

# City of Lorain Storm Water Management Program

## for Compliance with Permit #OHQ000004

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City of Lorain Storm Water Management Program  
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*This is a living document and is intended to be continually edited and updated to ensure completeness and regulatory compliance. For the most recent version of the document, please contact the City of Lorain Engineering Department.*

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## List of Acronyms

In the preparation of this document, the following acronyms have been used:

***NOTE: Depending on where this template is used, these acronyms may be revised.***

BMP	Best Management Practice
DO	Dissolved Oxygen
E&SC	Erosion and Sediment Control
EPA	Environmental Protection Agency
GIS	Geographical Information System
GPS	Global Positioning Satellites
HSTS	Home Sewage Treatment System
MCM	Minimum Control Measure
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
NEORSD	Northeast Ohio Regional Sewer District
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
SWMP	Storm water Management Program
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids

## Executive Summary

The previous NPDES Small MS4 general permit (#OHQ000003) required the development and implementation of a Storm Water Management Program that satisfied the appropriate water quality requirements of Ohio Revised Code (ORC) 6111 and the Clean Water Act. This document was to identify and describe the best management practices (BMPs) the MS4 has selected to address the six MCMs in the permit, why those particular BMPs were selected by the MS4 in light of local water quality issues, and performance standards for BMP implementation. The six MCMs are:

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The NPDES Small MS4 permit was reissued on April 1, 2021 (#OHQ000004), and requires MS4 communities which are renewing coverage under this permit to update their SWMP to be consistent with #OHQ000004 and submit to Ohio EPA for review. Permit #OHQ000004 requires that where applicable, BMPs shall be selected to address U.S. EPA approved TMDL recommendations for identified water quality problems associated with MS4 discharges within The Black River (Main Stem) watershed.

## Legal Authorities to Implement the Storm water Management Program

### MUNICIPALITY

The City of Lorain has the legal authority to implement the following Storm water Management Program under Article XVIII, Section 3 of the Ohio Constitution granting municipalities the authority to adopt land use and control measures for promoting the peace, health, safety and general welfare of their citizens.

## Financial Authorities to Implement the Storm Water Management Program

The City of Lorain will fund the activities necessary to implement its SWMP through dollars from the Storm Sewer Fund, a utility designated for activities associated with the implementation of the City's Phase II permit obligations, as well as the implementation of Lorain Codified Ordinance 1529, 1531, and 1535. Periodically, the City will evaluate the SWMP and, if necessary, suggest alternative funding arrangements.

## Overview of Community Storm water System and TMDLs

The subsequent watersheds in the City of Lorain have had U.S. EPA-approved TMDL reports prepared for the following water quality problems and pollutants:

- Black River (Mainstem)
  - Unknown Toxicity
  - Priority Organics (Industrial Sources and Septic Systems)
  - Nutrients (Nitrogen, Phosphorus, etc)
  - Organic Enrichment – Dissolved Oxygen
  - Bacteria

In order to maintain compliance with #OHQ000004, the City of Lorain will use the recommendations made in the TMDLs for the above watersheds to better tailor our BMP selection to address noted water quality problems attributed to MS4 discharges.

## Description of Program Development and Decision Process

To develop its SWMP, the City of Lorain implemented the steps outlined below:

1. Review of permit requirements;
2. Input from community members;
3. Discussion and review with Lorain County PIPE;
4. Public meetings to review Ordinance changes;
5. Publishing and review of SWMP on the City of Lorain website.

# Storm Water Management Program

## MCM 1: Public Education and Outreach

### Rationale for Themes and Target Audience Selection

Our MS4 is located in the Black River watershed, which has TMDLs for bacteria and dissolved oxygen. Because the majority of these pollution problems are caused urbanization and the resulting increases in storm water volume and velocity, we will focus much of our Public Education and Outreach program on increasing public awareness of the links between land use practices and storm water pollution. Our education and outreach program focuses on addressing these pollutants. During our permit term, we will choose at least five of the following themes:

1. Healthy Lawn Healthy Environment - Addressing nutrients and habitat degradation through promotion of limiting fertilizer and pesticide usage on residential lawns. - TMDL Nutrients
2. Educating residents on Landscape Debris Management/Disposal and City Maintenance of Urban Waterways - TMDL Low DO, Bacteria, Priority Organics
3. Educating residents on Inlet Protection Standards within the community
4. Educating developers on construction site erosion and sediment control practices and permit changes affecting work within the City of Lorain.
5. Leaf cleanup Techniques and flood reduction information for residents - TMDL Low DO
6. Lake Erie Starts Here - Educational information, storm drain stenciling, and stream marking program available to City of Lorain groups.
7. Invasive Plant education for HOAs and post-construction owners.

The City of Lorain has a population of 64,100. Our primary target audience is residential landowners as single-family residential comprises the majority of our community's land use, so their actions on their properties contribute significantly to storm water runoff in our MS4. We also target the development community as they contribute significant amounts of sediment pollution to our MS4.

