developed by MDEQ for volunteer monitoring will be used to establish baseline water quality and habitat conditions within the project work area. These same sites will be monitored throughout the duration of the grant project and beyond to assess the overall cumulative (or system) effectiveness of the vegetative and structural controls implemented within the project work area. Various other evaluation techniques have been developed and will be implemented under this QAPP to evaluate the effectiveness of each individual BMP project implemented within the project work area.

Data and analysis conducted under this QAPP will be important in establishing long-term strategies for implementation of BMPs within the Alliance of Downriver Watersheds and southeastern Michigan. Monitoring data will be shared with project partners, stakeholders, and the public. Benthic monitoring efforts will be coordinated with the Huron River Watershed Council (HRWC) benthic monitoring to increase the number of stream sites throughout the Alliance of Downriver Watersheds for which reliable data on benthic populations and riparian corridor conditions is available.

The data collected will be provided to HRWC as well as submitted to the Michigan Department of Environmental Quality, which uses it within the Water Bureau (especially the Non-Point Source Unit) to screen for potential problems. It shall be provided to anyone who inquires about the watershed. The data collected will be submitted to the Michigan Department of Environmental Quality. The summary report will be provided to the Alliance of Downriver Watersheds and to all participating volunteers upon request.

A4. Project/Task Description

The Riparian Corridor Management Program trains and utilizes Wayne County Staff to become team leaders and participate in evaluation of all project elements.

Within this program, two levels of staff will be involved: staff team leaders and support staff. The Project Manager and/or other qualified agency experts will train team leaders in sampling techniques and how to conduct the surveys. Team leaders will be responsible for collecting data at each site and filling out survey and data sheets.

The main BMP utilized in this project will be Grow Zones. Grow Zones are vegetated areas (planned or naturally occurring) with the purpose of improving water quality and wildlife habitat. Water quality and wildlife habitat in the project area would benefit by protecting our natural areas, expanding native buffers and increasing planting areas. Grow zones can be anywhere, both public and private property, and take many different forms. We already have green roofs and green walls at industrial sites, and rain gardens and native buffer plantings on residential and municipal property. These grow zones increase infiltration of rain, reduce pollution and cost less to maintain. Improved water quality and additional natural areas benefit fish and wildlife. Opportunities for grow zones exist at community parks, municipal buildings, commercial developments and our own yards.

The selected Grow Zone BMP method, Wildflower Plantings, will have a specific, distinct evaluation program. The overall evaluation strategy is presented in Figure 1-2.

Figure 1-2: Alliance of Downriver Watersheds Grow Zone Monitoring and Evaluation Strategy

TASKS	Purpose/Objective	QAPP Required
In-Stream Monitoring		
Benthic Survey	Baseline stream conditions benthic populations; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Geomorphological Survey	Baseline stream site conditions; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Flow Monitoring	Baseline stream flow conditions; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Water Chemistry	Baseline stream water chemistry conditions; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Physical Habitat	Baseline stream conditions physical habitat; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Urban Ecosystem Analysis		
Desk-Top Regional Scale	Baseline land cover; storm water storage capacity and economic value; air pollution removal and value; carbon stored and sequestered	No
High Resolution – Field Verified	High resolution land cover; revised capacity and economic values; future management decision making	No
Grow Zones		
Plant Survey	Plant establishment/success; biodiversity.	Yes
Infiltration Monitoring	Infiltration rates of the project areas vs. adjoining turf using Turf Tecs; BMP performance and trend analysis – cumulative impacts of Grow Zones and RCM	Yes
Site Integrity and Maintenance	Site integrity; invasive species identification; erosion control; management and maintenance	Yes

For the grow zones, five different evaluation techniques are planned. The grow zones will be evaluated through the use of plant surveys, turf-tec infiltration monitoring benthic surveys, geomorphological surveys and site integrity evaluations. Flow monitoring and water chemistry sampling will also be performed to provide data to support the assessment of the grow zones and their affect on the watershed's flow regime and chemistry. Staff and qualified volunteer partners shall conduct this work. Each method is described in the attached appendices. These methods will give quantitative and qualitative evaluation of the success of the BMP installations. Benthic Sampling events will take place in the fall and spring.

For the Benthic Monitoring, sampling will be conducted as a team activity. Each team will consist of 1-2 experienced team leaders and 1-3 inexperienced staff. Each team will visit and sample 2 - 3 sites on Riparian Corridor Management (RCM) Sampling Days.

Following each fall and spring benthic sampling day(s), identification will be verified and completed in the lab. Each sample will be re-sorted and identified to order by the Lab Manager or Lab Manager II. The Data Processing Leader will identify aquatic insects to Family.

Results for each site will be compiled and a report of the findings will be produced and distributed following each sampling event (April and October). Completed data forms and report of findings will be submitted to the MDEQ Water Bureau as part of the CMI Progress Reporting process.

Water Chemistry will be conducted in conjunction with one or more of the project assessments. Water chemistry parameters monitored during this project are: dissolved oxygen (DO), conductivity, pH, temperature, total phosphorus (TP), and Suspended Solid Concentration (SSC). Water chemistry sites are selected utilizing the following criteria: a) the number of sites in each watershed are selected to provide data representative of the conditions watershed wide to establish baseline data and trends, and b) this data can also be used to determine grow zone effectiveness. The water chemistry monitoring schedule is as follows:

2008: DO, temperature, pH and conductivity are the parameters that will be monitored in 2008. These parameters will be sampled during flow monitoring equipment data collection, calibration and maintenance (approximately every two-three weeks during the monitoring season). The parameters will also be monitored during the five flow curve calibration monitoring events and during the fall and spring bug hunts.

2009: Data collected during 2008 will be used to determine sites, parameters and monitoring frequency for the 2009 monitoring plan. DO, Temperature, pH, conductivity SSC and TP monitoring will be performed at the benthic and flow monitoring sites. The monitoring will also be performed during one or more of the project assessments. The specific monitoring frequency and number of sites will be determined by April 2009.

See Figure 1-3: Task Schedule 2008 and Figure 1-4: Task Schedule 2009.

A5. Data Quality Objectives for Measurement Data

See Figure 1-5: Data Quality Procedures and Objectives.

Figure 1-3: Task Schedule 2008

TASKS	J	F	M	A	M	J	J	A	S	O	N	D
Wildflower Plantings (Installation)										X		
Plant Survey												
Turf Tec Infiltration Monitoring												
Site Integrity and Maintenance												
In-Stream Monitoring												
Flow Monitoring				X	X	X	X	X	X	X		
Water Chemistry				X	X	X	X	X	X	X		
Geomorphology Surveys				X						X		
Benthic Survey				X						X		
Site Integrity and Maintenance												
Season Reports					X						X	

Figure 1-4: Task Schedule 2009

TASKS	J	F	M	A	M	J	J	A	S	O	N	D
Wildflower Plantings												
Plant Survey					X			X				
Turf Tec Infiltration Monitoring			X	X	X	X	X	X	X	X		
Site Integrity and Maintenance			X	X	X	X	X	X	X	X		
In-Stream Monitoring												
Flow Monitoring				X	X	X	X	X	X	X		
Water Chemistry				X	X	X	X	X	X	X		
Geomorphology Surveys				X						X		
Benthic Survey				X						X		
Site Integrity and Maintenance			X	X	X	X	X	X	X	X		
Season Reports					X						X	

Figure 1-5: Data Quality Procedures and Objectives

Activity	Accuracy	Precision	Representativeness/Comparability
Plant Survey	<ol style="list-style-type: none"> 1. Follow sampling protocol 2. Sampling pseudo-accuracy = resample by experienced person 3. ID Accuracy = Experienced person and standard taxonomic keys. 	Same as accuracy	Use standard sampling techniques and accepted taxonomic keys
Turf Tech Infiltration Monitoring	Follow field protocol and use proper equipment	Use proper equipment and keep it calibrated	Use standard protocols
Flow Monitoring	<ol style="list-style-type: none"> 1. Follow field protocol and use proper equipment 	Follow field protocol and use proper equipment	Use standard protocols
Water Chemistry	<ol style="list-style-type: none"> 2. Follow field protocol and use proper equipment 	Follow field protocol and use proper equipment	Use standard protocols
Geomorphological Survey	<ol style="list-style-type: none"> 1. Surveying accuracy target; 0.02 ft. Repeat survey if accuracy target not met. 2. Follow field protocol and use proper equipment 	Use proper equipment and keep it calibrated	Use standard protocols
Benthic Survey	<ol style="list-style-type: none"> 1. Follow sampling protocol 2. Sampling pseudo-accuracy = resample by experienced person 3. ID Accuracy = Experienced person and standard taxonomic keys. 	Same as accuracy	Use standard sampling techniques and accepted taxonomic keys

Comparability

All participants follow the sampling and monitoring protocol and use standardized field data forms appropriate for each method, which are found in the appendices. Additionally, each method's participants shall be trained in each method and in how data is collected and recorded. Also, collected specimens and organisms are identified in the lab to Family. The sampling protocols used in this effort are routinely used in other studies in Wayne County, including Friends of the Rouge's benthic sampling program.

The water chemistry sampling protocols utilized in this effort are used in other Wayne County monitoring efforts, including Illicit Discharge Elimination Projects, Dissolved Oxygen studies, and Alliance of Rouge River (ARC) dry and wet weather monitoring.

A6. Training Requirements/Certification

Benthic Monitoring:

Team leaders have already been trained to perform benthic sampling by Friends of the Rouge, (FOTR) whose sampling method has been approved by MICorps. The Field Trainer II will provide subsequent trainings and refreshers. Training sessions cover proper sampling techniques using a D-frame net, and identification to Order for the major orders of benthic macroinvertebrates. Participants are also trained in how to conduct the Habitat Survey. The sampling component is always done in the field. Newly trained leaders are paired with experienced leaders until the Project Manager is comfortable with their sampling and identification skills. Refresher courses are offered as needed.

Performance is evaluated by comparing specimens collected to identifications written on paper forms in the Lab and by periodic re-sampling of survey sites.

Figure 1-6: Benthic Monitoring Schedule

TASKS	J	F	M	A	M	J	J	A	S	O	N	D
Team leader training			X	X	X				X	X	X	
Sampling events				X	X					X	X	
ID Days				X	X					X	X	
Data analysis/reporting				X	X	X				X	X	X

BMP Performance:

Staff leaders will provide opportunities for participants to be trained in how to complete each method. Training sessions cover proper method techniques. Newly trained participants will be paired with experienced leaders, if possible, until the Project Manager is comfortable with their skills. Refresher courses are offered as needed.