### Rationale and Description of Chosen Mechanisms

Our primary mechanisms for delivery are the following:

- Storm water mailings sent via the City of Lorain Water Bill. The water bill reached each resident and business within with water service. We estimate, based on the number of water billings sent and the population of the City of Lorain, that the water bill reaches 95% of Lorain residents and business owners.
- Our community website ([www.cityoflorain.org/engineering/storm\\_water\\_quality](http://www.cityoflorain.org/engineering/storm_water_quality)), which is updated by the City of Lorain Engineering Department regularly. We have a "Storm Water Quality" and "Storm water Outreach" section on the website that the City of Lorain Engineering Department updates with information relevant to the year's chosen theme, as well as archiving information from prior themes. We estimate that the website reaches 20% of our population annually.
- Radio Advertisement. The City of Lorain works with our local radio station annually to educate the community on issues of storm water pollution and measures to reduce its presence in the community. Advertising is geared toward events targeting local listenership.

- Educational information to be available to residents at public spaces potentially including the public library, historical society, Ariel on Broadway, etc.

Any additional mechanisms used will be documented by the City of Lorain Engineering Department for reach and success, and included in the annual reporting to Ohio EPA. Our measurable goal is to reach 100% of our MS4 population over five years, using a minimum of five themes with at least two mechanisms of delivery for each theme. If it does not appear that these objectives are being reached, the program will be re-evaluated and different mechanisms will be selected to meet our measurable goal.

### Program Responsibility and Oversight

The Storm Water Manager in the City of Lorain Engineering Department is responsible for the overall management and implementation of our public education and outreach plan.

*Table 1: Public Education and Outreach Program Summary*

<b>MCM 1: Public Education and Outreach</b>				
<u>Performance Standards:</u> Must use more than one mechanism of delivery to residents. Must use at least 5 different themes, one of which must be for the development community. Must reach at least 50% of the population by the end of the permit cycle.				
<b>Theme and TMDL Applicability</b>	<b>Mechanisms for Delivery (minimum of 2)</b>	<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>	<b>TMDL</b>
<b>Theme 1:</b> Landscape Debris Management/Disposal and City Maintenance of Urban Waterways	1) Residential mailings via water bill - 22,100 mailings (average) or approximately 95% of population 2) Available online at <a href="http://www.cityoflorain.org/engineering">www.cityoflorain.org/engineering</a>	Reach 95% of population annually with targeted message related to year's theme, with the goal of 100% being reached by the end of the five year permit cycle.	City of Lorain	Addresses TMDL for Bacteria, Low DO/Organic Enrichment, Priority Organics
<b>Theme 2:</b> The Residential Community and Inlet Protection Standards	1) Residential mailings via water bill - 22,100 mailings (average) or approximately 95% of population 2) Available online at <a href="http://www.cityoflorain.org/engineering">www.cityoflorain.org/engineering</a>	Reach 95% of population annually with targeted message related to year's theme, with the goal of 100% being reached by the end of the five year permit cycle.	City of Lorain	Addresses TMDL for Bacteria and Low DO/Organic Enrichment
<b>Theme 3:</b> Leaf cleanup Techniques and flood reduction information for residents	1) Residential mailings via water bill - 22,100 mailings (average) or approximately 95% of population 2) Available online at <a href="http://www.cityoflorain.org/engineering">www.cityoflorain.org/engineering</a>	Reach 95% of population annually with targeted message related to year's theme, with the goal of 100% being reached by the end of the five year permit cycle.	City of Lorain	Addresses TMDL for Low DO/Organic Enrichment
<b>Theme 4: Lake Erie Starts Here Program</b> - Educational information and storm drain stenciling program educating residents on the connection between "everyday pollutants" and local water quality.	1) Radio Advertisement of educational PSA developed by the City of Lorain and Lorain County PIPE to be advertised annually on local radio	Reach 10-15% of population annually with the goal of 50% being reached by the end of the five year permit cycle	City of Lorain	Addresses all TMDL Causes

	stations 2) Newspaper PSAs 3) Posters 4) Flyers 5) Website availability			
<b>Theme 5 - Storm Water Management for the Construction Community</b> Provide information to the construction industry on storm water management, including basic NPS information as well as specific development related standards. Available online at <a href="http://www.cityoflorain.org/engineering/storm_water_quality">http://www.cityoflorain.org/engineering/storm_water_quality</a>	1) Radio Advertisement 2) Website availability 3) Direct Mailings	Reach 100% of the local development community by the end of the five year permit cycle	City of Lorain	

## **MCM 2: Public Involvement and Participation**

### **Public Involvement and Participation in the SWMP Process**

This SWMP was developed by the City of Lorain Engineering Department with data gathered from the public on topics of interest and through discussion and meetings with Lorain County PIPE. The completed draft SWMP will be available for comment of the City of Lorain Website during the month of December, 2021, with updates to the plan, as needed, following this public review period.