Staff performance is evaluated by reviewing data collected, and repeating surveys that yield anomalous results.

A7. Documentation and Records

Benthic Monitoring:

Each team must complete the 2-page habitat assessment form and the one page benthic macroinvertebrate form in the field (**Appendix A**). Several specimens of each type of organism found must be collected at the site and preserved in the jar of alcohol provided. This jar has a label on the outside and on the inside, with the station location and date. An additional taxonomy form is completed when samples are crosschecked after monitoring day. The Data Processing Leader or designee enters data into a spreadsheet. Hard copies of all forms are sent to the MDEQ and voucher specimens as requested. Voucher collections are maintained by Wayne County Department of Environment.

BMP Performance:

Each sampling team, for each method, must complete the appropriate forms and/or collect samples, if required by the method. The Data Processing Leader or designee enters data into a database. Hard copies of all forms are sent to the MDEQ. Electronic data submitted to the MDEQ will be in the appropriate EPA STORET database format (provided by MDEQ).

Water Chemistry

Field notes generated during the project will be kept in a logbook (see Appendix A for examples of field data forms). Existing Microsoft® Access database applications will be used to store and analyze the water quality data. Microsoft® Excel software may be used to present the data in table and graph formats for quarterly reports and final reports. ArcMap® will be used to map sampling locations, and prepare maps for the quarterly and annual reports. Storet

B. MEASUREMENT/DATA ACQUISITION

B1. Sampling Sites and Sampling Frequency

See Figure 1-3, 1-4: Task Scheduler.

Sites are sampled in the spring and fall for all benthic macroinvertebrates. Sites are not sampled if the water is dangerously high. If conditions are poor on sampling day or results are questionable, staff may resample some sites.

Sites have been chosen to establish baseline habitat and benthic community conditions within the project work area and the Alliance of Downriver watersheds. Sites were chosen based on locations of new and previous riparian corridor management projects. Benthic monitoring is performed upstream, downstream, and adjacent to selected BMP sites. In-stream geomorphological survey will be performed at representative locations within the project work area as approved by MDEQ QAPP officer (see Appendix H – Project Map). Project participants work in teams and only the team leaders actually enter the creek in waders and sample. They are instructed not to sample a site if the water is dangerously high.

BMP performance monitoring is performed at the selected sites as prescribed by each monitoring method. Sites are evaluated for a variety of factors, including habitat health and water infiltration. Project participants will typically work in teams.

Water Chemistry:

The water chemistry sites are the benthic and flow monitoring sites identified in Appendix H.

Flow Monitoring:

Flow monitoring will be performed at five sites during this project. Data from a sixth site will be obtained from an existing USGS gage station.

Monitoring frequency

The water chemistry monitoring schedule is as follows:

2008: DO, temperature, pH and conductivity are the parameters that will be monitored in 2008. These parameters will be sampled during flow monitoring equipment data collection, calibration and maintenance (approximately every two-three weeks during the monitoring season). The parameters will also be monitored during the five flow curve calibration monitoring events and during the fall and spring bug hunts.

2009: Data collected during 2008 will be used to determine sites, parameters and monitoring frequency for the 2009 monitoring plan. DO, Temperature, pH, conductivity SSC and TP monitoring will be performed at the benthic and flow monitoring sites. The monitoring will also be performed during one or more of the project assessments. The specific monitoring frequency and number of sites will be determined by April 2009.

B2. Sampling Methods

The teams are instructed to utilize the appropriate methods and standard operating procedures (See Appendices.)

Figure 1-7

<i>Parameter</i>	<i>Method</i>	<i>Detection Limit</i>	<i>Sample Volume (mL)</i>	<i>Bottle Type</i>	<i>Preservative</i>	<i>Hold Time</i>
Suspended Sediment Concentration (SSC)	ASTM Standard Test D3977-97 Test Method B	1 mg/L	500 mL	Polyethylene	None	7 days if kept cold
Total Phosphorus (TP)	EPA 365.1 R2.0	0.010 mg/L	250 mL	Polyethylene	H ₂ SO ₄	48 Hours
	<i>Meter</i>	<i>Detection Limit</i>	<i>Range</i>			
Conductivity	ThermoOrion® conductivity meter	Resolution 0.1 mSiemens	0-500 mSiemens	Polyethylene 250mL	None	28 days if kept cold
Dissolved Oxygen	YSI 550® Dissolved Oxygen meter	Resolution 0.01mg/L	0 to 50mg/L	None	None	Measured in field
pH	Hach Pocket Pal ® pH Tester	Resolution 0.1	0.0 to 14.0	Polystyrene 250ml Measure immediately in the field	None	Measured in field

B3. Sample Handling and Custody Requirements

Macroinvertebrates:

All macroinvertebrate samples collected in the field are placed into jars with ethanol preservative and pre-labeled for the site. The label contains the date and the site name. Samples are returned once sampling is completed or as soon as possible. The samples are maintained by Wayne County.

Water Chemistry:

Water chemistry samples are collected in accordance with guidelines outlined in the *Wayne County Department of Environment Water Quality Division (WQD) Standard Operating Procedure for Surface Water Quality Monitoring (SOP)*, attached. Conductivity, temperature, and dissolved oxygen will be measured in the field with appropriate meters, or monitoring equipment. If long term monitoring at a site is employed, a multi-parameter sonde will be deployed. The instruments will be calibrated in accordance with the manufacturer's instruction manual. If a sonde is deployed at a site to measure dissolved oxygen, temperature and conductivity, it will be positioned in a stilling well to prevent damage to the instrument

If employed, long-term monitoring sites will be selected in consultation with the Alliance of Downriver Watersheds Technical Committee and MDEQ staff based on 2008 and 2009 data and field experience.

Laboratory: The laboratory selected to perform TP and SSC will be identified and submitted to MDEQ upon final selection.

B4. Quality Control Requirements

All methods are followed rigorously. Staff are routinely given refresher training in all methods to ensure quality control. (See methods in appendices)

Sample collection: Team leaders attend a refresher training at least once a year.

Macroinvertebrate Identification: All samples collected are re-identified by Staff in the Lab, who key out any unidentified organisms. To avoid bias in identification, team leaders are assigned to sites they did not sample. Any unusual results are checked by re-sampling the site. All samples collected are maintained and a reference collection will be created over time.

Water chemistry:

Water chemistry samples will be collected in accordance with WQD SOPs and guidelines. Field personnel will calibrate field meters and sondes as described in the user's manual and crosschecked with known standards. The pH meter will be calibrated in accordance with its user's manual on each day of use.

The dissolved oxygen meter and the sonde will be calibrated in accordance with their respective user's manual on day of use. A DO test kit will be used to crosscheck the dissolved oxygen readings of the sonde and the DO meter. If the sonde and DO meter readings are within 1.0 milligram per liter (mg/L) of each other, the units are acceptable. If they are not, the units should be recalibrated and the DO test

repeated. Refer to the calibration and troubleshooting sections in the operations manual for each unit as necessary to ensure proper calibration.

A chain of custody procedure will be used for collection of samples analyzed for TP and SSC. The samples collected will be transported to the contract laboratory (ies) in accordance with the guidelines of WQD SOPs referenced in the Appendix.

Field blanks, trip blanks and field replicates will be used as quality control checks when collecting TP and SSC samples. The field blanks will be used to monitor potential contamination introduced into the samples by collection and handling procedures.

In addition to collecting field duplicates, field blanks will be generated. Filling an empty sample container with sterile deionized water will create the field blanks. The field blank cannot be differentiated from the other samples delivered to the lab for analysis. The procedure for collecting field duplicates is detailed in attached sampling Field Procedure (Appendix). Field banks and duplicates will be performed every sample event or one for every 20 samples collected. WCDOE-WMD will perform quality control checks on the monitoring data.

The objective for physical and chemical field measurements is to have the result of the field blank be less than or equal to 10% of the lowest result measured that day. The duplicate samples will maintain a relative percent difference of less than 20%. If field blank samples exhibit a result greater than 10% for the lowest TP or SSC concentration for a sample collected during a sample event, the data will be flagged and not used for interpretive purposes. If the duplicate samples exhibit a result greater than 20% relative percent difference, the data will be flagged and not used for interpretive purposes.

B5. Equipment Inspection and Maintenance

See each individual method for materials lists.

Benthic Monitoring:

Staff purchases and maintains the following items for use by each team:

- D-frame nets (1-2 per team)
- Chest Waders (assorted sizes, 1-2 per team)
- Forceps (1 per team member)
- Magnifiers (several per team)
- Ice trays for sorting (3-4 per team)
- Developer trays (6-7 per team)
- Plastic spoons (8 per team)
- Ground cloth (1 per team)
- Sample jars with label and ethanol (1 per site)
- Alcohol wipes/band-aids
- Latex gloves
- Wash bottles (2 per team)
- 5-gallon bucket (1 per team) Hand sanitizer

Note: D-frame nets shall be inspected prior to use and between stations to confirm that they are free of macroinvertebrates from previous sampling efforts.

Water Chemistry and Flow Monitoring:

See attached WQD SOPs for all materials and methods. All instruments will be maintained in accordance with the maintenance procedures and listed in the respective instruction manuals and manufacturer's recommendations.

All meters and probes will be stored in their prospective cases until used in the field. This will minimize damage to the meters and probes. If damaged is sustained to one of the instruments, it will be replaced and/or repaired. See attached SOPs for materials and methods.

B6. Data Management

Field data sheets are completed in the field and checked by the program manager once submitted. The program manager investigates any inconsistencies or incomplete forms. Data is input into Excel spreadsheet by staff. Electronic data submitted to the MDEQ will be in the appropriate EPA STORET database format. Copies of field notes, calibration logs, chain of custody forms, and laboratory data reports will be maintained by WQD.

C. ASSESSMENT AND OVERSIGHT

C1. Assessment and Response Actions

Team leader performance will be evaluated by periodic site visits by Project Manager and Assistant and by comparison of samples to data calculations on data sheets. Team leaders will be provided with additional training if needed. Data will be shared with Huron River Watershed Council and compared with their benthic data.

Water chemistry:

Any deviation from the project plan or approved QAPP will be documented in the field sampling notebook, such as malfunctioning equipment.

Malfunctioning field equipment will be replaced or repaired prior to returning to field use. Deviations from the field procedures that may result in corrective actions will be reported to the WCDOE project manager. All corrective actions during the field activities will be documented in a record book.

If field blank samples exhibit a result greater than 10% for the lowest TP or SSC concentration for a sample collected during a sample event, the data will be flagged and not used for interpretive purposes.

If the duplicate samples exhibit a result greater than 20% relative percent difference, the data will be flagged and not used for interpretive purposes.