### **Public Information for Involvement Opportunities**

We primarily inform the public of our involvement and participation events through our community website, mailings, and radio advertisement. Our community website includes upcoming events for the public and is available at [www.cityoflorain.org](http://www.cityoflorain.org). Other mechanisms, depending on event, may include event-specific flyers to be handed out at public gatherings or distributed at public locations such City Hall.

### **Primary Involvement Audiences and Rationale**

As described in our MCM 1 rationale, our primary audience will be homeowners as residential comprises the majority of our community's land use. We will work with community groups and residents to help involve our residential population in our storm water program. We also believe engaging and involving children in environmental programs is an important component of sustaining a successful long-term program, and we intend to build relationships with scout/community groups and the local school system to involve their students in storm water-related activities.

### **Involvement Activities and Rationale**

During this permit cycle, we will offer a minimum of five public involvement activities. These activities may include but are not limited to:

- a. Lorain County Master Rain Gardener Program
- b. Black River AOC and Black River Summit
- c. Lake Erie Starts Here storm drain stenciling program (TMDL)
- d. Bi-annual household hazardous waste collection events provided by the Lorain County General Health District
- e. Participation in the Lorain County Fair and distribution of educational information targeted at urban residents as well as rural residents.
- f. Storm Water Management for the Construction and Development Community
- g. Residential complaint hotline for reporting potential violations

These activities were primarily chosen based on their ability to improve in-stream habitat and reduce nutrient pollution and low DO/organic enrichment, which are noted in the Black River TMDL as issues of concern. Other public involvement activities not listed above may be included during the permit term to fulfill minimum requirements based on TMDL applicability, availability of resources, and local opportunities. These events will be included in the Annual Report to Ohio EPA.

### **Program Responsibility and Oversight**

The City of Lorain Engineering Department is responsible for the overall management and implementation of our public involvement/participation program. The City also maintains the violation reporting hotline for the community. Any relevant complaints will be compiled by the City of Lorain

Engineering Department and investigated and escalated for enforcement action, such as a notice of violation or a stop work order, if necessary.

*Table 2: Public Involvement and Participation Program*

<b>MCM 2: Public Involvement and Participation</b>			
<u>Performance Standards:</u> Must hold a minimum of 5 public involvement and participation activities over the permit term.			
<b>Activity</b>	<b>TMDL Applicability</b>	<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>
<b>Martin's Run Wetland Complex Dedication</b>	Addresses the <i>Black River Main Stem</i> TMDL recommendations for bacteria and Low DO/Organic Enrichment through the reduction of sediment and its associated pollutants.	Host a public dedication event to discuss the water quality benefits available from the newly created Martin's Run Wetland Complex	City of Lorain
<b>Pride Day</b>	Addresses the <i>Black River Main Stem</i> TMDL recommendations for bacteria and Low DO/Organic Enrichment through the reduction of sediment and its associated pollutants.	Number of volunteers, amount cleaned up	City of Lorain
<b>Lorain County Master Rain Gardener Program</b>	Addresses the <i>Black River Main Stem</i> TMDL recommendations for bacteria and Low DO/Organic Enrichment through the reduction of sediment and its associated pollutants.	Develop and implement a Master Rain Gardener program within Lorain County.	City of Lorain, Lorain County, and Lorain County OSU Extension
<b>Legislative Update</b>	n/a	Avon Lake, Lorain, Lorain County, and Ohio EPA presented information on storm water management implementation and permit changes effecting Lorain County communities.	City of Lorain in coordination with City of Avon Lake, Lorain County, and Ohio EPA NE District Office.
<b>Lorain County Fair / Water Walk</b>	n/a	Host a booth at the Lorain County Fair to distribute Storm Water educational material including LID techniques and rain barrel use.	City of Lorain and Lorain County PIPE
<b>Lake Erie Starts Here - Storm drain stenciling programs - Educational information on the connection between "everyday pollutants" and local water quality.</b>	Addresses the <i>Black River Main Stem</i> TMDL recommendations for bacteria and Low DO/Organic Enrichment by the reduction of fertilizers/pesticides and other residential pollutants entering the MS4 through residential activities.	Conduct at least one hands-on workshop, where participants will learn about residential storm water management and assist with storm drain stenciling; number of participants will be tracked	City of Lorain, Lorain County PIPE, Lorain County Metroparks, Black River AOC/Loco Yaks
<b>Storm Water Management for the Construction Community</b>	Addresses the <i>Black River Main Stem</i> TMDL recommendations for bacteria and Low DO/Organic Enrichment through the reduction of sediment and its associated pollutants.	Educate the Lorain County Building Community on local permit standards for storm water management and BMP implementation.	City of Lorain, Lorain County PIPE

## MCM 3: Illicit Discharge Detection and Elimination

### **Adoption of Illicit Discharge Detection and Elimination Ordinance**

Our community adopted an illicit discharge and illegal connection control ordinance on October 15, 2007, that prohibits illicit discharges into the MS4. We chose this mechanism as it is the most efficient and enforceable way to prohibit illicit discharges to the MS4. A copy of the ordinance is available at [www.cityoflorain.org](http://www.cityoflorain.org).