C2. Reports

Benthic Monitoring reports will be produced following the spring and fall bug hunts. Reports will consist of data results, interpretation of data (if possible). Reports will be forwarded to all staff, the MDEQ, the

Alliance Of Downriver Watersheds Technical Committee and the Riparian Corridor Management Technical Advisory Committee.

Performance monitoring reports will be produced annually prior to the next monitoring season. Reports will consist of data results, interpretation of data (if possible), and information individual BMP project status. Reports will be forwarded to all staff, the MDEQ, the Alliance Of Downriver Watersheds Technical Committee and the Riparian Corridor Management Technical Advisory Committee.

Existing MicroSoft® Access database applications will be used to store and analyze the water quality data. MicroSoft® Excel software may be used to present the data in table and graph formats for quarterly reports and final reports. Data will be reported to the MDEQ in Storet® format. ArcMap® will be used to map sampling locations, and prepare maps for the quarterly and annual reports.

D. DATA VALIDATION AND USABILITY

D1. Data Review, Validation and Verification Requirements

The Project Manager, the QA Officer, and the MDEQ review all sampling data and determine if the data meet QAPP objectives. Decisions to reject or qualify data are made by the Project Manager and the QA Officer.

D2. Validation and Verification Methods

The Project Manager will recheck any findings out of the ordinary by re-sampling the site as soon as possible. ALL samples are re-identified by Project Manager and re-checked by Data Processing Leader

Data is input by Data Processing Leader and proofread against the original data sheets. Errors in data are corrected. Outliers are investigated. Problems with data quality will be discussed in the interim and final reports to data users.

D3. Reconciliation with Data Quality Objectives

Data forms will be checked for completeness and computations checked following sampling events and on Bug I.D. Day when samples are checked against forms. If data quality indicators do not meet project objectives, reconciliation procedures outlined in Figure 1-8 will be utilized.

If failure to meet project specifications is found to be unrelated to sampling error, specifications may be revised for the next sampling session. Revisions will be submitted to the MDEQ-WB for approval.

Figure 1-8: Reconciliation Procedures

Activity	Reconciliation Procedures
Plant Survey	Repeat survey by most experienced person/team if comparable sample event yields significantly different results.
Turf Tech Infiltration Monitoring	Repeat survey by most experienced person/team if comparable sample event yields significantly different results.
Flow Monitoring	Data will be flagged as not meeting our QAQC.
Water Chemistry	Data will be flagged as not meeting our QAQC.
Geomorphological Survey	Survey will be repeated if close-out error of 0.02 ft is not achieved.
Benthic Survey	Repeat survey by most experienced person/team if comparable sample event yields significantly different results.

Appendix A

- **Benthic Macroinvertebrate Monitoring Plan –Standard Operating Procedure**
- **MiCorps Stream Macroinvertebrate Data Sheet**
- **Quick Habitat Assessment Form**
- **Site Location Map Form**

Appendix A

BENTHIC MACROINVERTEBRATE MONITORING PLAN STANDARD OPERATING PROCEDURE

Prepared by:

Wayne County Department of Environment Water Quality Division

September 7, 2005

Updated: March 5, 2008

Standard Operating Procedures For Benthic Monitoring

Introduction

The wide range of environmental conditions encountered during benthic macroinvertebrate sampling can subject personnel to a variety of health and safety risks. The planning and implementation of suitable safety protocols during a monitoring event will help reduce the likelihood of accidents and exposure of staff to hazardous conditions during sampling. The purpose of this document is to outline general precautions and specific safety procedures that all Water Quality Division staff will follow when performing in-stream benthic monitoring work.

Safety Equipment

At a minimum, each team will be equipped with the following safety equipment.

- rubber gloves
- waders and/or hip boots
- wading rod
- personal floatation device
- safety line/rope
- cellular telephone

Safety Precautions and Guidelines

1. All work is to be performed in teams.
2. If you are unsure of the water quality, be sure to protect yourself from the water. Use waders, gloves, plastic bags, or other means to limit direct body contact.
3. If you have open cuts, keep them out of contact with the water.
4. Never sample alone and do not sample during high water conditions. The current is strong and dangerous and the high flow disrupts the benthic fauna, making sampling unproductive. Wading in rain-swollen, muddy streams is dangerous and should never be done. **Do not attempt to wade a stream for which values of depth multiplied by velocity equal or exceed 10 ft²/s.** For example, a stream only 2 ft deep but with velocities of 5 ft/s or more can be dangerous to wade. This can be estimated in the field by pacing off a measured distance and timing how long it takes for a floating stick to travel the measured distance.

5. Plan for weather conditions prior to beginning work. Wear appropriate clothing and plan appropriately when sampling in cold weather and in cold water, especially when it is windy, to avoid hypothermia.
6. Wear hip boots or chest waders when working in the stream. Boots and waders provide protection from cold and pollutants, as well as from underwater objects. Be aware of the possibility of slipping and going underwater (feet up, head down) while wearing them. Practice wearing hip boots and waders in a controlled, group-training situation before using for fieldwork. Follow these recommendations when choosing what to wear:
 - Hip boots with a strap at the top are better than boots that are open. The strap should be pulled closed. This allows air to be trapped in the boot in case you are submerged. The air cushion can be used as a partial mechanism for flotation until you reach shore or are rescued.
 - Avoid hip boots with tight ankles. These are difficult to remove in an emergency situation.
 - Avoid chest waders that are tight fitting at the top. Like tight-ankle hip boots, they are difficult to remove in an emergency situation.
 - Whenever chest waders are worn, a PFD also must be worn.
7. Wear a personal flotation device (PFD) during wading activities.
 - Approved PFDs for wading include the standard jacket type and the suspender type. The PFD must fit properly, be rated for your weight, and be in good condition.
 - The PFD should be dried and kept indoors between trips.
8. Avoid sampling from steep, muddy banks, where you may slide into a fast-moving stream and be swept downstream. Find appropriate “safe” access points to get in and out of the river.
9. Be aware of surrounding conditions.
 - Watch for debris floating downstream, such as logs or aquatic vegetation.
 - Watch for sand channels that can shift under foot and become quicksand.
 - Watch the stream stage (water elevation), especially when it could rise rapidly.
 - When wading below a dam or control structure, contact the gate operator before entering the stream.
10. When samples are to be taken by wading into a river or stream, account should be taken of the possible presence of soft mud, quicksand, deep holes, slippery rocks and swift currents. A wading rod or similar probing instrument is essential to ensure safe wading. Using a probe allows for the current speed to be estimated and also assists in the locating of holes, benches, soft mud and quicksand. If in doubt, a safety line should be attached to a secure object on the bank or shore for support. Note that the increased volume of chest waders (as compared to thigh waders) may be an impairment to rescue, should total immersion occur.
11. Every effort should be taken to ensure that sampling sites are safe. Sampling from unsafe sites, such as unstable banks should be avoided. A team using appropriate precautions, rather than one person, should conduct all benthic sampling operations.

12. If you drop a piece of equipment into a stream, don't risk your own personal safety trying to recover it. None of the equipment you'll have will be that important to recover.
13. Do NOT sample a site that you determine to be unsafe. High water, deep sediment streambeds and poor access are all unsafe conditions that should not be sampled.
14. When you are finished sampling, wash your hands and any other part of your body that may have come in contact with the water.

Conclusion

Every effort should be taken to ensure that sampling sites are safe. Sampling from unsafe sites, such as unstable banks should be avoided. Whenever possible, a team approach should be used using appropriate precautions during sampling operations.

Reasonable access to routine sampling sites in all weathers is particularly important. Failure to satisfy this criterion will normally rule out a given site, even where it is preferred from the point of view of satisfying the technical objectives of the sampling program. Personal safety must always be the primary consideration when determining where, when and how to conduct benthic sampling work.

Monitoring Day Procedures

1. Collecting is one of the most important tasks and should only be done by a trained/experienced collector. If more than one person on the team is trained/experienced, appoint the second person as recorder. If your team has only one experienced person, appoint a team member as recorder. If monitoring team uses one set of equipment for multiple sites, sample upstream locations first and move downstream to additional sample sites.
2. When the team arrives at the site, locate a spot on the bank where the team can set up to sort (remember you will enter downstream and work upstream). Set up the equipment (pans, ice trays, forceps, eyedroppers, identification keys, etc.). The team on the bank will sort the organisms they find into the ice trays while the Team Leader or designated member samples.
3. Start collecting by finding a few rocks and logs, giving them to the team so the team can begin "picking" the samples, searching for organisms immediately. Team members designated as "runners", may transport trays back and forth if you have many team members and/or the sorting spot is a distance from the stream. Work with your recorder to make sure every available habitat is sampled and note those habitats not available at the site. Draw a site map and mark the sampling locations..
3. Sample for 30-45 minutes, until there are no longer new organisms found. Once sampling is completed, complete the Instream Survey Data Sheet. Use R (Rare) for less than 10 organisms found and C (Common) for organisms where 11 or more are found.

As the form is completed, place 4-5 representatives of each "different" type of organism in the specimen jar labeled for that site. Note that there are many different families of mayflies; stoneflies, dragonflies, etc. so get several samples of each different type of each, if possible. **Note: Do not keep any crayfish, fish or large bivalves, just note on data sheet. Only live snails/bivalves are counted.**

4. Conduct the habitat survey (Single Site Watershed Survey). Some of the questions will be easier to answer after working in the stream. Remember to choose the upstream or downstream side of the site/road crossing to survey.
5. Rinse out all trays and nets to avoid contaminating the next site. Double check that the sample jar is properly labeled, all forms are complete, all equipment is collected, and all extra creatures are returned to the stream.
6. Repeat at second site.
7. Return all forms, specimens, and equipment to WCDOE-WQD after the sampling is completed. Clean all equipment as soon as possible thoroughly with appropriate cleanser and let air dry.

Items to Bring

Dress accordingly the weather conditions.

Drinking water

Snacks/lunch

Extra set of clothes

Towel

Rubber gloves with liners (cold weather gear)

Sunscreen/bug repellent (depending on conditions)

Cell phone (remember to give number to Field Coordinator)

Sampling Techniques

Always begin downstream and work upstream and sample a number of times in each of the below habitats (if available). Be aggressive, point the net upstream, and lift up carefully in a sweeping motion. Give team members a few rocks and pieces of submerged wood right away so it can be "picked" while trays are prepared.

Riffles-shallow, fast moving turbulent flow, running over rocks

Place net on bottom downstream, dig down with and try to dislodge organisms by doing the "riffle dance" with the feet. Make sure to sample upstream, middle, and downstream ends of riffle.