### **Development and Update of the Storm Sewer and Comprehensive Storm Sewer System Maps**

Our community has mapped our HSTS locations into a storm sewer map and the storm water collection system into a comprehensive storm sewer system map using the County GIS mapping as the base. Outfalls were located using existing topography supplemented by GPS field groundtruthing of outfall pipes by our Engineering Department. The comprehensive storm sewer system map was completed in 2013. Both maps are maintained by the City of Lorain Engineering Department. Updated copies of the map are available upon request from the City Engineer's office.

### **Determination of Priority Areas**

Initial dry-weather screening of all outfalls was completed during the #OHQ000002 permit period by the City of Lorain, and priority areas have been determined based data collected. The City's IDDE program will target and prioritize older portions of the community that have a higher likelihood of direct illicit connection. Any illicit discharges identified in the non-priority areas may be added to the priority area and prioritized for elimination depending on the severity of the discharge and recommendations of the Board of Health.

### **Enforcement and Escalation Procedures for Illicit Discharges and Illegal Dumping and Spills**

Our Engineering Department is responsible for locating, tracking, and eliminating illicit discharges. The City will issue orders to eliminate the discharges and enforce corrective action under their authority according to the following enforcement procedure:

The following procedure is used for identifying and correcting illicit discharges in previously established priority areas and any newly identified areas that meet priority criteria:

1. City personnel or designee visit all outfalls in the priority area during dry weather (at least 72 hours after the last rainfall of 0.10 inches or more) to observe which are flowing.
2. For any flowing outfalls, personnel record any odorous or visual observations.
3. Personnel visit these "suspect" outfalls and perform field tests to determine if sampling is warranted.
4. Outfalls suspected of violation tested based on the IDDE parameters are placed on a list for further investigation and elimination.
5. Priority areas determined from the previous round of screening and any new outfalls that meet the priority criteria are targeted first for elimination.
6. Where the collection system is open ditches, personnel visually track the flow back to the source.
7. Where the collection system is piped, personnel use a closed circuit television camera to search for connections that are contributing flow.

8. Where discharges are traced back to a corporate boundary line, the upstream community is notified of our findings.
9. Illicit dischargers within the community are sent notices ordering corrective action to remove the source of the discharge. The Engineering Department coordinates with appropriate departments on notice and mitigation of required correction actions.

Sanitary flows in the storm sewer system are evaluated by the Sewer Department as part of our illicit discharge program.

The following procedure is used for illegal dumping and spills:

1. Action will be initiated when a spill or dumping is reported to any community staff.
2. Hazardous materials are referred to the Fire Department for clean-up in conjunction with the procedures and guidelines in the Ohio EPA's Emergency Response Program, found here: <http://www.epa.state.oh.us/derr/ersis/er/er.aspx>.
3. Other spills and small scale dumping are referred to the Street Department or Lorain County General Health District for cleanup.
4. The offending party receives educational material on the impacts of spills and illegal dumping to stream and wetland habitat, which addresses our TMDL for Bacteria and Low DO. Repeat offenders are referred to the Police Department for investigation and possible citation.
5. Large-scale spills and illegal dumping are reported to Ohio EPA and the Police Department for investigation and possible citation. We follow the guidelines and procedures outlined in Ohio EPA's Emergency Response Program, found here: <http://www.epa.state.oh.us/derr/ersis/er/er.aspx>.

#### **Coordination with MCMs 1 and 6 and TMDL Performance Standards**

The "Lake Erie Starts Here" theme described earlier in MCM 1 will also educate the public on the environmental impacts of illicit discharges to the storm system. All municipal facilities subject to our Pollution Prevention and Good Housekeeping program receive annual staff training on MCM 6 that includes training on identifying illicit discharges and disposing of waste properly at their facilities.

#### **Program Responsibility and Oversight**

The Engineering Department is responsible for the overall management of the illicit discharge detection and elimination program and reviews the success of the IDDE program by ensuring the following objectives are met:

- Annual updates to the storm sewer map as needed to include catch basins, pipes, ditches, flood control facilities, public and private post-construction water quality BMPs installed to satisfy Ohio EPA's NPDES Construction General Permit or local post-construction water quality BMP requirements;
- Implementation and enforcement of the IDDE code according to the schedule and procedure defined in the code;
- Annual training for municipal staff on IDDE protocol (TMDL Performance Standard)
- A measurable goal of all illicit discharges eliminated within a year of their identification.

Our goals were selected to reflect TMDL recommendations, permit requirements, current practices, and staff capacity to implement the BMPs.

Table 3: Illicit Discharge Detection and Elimination Program

MCM 3: Illicit Discharge Detection and Elimination program		
Required BMP	Schedule and Measurable Goal	Responsible Party
Ordinance or other regulatory mechanism that prohibits illicit discharges and illegal dumping to the MS4	Adopted June 2006	City Council
Maintain and continue updating the MS4 map on an annual basis (i.e., outfalls, names and locations of surface waters that receive discharges from those outfalls, catchbasins, pipes, ditches, flood control facilities (retention/detention ponds), post-construction water quality BMPs and private post-construction water quality BMPs which have been installed to satisfy Ohio EPA's NPDES Construction Storm water general permit and/or local storm water management code requirements.	Annual review of map to ensure all necessary updates are made	City of Lorain
Develop and maintain a list and map of Sewage Treatment Systems that discharge to the MS4. Work with the local health department to identify and prioritize solutions to failing STS.	Annual review of list and map to ensure all necessary updates are made	Lorain County General Health District/City of Lorain
Prioritization schedule for ongoing dry-weather screening of outfalls. The City's IDDE program will target and prioritize older portions of the community that have a higher likelihood of direct illicit connection.	Annual review to determine if procedure is being followed correctly	City of Lorain
Implement IDDE plan that clearly defines responsible parties for investigating and resolving confirmed sources of illicit discharges, including escalation enforcement plan	Enforcement and implementation of the adopted IDDE code	City of Lorain, Lorain County General Health District
Train street, service, public works, building, and parks and recreation staff to identify sources of illicit discharge.	Annual training in conjunction with MCM 6 for municipal staff	City of Lorain
Notify Ohio EPA if any of the following illicit discharges are detected discharging to their MS4: • Illicit sanitary cross connections from industrial, commercial or multi-family sources; and • Leaking or broken sanitary sewer lines that are actively contributing sewage to the MS4. Notification shall include the location, general description, date, and approximate time the illicit discharge was discovered.	Notification shall be made nedo24hournpdes@epa.ohio.gov within twenty-four (24) hours of discovery of the source.	City of Lorain

## MCM 4: Construction Site Storm Water Runoff Control

### **Update of Erosion and Sediment Control Ordinance**

Our existing Erosion and Sediment Control code maintains compliance with NPDES Construction General Permit (#OHC000006). A copy of the code is available at [www.cityoflorain.org](http://www.cityoflorain.org).

Our community has also adopted special requirements in our Erosion and Sediment Control (ESC) code to reduce runoff and erosion and address TMDLs. A summary of these special requirements is as follows:

- Require minimum control measures for all projects within the City of Lorain, for projects less than one acre.
  - Lorain Codified Ordinance Chapter 1529.07
  - Applicable TMDLs: Nutrients, bacteria and dissolved oxygen.

### **Procedures for Stormwater Pollution Prevention Plan (SWP3) Review**

Our requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites are established in SWP3s which are reviewed by the City of Lorain Engineering Department and must be approved prior to any work commencing on the site. We have chosen to require minimum control measures for all development within the City of Lorain, which addresses our Black River Main Stem TMDLs for bacteria and low DO/organic enrichment. The City Engineer may require a full SWP3 for these sites at their discretion, as all proposed project are reviewed for ordinance applicability during the Engineering Dept's required plan review. Chapter 1529.08 of our Erosion and Sediment Control ordinance details the requirements for SWP3 development, and a copy of the ordinance is available at [www.cityoflorain.org](http://www.cityoflorain.org). Additional site-specific requirements may be mandated at the City Engineer's discretion. For project over one acre or part of a larger common plan of development/sale, work is not allowed to commence until a fully-approved SWP3 is in place.

### **Construction Site Inspection, Enforcement and Escalation Procedures**

Active construction sites are inspected on a monthly basis by City personnel utilizing the City of Lorain's inspection software, SWPPPTrack. The software generates both deficiency reports and individual inspection reports for each inspection conducted. To simplify the review process, which encourages prompt response, the City chooses to send each project representative a deficiency report only. Stop work orders can also be issued and lifted from the inspection software. The City of Lorain Engineering Department enforces the Erosion and Sediment Control code using the following enforcement and escalation procedures:

- The City may issue an immediate stop work order if the violator failed to obtain any federal, state, or local permit necessary for sediment and erosion control, earth movement, clearing or cut and fill activity or for any violation of City of State permit standards.
- Failure to maintain and repair erosion and sediment controls per the approved SWP3 may result in the following:
  - The City Engineer will issue a Notice of Deficiency report to the owner or Operator. All controls are to be repaired or maintained per the SWP3 within three days of the notification. If controls have not been corrected after this

time, the City may issue a stop work order for all activities until corrections have been made.

- The City Engineer may issue a stop work order for all construction activities. The stop work order will be lifted once all controls are in compliance with the approved SWP3.
- Escalated enforcement and potential fines per Ordinance standards.

The City also maintains a public hotline allowing the public to report potential site violations. All complaints to our hotline are filed and investigated by the Engineering Department. If the resident leaves their contact information, they may be contacted for a brief post-investigation follow-up.