Cobbles-larger diameter rocks than pebbles (2-10 inches)

Do as for riffles. For larger rocks, use hands to rub off organisms or pick up rocks and take to "pickers."

Aquatic Plants-vegetation growing in the water

Run net over vegetation, to scrape attached macroinvertebrates. Use hands to loosen organisms. Vegetation that comes loose can be given to “pickers.”

Runs-deep, fast water with little or no turbulence

Scoop up material from bottom.

Margins-stream edges

Leaf Packs-clumps of decomposing leaves

Scoop into net

Pools-deep quiet water

Scoop up material from bottom. For very mucky samples, lift net up so ring is above water level and swish sample in the stream.

Undercut Banks/Overhanging Vegetation

Lift net up and under bank and vegetation. Use hands to knock organisms off vegetation.

Submerged Wood

Dislodge organism with hands or give to “pickers.”

Sample Handling and Custody Requirements

All macroinvertebrate samples collected in the field are placed into jars pre-labeled for the site. The label contains the date and the site name. Samples are returned to WCDOE-WQD once sampling is completed. The samples are maintained by WCDOE-WQD.

Quality Control Requirements

Sample collection: team leaders attend a refresher training at least once a year.

Sample identification: All samples collected are re-identified by WCDOE-WQD Field Coordinator who key out any unidentified organisms. Any unusual results are checked by re-sampling the site. All samples collected are maintained and a reference collection will be created over time.

Equipment Inspection and Maintenance

WCDOE-WQD purchases and maintains the following items for use by each team:

D-frame nets (1-2 per team)

Chest Waders (assorted sizes, 1-2 per team)

Personal Floation Devices (PFDs)

Forceps (1 per team member)

Magnifiers (several per team)
Ice trays for sorting (3-4 per team)
Developer trays (6-7 per team)
Plastic spoons (8 per team)
Ground cloth (1 per team)
Sample jars with label and ethanol (1 per site)
Alcohol wipes/band-aids
Latex gloves
Wash bottles (2 per team)
5-gallon bucket (1 per team)

Data Management

Field data sheets are completed in the field and checked by WCDOE-WQD. Any inconsistencies or incomplete forms are investigated by WCDOE-WQD. Organism identifications are rechecked and verified by the Field Coordinator or designee. Hard copies of all data sheets are then sent to the MDEQ with voucher samples if requested. Data is input into an Excel (or Access) spreadsheet by WCDOE-WQD.

Stream Macroinvertebrate Datasheet

Stream Name: _____

Location: _____ (Circle one: *Upstream* or *Downstream* of road?)

Date: _____ **Collection Start Time:** _____ (AM/PM)

Major Watershed: _____ **HUC Code (if known):** _____

Latitude: _____ **Longitude:** _____

Monitoring Team:

Name of Person Completing Datasheet: _____

Collector: _____

Other Team Members: _____

Stream Conditions: _____ **Average Water Depth:** _____ feet

Is the substrate covered with excessive silt? No Yes (describe: _____)

Substrate Embeddedness in Riffles: 0-25% 25-50% > 50% Unsure

Did you observe any fish or wildlife? () Yes () No If so, please describe: _____

Macroinvertebrate Collection: Check the habitats that were sampled. Include as many as possible.

<input type="checkbox"/> Riffles	<input type="checkbox"/> Stream Margins	<input type="checkbox"/> Submerged Wood
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Leaf Packs	<input type="checkbox"/> Other (describe: _____)
<input type="checkbox"/> Aquatic Plants	<input type="checkbox"/> Pools	
<input type="checkbox"/> Runs	<input type="checkbox"/> Undercut banks/Overhanging Vegetation	

Did you see, but not collect, any **live crayfish**? (Yes No), or **large clams**? (Yes No)
remember to include them in the assessment on the other side!

Collection Finish Time: _____ (AM/PM)

IDENTIFICATION AND ASSESSMENT

Use letter codes [R (rare) = 1-10, C (common) = 11 or more] to record the approximate numbers of organisms in each taxa found in the stream reach.

**** Do NOT count empty shells, pupae, or terrestrial macroinvertebrates****

Group 1: Sensitive

- ___ Caddisfly larvae (Trichoptera)
EXCEPT Net-spinning caddis
- ___ Hellgrammites (Megaloptera)
- ___ Mayfly nymphs (Ephemeroptera)
- ___ Gilled (right-handed) snails (Gastropoda)
- ___ Stonefly nymphs (Plecoptera)
- ___ Water penny (Coleoptera)
- ___ Water snipe fly (Diptera)

Group 2: Somewhat-Sensitive

- ___ Alderfly larvae (Megaloptera)
- ___ Beetle adults (Coleoptera)
- ___ Beetle larvae (Coleoptera)
- ___ Black fly larvae (Diptera)
- ___ Clams (Pelecypoda)
- ___ Crane fly larvae (Diptera)
- ___ Crayfish (Decapoda)
- ___ Damselfly nymphs (Odonata)
- ___ Dragonfly nymphs (Odonata)
- ___ Net-spinning caddisfly larvae
(Hydropsychidae; Trichoptera)
- ___ Scuds (Amphipoda)
- ___ Sowbugs (Isopoda)

Group 3: Tolerant

- ___ Aquatic worms (Oligochaeta)
- ___ Leeches (Hirudinea)
- ___ Midge larvae (Diptera)
- ___ Pouch snails (Gastropoda)
- ___ True bugs (Hemiptera)
- ___ Other true flies (Diptera)

Identifications made by: _____

Rate your confidence in these identifications: Quite confident 5 4 3 2 1 Not very confident

STREAM QUALITY SCORE

Group 1:
 ___ # of R's * 5.0 = ___
 ___ # of C's * 5.3 = ___
 Group 1 Total = ___

Group 2:
 ___ # of R's * 3.0 = ___
 ___ # of C's * 3.2 = ___
 Group 2 Total = ___

Group 3:
 ___ # of R's * 1.1 = ___
 ___ # of C's * 1.0 = ___
 Group 3 Total = ___

Total Stream Quality Score = ___
(Sum of totals for groups 1-3; round to nearest whole number)

Check one:
 ___ Excellent (>48)
 ___ Good (34-48)
 ___ Fair (19-33)
 ___ Poor (<19)

Quick Habitat Assessment Form
 created by Friends of the Rouge www.therouge.org

Site id: _____ date: _____ time: _____

sampling site name: _____

name(s) _____

optional info: temp. _____ DO _____ pH _____

weather conditions	Now:	Past 24 hrs	<i>*past weather info can be filled in by office staff</i>
	<input type="checkbox"/> storm (heavyrain)	<input type="checkbox"/>	Has there been a heavy rain in the last 7 days? <input type="checkbox"/> yes <input type="checkbox"/> no
	<input type="checkbox"/> rain (steady rain)	<input type="checkbox"/>	
	<input type="checkbox"/> showers (intermittent)	<input type="checkbox"/>	
	_____ % cloud cover	_____	
	<input type="checkbox"/> clear/sunny	<input type="checkbox"/>	

instream features	Substrate: check if present, circle predominant one or two	
	Boulder (>10" dia.) _____	Instream Cover (check all that apply) <input type="checkbox"/> Undercut Banks <input type="checkbox"/> Overhanging vegetation <input type="checkbox"/> Deep pools
	Cobble (2.5-10" dia.) _____	
	Gravel (0.1-2.5" dia.) _____	
	Sand _____	
	Silt _____	
Clay _____		

canopy	Estimated length of reach sampled: _____ ft.
	Estimated average width of reach sampled: _____ ft.
	Canopy cover mid-channel:
	<input type="checkbox"/> 0-25% <input type="checkbox"/> 51-75% High water mark _____ ft.
	<input type="checkbox"/> 26-50% <input type="checkbox"/> 76-100%
Channelized? <input type="checkbox"/> yes <input type="checkbox"/> no	

morphology	Proportion of reach represented by stream morphology types:	
	<input type="checkbox"/> Riffle _____ %	
	<input type="checkbox"/> Pool _____ %	
	<input type="checkbox"/> Run _____ %	

large woody debris	Is there any wood in the stream? <input type="checkbox"/> yes <input type="checkbox"/> no
	Proportion of reach covered with large woody debris: _____ 0-25% _____ 26-50% _____ 51-75% _____ 76-100% _____

aquatic vegetation	Are aquatic plants present? <input type="checkbox"/> yes <input type="checkbox"/> no
	Is algae present? <input type="checkbox"/> yes <input type="checkbox"/> no
	If algae present, list color:

water quality	Is there a sheen or oil slick visible on the surface of the water? <input type="checkbox"/> yes <input type="checkbox"/> no
	If yes, when you poke it with a stick does it break up? <input type="checkbox"/> yes <input type="checkbox"/> no
	How turbid is the water?
	<input type="checkbox"/> clear (can see clearly to bottom) <input type="checkbox"/> slightly turbid (can partially see to bottom) <input type="checkbox"/> turbid (cannot see to bottom)

riparian vegetation	Average width of riparian vegetation (looking downstream):
	right bank: _____ ft.
	Estimate proportion of types of vegetation along right bank:
	_____ %mowed grass _____ %other herbaceous plants
	_____ %trees _____ %bare soil
	_____ %shrubs _____ %paved (impervious)
left bank: _____ ft.	
Estimate proportion of types of vegetation along left bank:	
_____ %mowed grass _____ %other herbaceous plants	
_____ %trees _____ %bare soil	
_____ %shrubs _____ %paved (impervious)	

land use in immediate surrounding area	<input type="checkbox"/> forest	<input type="checkbox"/> commercial	<input type="checkbox"/> residential
	<input type="checkbox"/> field	<input type="checkbox"/> industrial	<input type="checkbox"/> parkland
	<input type="checkbox"/> pasture	<input type="checkbox"/> bridges	<input type="checkbox"/> golf course
	<input type="checkbox"/> agriculture	<input type="checkbox"/> construction	<input type="checkbox"/> highways

other observations	Are there any outfalls/pipes discharging into stream? <input type="checkbox"/> yes <input type="checkbox"/> no
	If yes, how many? _____ How many are flowing? _____
	Please describe discharge, noting whether stormwater, sewage or industrial.
	** If you notice illegal dumping report immediately: Wayne Co.: 734-326-3936 Oakland Co.:248-858-0931 State: 800-662-9278
	Please list any other concerns/changes you notice at the site that might be impacting the stream.
	Indicate the greatest current and potential future threat to river's health (use back of sheet if needed).