**TMDL Performance Standards for Nutrients (Includes Phosphorus, Nitrogen and Ammonia)**

At a minimum, applicable construction sites which have the following compliance issues shall be inspected once every 14 calendar days instead of on a monthly basis:

1. Construction activities have started at the site with no SWP3 reviewed and approved by the MS4;
2. Failure to install sediment basin(s) when the SWP3 and/or site drainage clearly indicate as a first step (within 7 days prior to grading and within 7 days of grubbing);
3. Construction activities taking place with no sediment/erosion controls; or NPDES Permit No.: OHQ000004
4. Dewatering activities resulting in turbid discharges. Your inspections can be returned to a monthly basis for the construction site once compliance with the above compliance issues have been addressed and verified.

**Program Responsibility and Oversight**

The City of Lorain Engineering Department is responsible for overall management and implementation of our construction site storm water control program. Success under this MCM is evaluated through the milestones identified in Table 4. Many of the BMPs selected have specific schedules and timeframes for completion required either in the Erosion and Sediment Control ordinance or as part of the MS4 permit. An annual review is performed in conjunction with the required annual reporting to Ohio EPA to evaluate the program and determine if the schedules and timeframes set are being achieved. Our goals were selected to reflect TMDL recommendations, permit requirements, current practices, and manpower requirements of the BMPs.

*Table 4: Construction Site Storm Water Control Program*

<b>MCM 4: Construction Site Storm water Runoff Control</b>		
<b>Required BMP</b>	<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>
Update existing construction runoff control code to meet or exceed the requirements of the NPDES Construction General Permit.	Ongoing; Update as needed	City of Lorain

Ensure the most current erosion, sediment and non-sediment control BMP standards are required to be utilized (e.g., Rainwater and Land Development)	Ongoing; Update as needed	City of Lorain	
Complete Storm water Pollution Prevention Plan (SWP3) reviews and approval prior to construction commencement. Review complies with OHQ000004 performance standard requiring the use of a Storm Water Pollution Prevention Plan (SWP3) checklist to document SWP3 reviews for sediment/erosion controls and post-construction water quality controls - a method in use by the City of Lorain since at least 2013. Checklist was updated in Spring 2025 to ensure compliance with all current permits and can be found at <a href="https://www.cityoflorain.org/DocumentCenter/View/6372/SWP3-Review-Checklist">https://www.cityoflorain.org/DocumentCenter/View/6372/SWP3-Review-Checklist</a>	All SWP3s reviewed and approved prior to construction	City of Lorain	
Conduct monthly site inspections throughout construction, as well as a final site inspection to ensure correct implementation of erosion, sediment and non-sediment control BMPs in the approved SWP3.	All active sites inspected monthly and a final site inspection completed	City of Lorain	
Implement enforcement escalation plan that outlines how and when we address noncompliance with approved erosion, sediment, and non-sediment control plans	Enforce procedures for noncompliance outlined in erosion and sediment control code	City of Lorain	
Implement a standard operating procedure to respond to complaints	Continue to implement complaint procedures as established in SWMP rationale	City of Lorain	
Protect and maintain wetlands and maintain natural vegetative buffers to filter storm water runoff	Continue enforcement of wetland and riparian setback Ordinance	City of Lorain	
Ensure portable toilets are maintained and emptied without spills	Work with LCPH to track and enforce sewage hauling standards	City of Lorain and LCPH	
Enhanced BMP	TMDL Applicability	Schedule and Measurable Goal	Responsible Party
OHQ000004 now requires that MS4 compliance inspectors provide a written report of findings to construction site operators for every site inspection; the report summarizes compliance and non-compliance matters and establish deadlines for corrective action. This has been in place within the City of Lorain since at least 2013.	Addresses <i>Black River Main Stem</i> TMDL recommendations for bacteria and low DO/organic enrichment.	In place and active within the City of Lorain.	City of Lorain

Review all submitted plans for compliance with City of Lorain riparian and wetland setback requirements.	Addresses Black River Main Stem TMDL recommendations for bacteria and low DO/organic enrichment.	Continue to enforce community riparian setback legislation	City of Lorain, Planning and Zoning Commission
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## **MCM 5: Post-Construction Storm Water Management in New Development and Redevelopment**

### **Update of Comprehensive Stormwater Management Ordinance**

Lorain City Council will consider the update to our Post-Construction standards on December 16, 2019, that addresses both storm water quality and quantity. The ordinance has been updated to be compliant with the technical requirements set forth in the Ohio EPA NPDES Construction General Permit #OHC000006, the Ohio EPA NPDES Small Municipal Separate Storm Sewer System General Permit #OHQ00004, and to address the Black River Main Stem TMDL impairments. A copy of our ordinance is available at [www.cityoflorain.org](http://www.cityoflorain.org) and is on file in the City of Lorain Engineering Department.

### **Structural BMPs in the Program**

Chapter 1531.07 POST-CONSTRUCTION WATER QUALITY CONTROL PLAN, is enforced and updated to be equivalent with the technical requirements set forth in the Ohio EPA NPDES General Construction Permit #OHC000006, and a copy of the ordinance is available at [www.cityoflorain.org](http://www.cityoflorain.org).