**FOTR Benthic Macroinvertebrate Monitoring Program
Site Map**

Field ID:

Location:

Date: _____

Team Leaders: _____

1. Mark all the locations where samples were taken.
2. Draw any changes and note any discharges or concerns

Appendix B

- **Geomorphological Survey Standard Operating Procedure**
- **Geomorphological Survey Data Form**

Overview of the Channel Morphology Field Techniques

This project will perform three channel morphology field measurements at selected sites, and use the results to both track temporal trends in channel dimensions and to assess channel stability via tractive force calculations.

The three channel morphology measurements are:

- Bankfull depth, recorded along a cross-channel transect
- Channel slope, calculated from measurements along a longitudinal profile
- Pebble count along the stream reach

These three measurements will generally be performed as per Harrelson et al. (1994). More specifically:

- Channel width and depth will be recorded at top of bank where the channel is incised, rather than at a subjectively selected bankfull elevation that is less than the top of bank.
- Channel slope will be measured from the top of a riffle to the top of the next riffle where riffles are present. Where riffles are absent, channel slope will be measured over a reach at least 10 times (and preferably 20 times) the channel width measured at the top of the bank. Channel slope will be measured at the water surface elevation, not the stream bottom elevations.
- The pebble count will be performed in the wetted channel only, using the zig-zag technique of Bevenger and King (1995). Intermediate diameters of at approximately 100 pebbles will be measured. If the substrate in the study reach is 100 percent sand, its average size will be estimated using a sand card.

Field data forms are below.

The tractive force calculations apply the channel morphology measurements listed above to the following formula:

$$T = D_{BF} \times S$$

where D_{BF} = maximum bankfull depth, and S = channel slope. When D_{BF} is in millimeters and S is dimensionless (feet/feet or meter/meter), τ is approximately equal to the particle size (in centimeters) that is mobile at bankfull discharges (the incipient particle diameter, or IPD.)

The modeled IPD will be compared to the measured D_{84} (expressed in centimeters) obtained from the pebble count, and values of a ratio of the IPD to the D_{84} will be interpreted as follows:

- $IPD / D_{84} \approx 1$ indicates a stable stream channel
- $IPD / D_{84} \gg 1$ indicates an unstable, probably aggrading stream channel

References:

Bevenger, G. and R. King. 1995. A Pebble Count Procedure for Assessing Watershed Cumulative Effects. . General Technical Report RM-RP-319. US Department of Agriculture – Forest Service. 17 pp.

Harrelson, C., C. Rawlins, and J. Potyondy. 1994. Stream Channel Reference Sites: An Illustrated Guide to Field Technique. General Technical Report RM-245. US Department of Agriculture – Forest Service. 61 pp.

Pebble Count Field Form

Location: _____

Personnel: _____ Date: _____

Pebble Count Data (100 Pebbles per Station or Habitat Feature)

Particle Size (mm)				
Silt				
Very fine sand				
Fine sand				
Medium sand				
Coarse sand				
Very coarse sand				
2 – 4	Gravel			
5 – 6				
7 – 8				
9 – 11				
12 – 16				
17 – 22				
23 – 32				
33 – 45				
46 – 64				
65 – 90	Cobble			
91 – 128				
129 – 180				
181 – 256				
257 – 362	Boulder			
363 – 512				
513 – 1024				
1025 – 2048				
2049 – 4096				
Bedrock				
Total				
Running Total				

Appendix C

- **Flow Monitoring Standard Operating Procedure**
- **Flow Monitoring Data Form**

Standard Operating Procedure
Stream Discharge Monitoring

Ric Lawson
Huron River Watershed Council

1.0 Overview

This study will provide stream discharge data that can be used to evaluate the flow dynamics of target streams within the ADW system. It involves the collection of continuous water level data at a fixed point using a pressure sensor, accompanied by regular discharge measurement across a range of flow conditions to calibrate water level to stream discharge.

2.0 Restrictions

Sites must be selected that meet the following conditions:

1. The stream course is relatively straight (free from eddies and excessive turbulence) and free flowing.
2. The stream channel is free from vegetative growth and at least five channel widths downstream of tributaries, inflow culverts or pipes to allow for adequate mixing and adjustment of flows.
3. The stream bed should be relatively uniform but may have some minor irregularities.
4. During low flow conditions the stream channel is confined to a single course.
5. The site is safely accessible and access is permitted.

3.0 Methodology

We will deploy pressure sensors and staff gages at monitoring locations to monitor stream water levels. The pressure sensors will record readings every five minutes. They are vented to compensate for ambient air pressure changes and enclosed inside PVC housing with a cap that prevents water from entering the housing. In order to translate pressure (water level) data to stream discharge, we will recruit, train, and coordinate volunteers to periodically measure flow with a flow meter at the monitoring locations during several low flow periods and wet weather events in order to capture a variety of stage-discharge events. We will use their data to develop rating curves for both the staff gages and the pressure sensors at both sites. The velocity-area principle will be used to compute discharge from flow meter data. Total discharge will be determined by summing partial discharges. At least seven discharge measurements will be used to develop each rating curve, which, once developed, will allow estimation of discharge from staff gage or pressure sensor readings. Discharge measurements at three or more water levels will be used to ascertain whether each rating curve is still valid each year.

If unvented pressure sensors are used, the values will be corrected against the daily atmospheric pressure post data collection.

Trained volunteers will download data and provide routine maintenance on the pressure sensors. The sensor is housed within PVC housing that is secured with a padlock; the holes for the padlock are drilled through the PVC and the post that is driven deeply

into the streambed, so the housing is always remounted at the same height. The data will be managed and analyzed by HRWC and WC DOE.

4.0 Equipment

Onset Corp. HOBO water level pressure sensor
PVC housing
Staff gage (tall enough to exceed bank full) and post
Top-Setting Wading Rod graded to tenths of feet
Pencils (soft when it is raining)
Fiberglass Measuring Tape graded to tenths of feet
Marsh-McBirney Flo-Mate 2000 flow meter with extra batteries (2 D size)
Cable-way system (if necessary during high flows)
Waders
Personal Flotation Device for measurements in deep water
Safety ropes
Data sheets on a clipboard
Watch
Cell phone

5.0 Procedures

Flow measurement procedures

Unless the flow is too swift (see "Safety Procedures", below), operators will take measurements while wading, using a Marsh-McBirney Flo-Mate 2000 flow meter (or equivalent) and working with at least one other person on the stream bank. They will use data sheets that incorporate reminders about important points in the SOP. In order to ensure a reliable reading of the staff gage, operators will draw the location of the water line on a picture of the gage (see data sheet).

Safety Procedures

- As a general rule, unsafe wading conditions exist if the maximum velocity multiplied by the maximum depth (in feet) exceeds 10. The velocity near to the bank can be estimated prior to actual measurement by extending the top-setting rod into the channel while standing on the bank. If unsafe wading conditions are determined to exist, volunteers will not enter the stream.
- For swift water measurements, volunteers will attach a safety line (with a secure but easily releasable connector) firmly to an appropriate anchor and to the in-stream worker. A personal flotation device will be worn.
- When the force of the water is too strong or the footing too uncertain, we will use a cable system with a weighted current meter (see instruction manual, appended).
- A buddy system will always be used when working in the water. This means that at least one person will always be on shore. We will have a cell phone with the team as well.
- Volunteers will be given information to identify poison ivy and advised to wear protective clothing.

Standard Flow Measurement Procedure

[1] Preparing the flow meter: Assemble the flow meter by loosening the thumbscrew on the sensor bulb, sliding it (completely) onto the top-setting rod and tightening. Avoid

handling the bulbous end, since oils and grease can occlude it. Using the up/down arrow key, set the meter to average readings over a period of at least 15 seconds unless the measurement needs to be faster because the water level is changing. Be sure the meter is reading in ft/s and not m/s by pressing both the on and off buttons simultaneously.

[2] Measuring flow velocity:

Secure a measuring tape stretched across the stream at the selected site.

Set the meter on FPA to average the readings every 15 seconds. Record the staff gage level and the time on the data sheet immediately before, and again immediately after, taking the velocity readings (see sample, appended).

When taking a velocity measurement it is necessary to be oriented upstream, with the top-setting rod held vertical, the flow meter sensor pointed directly upstream parallel and into the flow, and stand at arm's length to the side in order not to interfere with the movement of water. If there is a noticeable difference in flow on either side of the wading rod, stand on the side of the rod that has the slower flow. Currents created around the meter need to settle down before measuring the flow. Negative readings are recorded as the negative value, not as zero.

The first measurement recorded is the location on the tape of the edge of the water, right or left, looking downstream. Then, move to the first distance in the water (often 1-2 feet from the bank; see below) and measure the depth with the top-setting rod, which will then be used to position the flow meter sensor to the appropriate depth. Flow is measured 0.6 of the depth of water (from the water surface) for depths less than 2.5 feet. For stream depths greater than 2.5 feet, flow is measured at 0.2 and also at 0.8 of the stream depth.

Be sure that the rod is completely vertical and the sensor oriented upstream and directly into the current before pressing the on button to restart the measurements and take the reading.

Generally, it is easiest to measure flow along the tape at constant distance intervals. However, the intervals must be shorter wherever the velocity changes very much. If there are portions of the stream in which the majority of flow appears to be occurring then it is necessary to have more measurements in those sections. The number of measurements will be 8 – 20 (since this is a small stream), with the lower number of measurements used when the flow is very small or changing rapidly. In rapidly changing flows, the number of measurements made will be balanced with the speed of change in water level in order to maximize accuracy of both discharge and readings on the sensor and the staff gage. (Table 6.1 "Velocity-Area Procedure for Determining Stream Measurement" by the US EPA states that you should measure 15 – 20 intervals in which no interval is less than 10 cm "even if this results in less than 15 intervals".)

6.0 Data Analysis

[1] Calculating Stream Discharge. We will develop rating curves that relate river stage height to instantaneous flow. The rating curve is produced using regression analysis of instantaneous flow measurements and stage heights. A reasonably accurate rating curve can be expected if six or more instantaneous measurements cover the entire range of stage heights measured during the year and the stream bed has not been

altered by sediment deposition or erosion. However, if the measured flows for the rating curve do not reasonably span the monitored stage data, the rating curve will be extended using the curve-shaping technique described on page 17 of USGS Techniques of Water Resources Investigations, Book 3, Chapter A-10 (<http://water.usgs.gov/pubs/twri/>). Surveys of channel cross-sections will be conducted if the rating curves need to be extended using this technique. River slopes will be calculated based on surveys of representative water surfaces. Values for the Manning's n parameter will be based on observed channel conditions and documented with photos.

[2] Sensor data. Pressure will be converted to discharge using the regression analysis described above.