These BMPs are mapped and documented in our Comprehensive Storm Sewer System map, a copy of which is available upon request. The map is updated by the Engineering Department on an as-needed basis to ensure all new BMPs are noted.

### **Non-Structural BMPs in the Program**

The non-structural mechanisms we use to address post-construction runoff from new developments and redevelopment include our riparian and wetland setback ordinance and an options of Planned Unit Development. We chose these mechanisms because they address our TMDL water quality concerns which are related to increases in storm water runoff as land is developed. These mechanisms provide flexibility to landowners, while ensuring that new impervious cover is minimized; the flood control, erosion control, and water quality functions of our watercourses and wetlands are maintained; and that when storm water is created, it is managed for both quality and quantity.

Our community adopted a riparian setback ordinance on July 19, 2004, a copy of which is available at [www.cityoflorain.org](http://www.cityoflorain.org). It directly addresses our *Black River Main Stem TMDL* recommendations for DO/organic enrichment and bacteria. Review and enforcement of the riparian setback is the responsibility of the Engineering Department, who review any proposed development plans for compliance with the setback ordinance and evaluates any variance requests. Any new development or redevelopment is required to comply with the setback unless a variance is requested and granted.

Non-structural BMPs including riparian and wetland setbacks are maintained as any other setbacks are maintained in the City of Lorain. As with all setbacks, landowners proposing activities in setbacks must request a variance and this request is reviewed, modified, and approved or disapproved by the City Engineer and the Planning and Zoning Commission. When considering variance requests, the Planning and Zoning Commission may consider the extent to which the requested variance impairs the flood control, erosion control, water quality protection or other functions of the riparian setback based on technical and scientific data. The

ordinance states that soil disturbing activities permitted in the setback through variance should minimize clearing and use BMPs to minimize and control erosion and sediment and that variances should not be granted for asphalt or concrete paving. The Planning and Zoning Commission prioritizes granting variances where feasible to other area or setback requirements in order to maintain the riparian setback.

#### **BMP Inspection and Maintenance Procedures and Enforcement**

Structural BMPs created through our improved storm water management regulation are maintained by post-development landowners. If these landowners do not complete necessary operation and maintenance, the City will reserve the right to complete this work and assess these landowners. An Inspection and Maintenance Agreement is required by the City to be in place for every applicable site that delineates responsibilities for maintenance of post-construction BMPs, including requiring the establishment of funds to support the maintenance of the BMPs. The Agreement is required to be established as part of Lorain Codified Ordinance Chapter 1531 and is reviewed for compliance by the Engineering Department prior to the issuance of final occupancy or plat approval. Copies of the Inspection and Maintenance Agreements are required to be filed with the Lorain County Recorder and are kept on file at the Engineering Department. The required Inspection and Maintenance Agreement is available at <https://www.cityoflorain.org/DocumentCenter/View/5367/REQUIRED---Stormwater-BMP-Facilities-Agreement>.

The owner must inspect structural storm water BMPs annually as described in Chapter 1531.09. The City has the authority to conduct inspections as necessary with prior notification of the property owner, to verify that the BMPs are being maintained and operated in accordance with our Comprehensive Storm water Management ordinance. If a deficiency or violation is noted, the City Engineer gives a written notification to the responsible party detailing the need for maintenance or compliance. Once notified, the responsible party has an agreed-upon time to make repairs or submit a plan with detailed action items and established timelines for the City Engineer to approve. If the repairs are not made or an approved plan is not in place within this time, City staff may undertake the necessary repairs and assess the responsible party.

#### **TMDL Performance Standards for Nutrients (Includes Phosphorus, Nitrogen and Ammonia)**

At a minimum, the City's SWMP will include:

1. An educational opportunity to contractors, SWP3 designers, and/or employees on OHC000006 Table 4b practices and/or other green infrastructure practices during the permit term.
2. Perform restoration of at least three hundred linear feet of channelized stream where natural channel stability and floodplain restoration will reduce stream erosion. This project is being completed in 2021/2022 and will provide 1060 feet of channel restoration and floodplain creation.
3. Update ordinance to require OHC000006 Table 4b practices and/or other green infrastructure practices where feasible.

#### **Program Evaluation and Oversight**

The Engineering Department is responsible for overall management and implementation of our post-construction storm water management program. We evaluate the success of this minimum measure through our ability to continue to implement our comprehensive storm water management regulation and our wetland and riparian setback regulation, and ensuring

that Inspection and Maintenance Agreements are in place and enforced for all relevant sites. In compliance with OHQ000004 standards, the City will ensure that facilities are inspected at least once every 5 years.

Our goals were selected to reflect TMDL recommendations, permit requirements, current practices, and manpower requirements of the BMPs.