Appendix D

- **Water Chemistry Standard Operating Procedure**
- **Water Chemistry Data Form**

**Wayne County Department of Environment
Water Quality Division
Grow Zone Surface Water Chemistry Monitoring
Standard Operating Procedure (SOP)**

1.0 APPLICABILITY AND SCOPE

A variety of vegetative and structural best management practices will be installed throughout the Alliance of Downriver Watersheds. The purpose of this monitoring protocol is to establish baseline water quality conditions within the project work area. These same sites will be monitored throughout the duration of the grant project and beyond to assess the overall cumulative (or system) effectiveness of the vegetative and structural controls implemented within the project work area.

2.0 DEFINITIONS

YSI 550 Dissolved Oxygen (DO) Meter (or equivalent): DO meter
YSI 600XLM Sonde: sonde
LaMotte Dissolved Oxygen test kit: DO test kit
Hach Pocket Pal pH tester[®] pH meter (or equivalent): pH meter
Orion Instruments 130A Conductivity Meter (or equivalent): conductivity meter

3.0 EQUIPMENT

The following equipment is utilized for sample collection:

- a. Latex gloves
- b. Camera and film
- c. Two-way radio or cell phone
- d. Conductivity meter
- e. pH meter
- f. Dissolved oxygen meter
- g. Dissolved Oxygen field kit
- h. Standard Operating Procedure (SOP)
- i. Field observation and data forms as needed by site
- j. Chain of custody forms
- k. Pen with waterproof ink
- l. Water sampling pole
- m. Nylon line and sample bottle basket
- n. Sterile sample bottles
- o. Cooler with ice
- p. Distilled water
- q. Waste bottle
- r. Telephone numbers of emergency contacts, laboratory contact

4.0 PROCEDURES

Manual sampling methods refer to procedures that must be performed by field crews who will be present at selected sampling locations during sampling events. The field crews will be responsible for: 1) making observations relative to the quality of the water in the stream or watercourse 2) manually collecting samples from a specified locations, and 3) measuring in-situ water quality parameters with a portable instrument. Field crews will also be prepared to trouble-shoot equipment and implement corrections according to SOPs if feasible.

Parameters measured *in situ* are pH, conductivity, temperature and dissolved oxygen (DO), Suspended Sediment Concentration (SSC), and Total phosphorus (TP). Water samples collected from surface water sources will be processed in accordance with Attachment B (Sample Collection Procedures- Chemical Analysis)

4.1 PRE-SAMPLING PLANNING

1. Obtain monitoring site list and location maps. Assemble equipment and sample bottles as needed.
2. Contact laboratory to arrange for a sample drop – off time, if applicable. Fill out chain of custody forms and bottle labels (see Attachment B) as completely as possible before leaving for the field.

4.2 FIELD ACTIVITY AND WATER SAMPLE COLLECTION

1. If the sample site is near a busy street, follow traffic control protocols as established by Michigan Department of Transportation (MDOT) before attempting access.
2. The sample bottles should be labeled before filling. Label each bottle with the appropriate sample identification number. Analytical tests requested must be indicated on each bottle or as labeled on each bottle by the laboratory.
3. Using a bottle lowered into the in the sample bottle basket with sufficient line, or with the sample pole, collect a water sample from the river or stream in a well-mixed section. (nearest to the middle as possible) and mid depth to avoid sediment. Raise the bottle, replace the cap and place in the sample cooler. Record all results and data required on the field form.
4. Leave an air gap in the sample container between the water sample level and container top. Do not collect samples in sample bottles with preservatives directly. If a sample cannot be retrieved using the sample bottle, a clean bucket may be used. The sample is retrieved, completely mixed and then poured directly into the bottle. If the sample bottle is prepared with preservative, do not overfill the bottle with sample or the preservative will be diluted. The sample bottle or bucket will be rinsed with distilled water between uses. The bottle or bucket will be rinsed once with sample water prior to collecting a full ample. Record all samples on the chain of custody record

5. Any reagents used to calibrate instruments or conduct parameter testing must be disposed of in a waste bottle (s) and appropriately disposed of upon return to the office.
6. Safely remove all traffic control equipment used.

5.0 HEALTH AND SAFETY

All appropriate health and safety precautions shall be taken when performing any work in the field to ensure the safety of the field crew. Minimum safety considerations should meet occupational and health requirements.

Exposure to any contaminants should be minimal. However, some hazards may still be encountered, such as brush, uneven terrain, small rodents, insects and animals, and sample preservatives. No direct contact with any waste materials should occur and Michigan Occupational Health and Safety Administration (MiOSHA) work safety standards shall be utilized to protect workers from hazardous materials. In addition, traffic should be controlled in accordance with MDOT traffic control measures. Calibration reagents may be hazardous. Avoid inhalation, sun exposure, eye contact or ingestion of any of the calibration reagents. Consult the Material Safety Data Sheets (MSDS) for first aid. The MSDS for test kit reagents are located in the MSDS notebook in the Commerce Court laboratory and with the test kits

6.0 QUALITY ASSURANCE

Quality assurance for some accuracy will include calibration as needed. Equipment will be calibrated in accordance with the respective operations manuals prior to each sampling event. Any discrepancies from the appropriate set up will be corrected. Calibrations and accuracy checks will be recorded on the sampling event data sheet. Water chemistry samples will be collected in accordance with WQD SOPs and guidelines. Field personnel will calibrate field equipment as described in the user's manual and cross-checked with known standards. If there is a five percent difference between the meter reading and the standard solution, then the unit will be calibrated against a standard solution. The pH meter will be calibrated in accordance with its user's manual on each day of use.

The DO meter and the sonde will be calibrated in accordance with their respective user's manual on day of use. A DO test kit will be used to crosscheck the dissolved oxygen readings of the sonde and the DO meter. If the DO test kit, sonde and DO meter readings are within 1.0 milligram per liter (mg/L) of each other, the units are acceptable. If they are not, the units should be recalibrated and the DO kit test repeated. Refer to the calibration and troubleshooting sections in the operations manual for each unit as necessary to ensure proper calibration.

All field work is documented on field forms created for this program. Sketches will be a part of these forms and photographs will be taken as needed.

7.0 PERSONNEL

Personnel responsible for calibration of equipment include the sampling crews and the Project Manager.

8.0 REFERENCES

Dissolved Oxygen Meter operating instructions
Sonde operating instructions
Dissolved Oxygen test kit instructions
pH meter operating instructions
Conductivity meter operating instructions

ATTACHMENT B (Sample Collection Procedures – Chemical Analysis)

1.0 APPLICATION AND SCOPE

This standard operating procedure addresses the field procedures to be followed when collecting grab water quality samples.

2.0 DEFINITIONS

Grab sample: A volume of sample collected manually.

3.0 EQUIPMENT

The following equipment may be required for the collection of samples, and is not limited to:

- a. Safety equipment (personal and traffic)
- b. Disposable latex gloves
- c. Hand sanitizer
- d. Field sampling plan with standard operating procedures
- e. Water sampling pole
- f. Nylon line and sample bottle basket
- g. Parameter-specific sample bottles
- h. Cooler with ice
- i. Appropriate data forms, sample chain of custody forms, bottle labels
- j. Laboratory contact numbers

4.0 GENERAL FIELD PROCEDURES

4.1 Manual Sampling Methods.

Manual sampling methods refer to procedures that must be performed by field crews who will be present at selected sampling locations during sampling events. The field crews will be responsible for: 1) making observations relative to the quality of surface water in the river 2) manually collecting samples from a specified locations, and 3) measuring in-situ water quality parameters with a portable instrument. Field crews will also be prepared to trouble-shoot equipment and implement corrections according to SOPs if feasible.

4.2 Field Observations.

Field observations made of the water quality will include notes on color, turbidity, odor, and floating debris, including the presence of debris. Field crews will be instructed to document any conditions that may explain anomalies in the sampling data.

4.3 Grab Sample Collection.

Grab samples will be collected for laboratory analysis according to the protocols described in Section 5. Grab samples will be collected in a clean container, and then transferred to sample bottles. Bottles used for Total Phosphorus (TP)

contain preservative prepared by the laboratory. Collect samples in the bottles designated for each analysis as described in the sample collection procedures.

4.4 In-situ measurements.

Water quality parameters will be measured with portable water quality meters, which measures values of dissolved oxygen, temperature, conductivity, and pH. Water quality parameters will be measured at a representative location identified for each site.

4.5 Laboratory Coordination.

Laboratory supplies and readiness to accept samples must be coordinated with each laboratory. Laboratory bottle stocks need to be available for collected samples. Laboratories must be prepared to receive samples as they are collected, regardless of the time of day, or day of the week.

5.0 SAMPLE COLLECTION PROCEDURES

- a. New, clean latex gloves should be worn at all times when handling the sample bottles and obtaining samples in the field.
- b. A clean bottle will be used to retrieve the sample water from the flow stream (river, overflow, or discharge). Each clean bottle should be labeled with the site identification number.
- c. Obtain the sample from the well-mixed center of flow, below the surface. However, do not disturb bottom sediments. If the flow is too shallow for the bottle to be completely submerged, collect the sample from the top portion without disturbing the bottom sediments. Carefully pour the water into the following sample containers:
 - One 500 mL bottle with no preservative (SSC)
 - One 250 mL bottle with H₂SO₄ preservative (TP)
- d. Leave an air gap in the sample container between the water sample level and container top. Do not collect samples in sample bottles with preservatives directly. If a sample cannot be retrieved using the sample bottle, a clean bucket may be used. The sample is retrieved, completely mixed and then poured directly into the bottle. If the sample bottle is prepared with preservative, do not overfill the bottle with sample or the preservative will be diluted. The sample bottle or bucket will be rinsed with distilled water between uses. The bottle or bucket will be rinsed once with sample water prior to collecting a full sample.
- e. After the initial grab sample collection, remaining activities should be performed under cover (i.e. out of the rain) as much as possible. One member of the field team should take all notes, fill out labels, etc. while the other member(s) does all of the sampling.
- f. Sample bottle lids should be placed on tight so no leaking will occur.
- g. Sample identification labels including sample ID, crew ID, date, time, and location should be completed in the field for each sample. Use a waterproof pen to write on the label because the label will get wet from sample or ice. Sample

identification numbers should be filled out according to the designated procedures.

- h. Labels may be filled out before or after filling. Occasionally, the label becomes wet after filling and the pen will not write.
- i. Filled grab sample bottles shall be placed immediately on ice in a cooler. Ice should completely surround all sample bottles.
- j. Once all samples are collected they must be immediately delivered to the laboratory for analysis. Schedule an appropriate amount of travel time to accommodate sample holding times.

6.0 FIELD DOCUMENTATION

Proper documentation of all field activities is essential to ensure that data quality objectives are achieved. Field crews are encouraged to document unusual or anomalous conditions that may later be useful for data interpretation and analysis.

6.1 Sample Custody and Documentation

Sample chain of custody protocols shall be maintained through the receipt of the sample containers, sample collection, transfer between personnel, shipment to the laboratory, and final disposal of the sample. The purpose of the protocols and procedures is to ensure the integrity of the samples, from collection to analysis, is maintained. The sample custody shall be properly documented to provide a mechanism for tracking each sample submitted for laboratory analysis.

7.2 Chain of Custody Protocols

Chain of custody procedures are established to protect sample integrity. A sample is under a person's custody if it meets the following requirements:

- It is in the person's possession
- It is in the person's view, after being in the person's possession
- It was in the person's possession and it was placed in a secured location
- It is in a designated secured area

The sample packaging and shipment procedures summarized below will assure that the samples will arrive at the laboratory with the chain of custody intact.

7.3 Chain of Custody Field Procedures

- a) The field crew members will be personally responsible for the care and custody of the samples until they are transferred or properly dispatched. As few persons as possible will handle the samples.
- b) Samples labels will be filled out using waterproof ink for each sample.
- c) All bottles will be labeled with sample numbers and locations.
- d) The samples will be delivered to the appropriate laboratory for analytical work. Quality control samples will be delivered directly by the field staff to the quality control (QC) laboratory, or will be picked up by the laboratory staff from the field facility (if applicable). The laboratory director or designees will review all field activities to determine whether

proper custody procedures were followed during the work and decide if additional samples are required.

7.4 Transfer of Custody and Shipment Procedures

- a) A properly completed chain-of-custody form (see Attachment C) will accompany all samples. The sample numbers and locations will be listed on the chain-of-custody form. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date, and note the time on the record. This record documents transfer of custody of samples from the sampler to another person, to/from a secure storage area, and to the laboratory.
- b) Samples will be properly packaged for shipment and dispatched to the appropriate laboratory for analysis with a signed custody record enclosed in each sample container (cooler).
- c) The chain-of-custody record identifying the contents will accompany all shipments. The original record and yellow copy will accompany the shipment; the sampler for returning to the project files will retain the pink copy.

7.0 SAMPLE DESIGNATION

All sample bottles should be pre-labeled on the bottle rather than the cap to identify the sample for laboratory analysis. Sample labels should include type of sample (grab or composite), type of Quality Control Sample (QC) like field blanks, trip blanks, etc. The label shall include the date, time, location, sample site, sample identification number, type of analysis, and the sampler's name. Sample identification will use the following format:

Sampling Numbering Format:

SSSYMMDDHHMMTTT

SSS = Station Number/ Site Location

Y = Last digit of current year

MM = Month

DD = Day

HH = Hour (Military time)

MM = Minute

TTT = Type of Sample (Note: ## denotes sample number, series, or set)

G##- Grab Water Sample

A##- Automatic Sampler Water Sample

G86- Field Blank

G81- Duplicate

Example: G11 003241200G00

This sample is from site number G11 (Below Napkin Lake Dam), collected on March 24, 2000 at 12:00 p.m., and it is a grab sample.

Example:

G12X003241215G81

This sample is from site number G12 (9035 Farmington Road Storm), collected on March 24, 2000 at 12:15 p.m., and it is a Quality Control sample (it is taken in addition to the actual sample, with a separate bottle and label).

The chain of custody form has a column to indicate the type of sample. All samples are indicated as grab samples, unless the sample is a composite.

8.0 SAMPLE HANDLING AND SHIPPING

This section describes sample handling. Sampling methods and procedures are in accordance with those specified by the Environmental Protection Agency (EPA) or other standard reference.

9.1 All water samples collected will be placed in the appropriate sample bottles, and store in an ice chest or refrigerator immediately after collection. The samples will be delivered to the analytical laboratory in a timely manner to allow analysis within the required holding times.

9.2 Quality Assurance/Quality Control

Quality Assurance/Quality Control (QA/QC) procedures will be followed to ensure accuracy of the data collected

9.3 QA/QC Samples

QA/QC samples will be generated in the field. The laboratory will not be able to differentiate the field QA/QC samples from the original samples and be handled as if they were original samples by the laboratory.

The following QA/QC samples will be submitted for analysis:

- Field duplicates
- Field blanks

9.4 Field Duplicates

Field duplicates will be used to assess natural sample variability, or variability attributable to:

- Field collection
- Sample handling
- Shipment and storage materials
- Laboratory handling and analysis

Filling grab sample containers at the same location at the same time creates Field duplicates. Duplicate samples will be prepared and analyzed at a frequency of one per survey or one per twenty (20) samples collected, whichever is greater.

9.5 Field Blanks

Field blanks are created by filling a sample container with distilled water at the sample site following the collection of the original sample. The bottles shall be handled and processed as if they were an actual sample. Field blanks will be prepared and analyzed at a frequency of one per survey or one per twenty (20) samples collected, whichever is greater.

ATTACHMENT C
FIELD FORMS
CHAIN OF CUSTODY FORMS
SAMPLE BOTTLE LABELS

Appendix E

- **Standard Operating Procedure for Plant Surveys (Based on Plant Transect Survey Method)**
- **Plant Survey Data Form**

PLANT SURVEYS

1.0 Overview

The project site is observed to qualitatively monitor vegetation. Data collected at each site is used to assess plant diversity and vegetation germination success.

Plant species identity and estimated percent cover of observed plants occurring within each site are identified and recorded. The expected plant species (species planted by the project) are clearly focused on but additional plant species are also recorded. References used for identifying plants include *National List of Plant Species that Occur in Wetlands: North Central - Region 3* (Reed 1988), *A Great Lakes Wetland Flora* (Chadde 1998), *Weeds of the North Central States* (University of Illinois Agricultural Experiment Station 1960), *Weeds of the Northeast* (Uva et al. 1997), *Newcomb's Wildflower Guide* (Newcomb 1977), *Manual of Vascular Plants of Northeastern United States and Adjacent Canada* (Gleason and Cronquist 1991), *Illustrated Companion to Gleason and Cronquist's Manual: Illustrations of the Vascular Plants of Northeastern United States and Adjacent Canada* (Holmgren 1998), and *Michigan Flora, Volumes 1, 2, and 3* (Voss 1972, 1985, 1996).

Monitoring procedures are based in part on the Michigan Department of Environmental Quality's *Monitoring of Wetland Mitigation requirements*. Staff will be trained to visually identify the expected plant species (species planted by the project) at each site, as well as some common invasives that may attempt to colonize the sites.

2.0 Procedure

1. Review previous reports (if applicable) to determine if there are any known issues at the site.
2. Once a month, perform a site visit, which includes vegetation observation at the sites. Fill out the plant survey form.
3. Vegetation sampling of the herbaceous, tree and shrub layers shall be done. Document the presence of the expected plant species in each grow zone.
4. Make note of any large areas of open water areas, bare soil areas and areas dominated by invasive species.

3.0 Data Collection

1. Data shall include a list of all observed living plant species (in particular species planted by the project) and an estimate of percent cover for each species recorded, bare soil areas, and open water relative to the total area of the grow zone

2. For tree and shrub sampling, record the number and species of surviving, established, and free-to-grow trees.
3. Note the general condition (bare patches, dying or damaged trees, shrubs, vigorous growth, etc) of grow zone vegetation.
4. Make note of any soil erosion, trash accumulations, damage or vandalism.

Plant Survey Data Form

Site: _____

Date: _____ **Time:** _____ **Staff:** _____

Total Plant Area Coverage: (%) _____

Plant Survey

<u>Plant</u>	<u>Present?</u>	<u>Flowering</u>	<u>Height</u>	<u>% of Grow Zone</u>
<i>Grasses</i>				
Big Bluestem	Y/N			
Switch Grass	Y/N			
Indian Grass	Y/N			
Little Bluestem	Y/N			
Virginia Wild Rye	Y/N			
Blue Joint Grass	Y/N			
Cord Grass	Y/N			
Purple Lovegrass	Y/N			
Canadian Wild Rye	Y/N			
Bottlebrush Grass	Y/N			
<i>Forbs</i>				
Foxglove Beard-Tongue	Y/N			
Black-eyed Susan	Y/N			
Lance Leaf Coreopsis	Y/N			
Sand Coreopsis	Y/N			
Tall Coreopsis	Y/N			
Missouri Ironweed	Y/N			
Blue-stemmed Goldenrod	Y/N			
Swamp Goldenrod	Y/N			
Stiff Goldenrod	Y/N			
Gray Goldenrod	Y/N			
Early Goldenrod	Y/N			
Showy Goldenrod	Y/N			
Grass-leaved Goldenrod	Y/N			
Prairie Dock	Y/N			
Purple Prairie Clover	Y/N			
Evening Primrose	Y/N			
False Sunflower	Y/N			
Hoary Vervain	Y/N			
Yellow Coneflower	Y/N			
Blue Vervain	Y/N			
Swamp Milkweed	Y/N			
Smooth Blue Aster	Y/N			
New England Aster	Y/N			
Yellow Aster	Y/N			
Heart-leaved Aster	Y/N			
Calico Aster	Y/N			
Flat-topped White Aster	Y/N			
Arrow-leaved Aster	Y/N			
Heath Aster	Y/N			
Sky-blue Aster	Y/N			

<u>Plant</u>	<u>Present?</u>	<u>Flowering</u>	<u>Height</u>	<u>% of Grow Zone</u>
Frost Aster	Y/N			
Wild Lupine	Y/N			
Yellow Fruited Sedge	Y/N			
Bebb's Sedge	Y/N			
Normal Sedge	Y/N			
Fox Sedge	Y/N			
Porcupine Sedge	Y/N			
Tussock Sedge	Y/N			
Partridge Pea	Y/N			
Canada Wild Rye	Y/N			
Cinnamon Willow Herb	Y/N			
Boneset	Y/N			
Great St. John's Wort	Y/N			
Blue Flag Iris	Y/N			
Prairie Gayfeather	Y/N			
Spiked Gayfeather	Y/N			
Great Blue Lobelia	Y/N			
Monkey Flower	Y/N			
Bergamot	Y/N			
Wild Quinine	Y/N			
False Dragonhead	Y/N			
Black Bulrush	Y/N			
Dark Green Rush	Y/N			
Angelica	Y/N			
Turtlehead	Y/N			
Compass Plant	Y/N			
Cup Plant	Y/N			
Riddell's Goldenrod	Y/N			
Common Ironweed	Y/N			
Culver's Physic	Y/N			
Golden Alexander	Y/N			
Common Milkweed	Y/N			
Butterfly Weed	Y/N			
Columbine	Y/N			
Spiderwort	Y/N			
Purple Coneflower	Y/N			
Horsemint	Y/N			
Nodding Wild Onion	Y/N			
Thimbleweed	Y/N			
Tall Meadowrue	Y/N			
Purple Joe-Pye Weed	Y/N			
White Snakeroot	Y/N			
Wild Geranium	Y/N			
Woodland Sunflower	Y/N			
Jumpseed	Y/N			
Brown Eyed Susan	Y/N			
False Solomon's Seal	Y/N			
Showy Tick-trefoil	Y/N			
Hornwort	Y/N			
Cardinal Flower	Y/N			
Common Mountain Mint	Y/N			

* - Plug Only

Invasive Species

Are there invasive species in the grow zone? Y/N

If Yes, What are they? _____

How Extensive? _____

Other Species

Are there other (non-planted) species in the grow zone? Y/N

If Yes, What are they? _____

How Extensive? _____

Tree and Shrub Survey

<u>Plant</u>	<u>Present?</u>	<u>Health</u>	<u>Estimated</u>	<u># in Grow Zone</u>
<i>Trees</i>				
	Y/N			
	Y/N			
	Y/N			
<i>Shrubs</i>				
	Y/N			
	Y/N			
	Y/N			
	Y/N			

Appendix F

- **Standard Operating Procedure for Turf-Tec Infiltrometer Sampling**
- **Infiltrometer Data Sheet**

Standard Operating Procedure **Turf-Tec Infiltrometer**

Matthew R. Best
WCDOE – WMD

1.0 Overview

During a site visit, a Turf-Tec Infiltrometer is used to ascertain the infiltration rate of the study area. This test is performed in order to collect data for the project evaluation. A Double-ring Infiltrometer test estimates the vertical movement of water through the soil of the test area.

2.0 Restrictions

Laboratory tests are not recommended, as a homogeneous laboratory sample does not represent field conditions. Infiltration tests should be conducted in the field. Tests should not be conducted in the rain or within 24 hours of significant rainfall events (>0.5 inches), or when the temperature is below freezing. However, the preferred testing is between January and June, the wet season. This is the period when infiltration is likely to be diminished by saturated conditions.

3.0 Methodology

A Turf-Tec (Double-ring) Infiltrometer consists of two concentric metal rings. The rings are driven into the ground and filled with water. The outer ring helps to prevent divergent flow. The drop in water level or volume in the inner ring is used to calculate an infiltration rate. The infiltration rate is determined as the amount of water per surface area and time unit which penetrates the soils.

4.0 Equipment

- Turf-Tec Infiltrometer.
- Clean water supply
- Rubber mallet
- Thermometer
- Data sheets for recording data

5.0 Procedure

1. Upon arrival at the study site, ensure the Turf-Tec Infiltrometer is clean and dry, free of any residue soils from previous tests.
2. Find a level testing area.
3. Set Infiltrometer timer for 15 minutes and insert double ring cutting blades into ground about 2" until depth limiting ring is against surface.
4. Fill both rings with clean water and start timer.

5. Fifteen minutes later, when timer beeps, the position of the pointer on the scale gives you water infiltration rate for 15 minutes in inches or millimeters. Record this amount on the data sheet.
6. Multiply amount registered by four to determine infiltration rate for one hour. Record this amount on the data sheet.
7. Perform this test at least 4 times at the study site. Two locations within the grow zone area and two locations outside the grow zone are in adjacent turf are considered one sampling event at a site. Map these locations on the data sheet. (Testing for each site at least three times over the growing season.)
8. Record current weather conditions and or evidence of standing water in the study area on the data sheet.
9. Photo document the study location during each test event.
10. Upon completion of sampling, clean and dry the Turf-tec Infiltrometer.

6.0 Data Collection

1. Document the data collected from the Infiltrometer on the data sheet.
2. Document plant species present adjacent to Turf-Tec monitoring sites, note this on the data sheets.

Turf-Tec Data Form

Site: _____

Date: _____ Time: _____ Staff: _____

Site Conditions

Has it rained in the last 24 hours (>0.5 inches)? _____ Is it Raining? _____

Is the temperature is below freezing? _____

Site Measurements (Record in order of testing)

Sampling Location ID*	Inside Grow Zone	Outside Grow Zone	Start Time	End Time

* - Location ID reference locations on site-specific sampling maps.

Calculations

Sampling Location ID*	Infiltration (15 Min)	Infiltration (inches/hour)

Notes

Office Use:

Recorded in Database? _____

Appendix G

- **Standard Operating Procedure for Site Integrity and Maintenance**
- **Site Visit Data Form**

**Standard Operating Procedure
Site Integrity and Maintenance**
Matthew R. Best
WCDOE – WMD

1.0 Overview

A site visit is performed in order to collect data for the project evaluation. All methods outlined below have associated SOPs (Standard Operating Procedures).

2.0 Procedure

1. Upon arrival, check for wildlife BEFORE entering the site. Use binoculars to check for mobile animals (birds, mammals, and turtles) before they hide. Document on the Site Visit Data Form.
2. After entering the site, continue to check for wildlife including insects such as butterflies, dragonflies, etc. Document on the Site Visit Data Form.
3. Document current site conditions utilizing the Site Visit Data Form. (Height of plant material, soil condition, slope stability, maintenance issues, percentage of flower species present).
4. Perform plant survey utilizing the Plant Survey Form.
5. If maintenance is performed, document where and what was done on the Site Visit Data Form
6. Photo document site conditions.

3.0 Data Collection

1. Document any sightings or evidence of birds, amphibians, reptiles and other animal use (lodges, nests, tracks, scat, etc) within the survey area. Note the number, type, date and hours of sightings and evidence.
2. Document plant species present, paying particular attention to the species installed at each site, as found on the Plant Survey Form.

Site Visit Data Form

Site: _____

Date: _____ Time: _____ Staff: _____

Wildlife Survey

Birds: y/n **Mammals:** y/n **Turtles:** y/n
If Yes: _____ If Yes: _____ If Yes: _____

Frogs and Toads: y/n **Butterflies:** y/n **Dragonflies:** y/n
If Yes: _____ If Yes: _____ If Yes: _____

Site Conditions

Height of Plant Material: _____ **Soil Condition:** _____

Slope Stability (If applicable): _____ **Percentage of Plant Species Present?** ____%

Maintenance Issues: y/n If Yes, What are they? _____

Other Surveys (See appropriate survey sheets)

Plant Survey Performed: y/n **Turf-Tec Monitoring Performed:** y/n

Photographs taken: y/n

Maintenance

Maintenance Issues: y/n If Yes, What are they? _____

Maintenance Performed: y/n If Yes, What was done? _____

Appendix H

- **Project Monitoring Location Map**
- **Project Monitoring Location ID Table**

Project Monitoring Location ID Table

Site ID	Site Name	Project Type
00 00	000e00ree000Mi00nd 0in00	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	000e 0ree0ne0r 00dd0rd 0nd 0e0ri0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r00 00r0in 0ne0r M00nn00nd 0re0000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	000e 0ree0ne0r 0i0er 0nd M0000er	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	00dd0rd 0nd 0ee00Mi00rd 00r0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0i00rd A. 000n0e000e0n0er0e0r00n 0000	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	in00er 00d0000n0r00 000 0dd0rd	A00 000000 0en0i0M0ni0rin0 0000i0n
00 000	00000 0ree0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0n00 0e0000er000 0ix	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r00n000n M0r000ree0ne0r 0000nd 0n 00r0 000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0n00 0e0in 0e 000000e 0re0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0n00 0e000000 000 e0000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r00n000n 0ree00r00r000n 000n 0ip 0000	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0n00nd 0e00000nd M00	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0n00nd 0e00000n 00r0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	000e00 0r0in00000 000enn000ni0 0nd 0e000Merri0 0n	A00 000000 0en0i0M0ni0rin0 0000i0n
00 000	0r0n0nd 0e0e0n00er 00d00000 0000r0ine 000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 000	000e00 0r0in00000 000enn000ni0 0n 0in0 000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 000	00di0 0ie0en0r0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0i0er 0ree0 000i00 0000000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	00r0n M00p0r0 0ini0 0r00 00	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0r0000r0in 0000r0n M00 00r0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	00i0 0ree0 0000000000 000 0ni0 0en0er	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0e00n 0r0in 0000r0n M00 00r0	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0i0er 0ree0 0n 0in0 000d	A00 000000 0en0i0M0ni0rin0 0000i0n
00 00	0i0er 0ree0 0n 0in0 000d	A00 000000 0en0i0M0ni0rin0 0000i0n
000 0 00	00r00 00r0	A00 0000 0 0en0i0M0ni0rin0 0000i0n
000 0 00	00r00 0ree0	A00 0000 0 0en0i0M0ni0rin0 0000i0n
000 0 00	0r0n0r0000 0e00r0in	A00 0000 0 0en0i0M0ni0rin0 0000i0n
00 0A00 0	0.0 . 0e0 Middel0 000000	A00 0M00000 00ne 0000i0n
00 0A00 0	0000 00r0 0ree0	A00 0M00000 00ne 0000i0n
00 0A00 0	0i00e 00000in 00rden	A00 0M00000 00ne 0000i0n
00 0A00 0	0e0er 0p0 000d M00i0n	A00 0M00000 00ne 0000i0n
00 0A00 0	000 0ip0r0in 000er	A00 0M00000 00ne 0000i0n
00 0A00 0	000e 0r0e M00p0r0 0r0r0r0e	A00 0M00000 00ne 0000i0n
00 0A00 0	0 i00n Middel0 000000 0id000er 00rden0	A00 0M00000 00ne 0000i0n
00 0A00 0	0 00d0ree0 0ip0r0in 0e00r00i0n	A00 0M00000 00ne 0000i0n
00 0A00 0	0i0er 0ie0 0ip0r0in 000er	A00 0M00000 00ne 0000i0n
00 0A00 00	00r0000r0 0ip0r0in 000er	A00 0M00000 00ne 0000i0n
00 0A00 00	00di0 0ie0en0r0 0id000er0	A00 0M00000 00ne 0000i0n
0M 0A00 0	0r0n0nd 0e0	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	000e0 0r0in	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	0r00n000n 0ree0	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	00000 00r0e 0ree0	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	00r0 00r0e 0ree0 000000	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	0 00d0 0ree0	A00 0M00000 M0ni0rin0 0000i0n
0M 0A00 0	0r0n0r0000 0e00r0in	A00 0M00000 M0ni0rin0 0000i0n