*Table 5: Post-Construction Storm water Management Program*

<b>MCM 5: Post-Construction Storm water Management in New Development and Redevelopment</b>		
<b>Required BMP</b>	<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>
Update existing storm water management code to meet or exceed the requirements of NPDES OHC00006.	Approved by Ord. 167-19. Passed 12-16-19	City of Lorain
Ensure the most current post-construction BMP standards are required to be utilized (e.g., Rainwater and Land Development)	Approved by Ord. 167-19. Passed 12-16-19	City of Lorain
Complete Storm water Pollution Prevention Plan (SWP3) reviews and approval prior to construction commencement; ensure SWP3 includes an executed Maintenance Agreement and Long-Term Maintenance Plan for post-construction BMPs	100% of SWP3 plan reviews approved prior to construction where larger common plan of disturbance/sale disturbs one or more acres	City of Lorain
Conduct monthly site inspections throughout construction, as well as a final site inspection to ensure correct implementation of post-construction BMPs in the approved SWP3	All active sites inspected monthly and a final site inspection completed	City of Lorain
Establish a program to ensure long-term maintenance of post-construction BMPs including a protocol for enforcement escalation of storm water management codes	Enforce procedures for establishment of O&M and noncompliance as established in storm water management code	City of Lorain
OHQ00004 includes a performance standard requiring that the City's operation and maintenance program shall ensure that private and public post-construction controls are being maintained per existing long-term O&M plans and agreements. You shall maintain a copy of the long-term O&M plans and agreements provided during construction and document long-term O&M inspections.	LTMA agreements area requirement of plan review and are on file in the City of Lorain Engineering Department and The Lorain County Recorder's office.	City of Lorain
Your program shall include, at a minimum, one on-site inspection by you or third party of each post-construction runoff control during this permit term.	Inspection shall be performed on all facilities once per permit term.	City of Lorain or Property Owner

An educational opportunity to contractors, SWP3 designers, and/or employees on OHC00006 Table 4b practices and/or other green infrastructure practices during the permit term.	Prior to permit expiration	City of Lorain	
Post-construction BMPs, identified in the comprehensive storm sewer system map, shall be identified by type of practice (e.g., wet extended detention basin, bioretention, etc.).	Within 5 years of effective date of permit.	City of Lorain	
Enhanced BMP	TMDL Applicability	Schedule and Measurable Goal	Responsible Party
Enforce our riparian and wetland setback ordinance.	Addresses <i>Black River Main Stem TMDL</i> recommendations for bacteria and low DO/organic enrichment.	Continue to enforce community riparian setback legislation	City of Lorain, Planning and Zoning Commission

## MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations

### **Pollution Prevention/Good Housekeeping Program Overview**

The City of Lorain Engineering Department inventories municipal activities throughout the MS4 that may impact storm water. These include:

1. Vehicle maintenance - *City Vehicles are receiving regular and preventative maintenance at the City of Lorain Street Department Garage. All maintenance is completed indoors, with appropriate storage of new and used materials.*
2. Salt application– *Salt application within the City of Lorain is completed in such a manner as to minimize usage based upon weather conditions as well as Minimizing salt applications based upon weather conditions. Intersections of side streets, not new construction within 2 years.*
3. Ditch cleaning– *Completed and tracked annually by the Sewer Department. Cleanings are placed on the Street Sweeping Pad to dewater. Annual amounts are tracked and reported.*
4. Street sweeping – *The Street Department operates street sweepers during the warm weather months, with at least 1 complete sweeping of City streets annually. The sweepings are placed on the Street Sweeping Pad to dewater. Annual amounts are tracked and reported.*
5. Recycling location for household hazardous waste - *Provided for City Residents by the Lorain County General Health District.*
6. Composting facility - *The City operates a Class IV composting facility at the Black River Reclamation Facility which is managed under regulatory standards developed for these facilities. The facility is inspected annually by the Lorain Health Department (now a member of the Lorain County General Health District) with administrative oversight by the City of Lorain Engineering Department.*

The Street Department sweeps streets once every season (weather permitting) or more often as needed and as available. Storm sewer catch basins are generally equipped with sumps and traps that prevent most objectionable material from entering the MS4. These are cleaned on an as-needed basis by the Sewer Department based on visual assessments and complaints received from the community. Street sweeping and catch basin cleaning are enhanced BMPs we have chosen to address the Black River (Main Stem) TMDLs for DO/organic enrichment and bacteria.

Vehicles are repaired and maintained within an enclosed facility at the Street Department. Engines and other component parts designated for disposal are not allowed to remain in uncovered storage. Oils and other fluids from maintenance activities are collected and disposed of by a licensed contractor. The debris collected from catch basin cleaning and street sweeping is placed on the City dewatering pad and dewatered before being transported to an approved landfill. All salt used by the community is stored under cover in enclosed structures at several City facilities.

During this permit term, the City of Lorain is increasing the workforce dedicated to storm sewer compliance and maintenance. Two storm sewer specific Sewer employees are planned to assist in system operation and maintenance and to assist in complaint tracking, IDDE investigation,

ditch maintenance, etc. An additional staff member is being hired to focus on invasive species management, City owned BMP maintenance, and overall program field management assistance.

### **Facilities Subject to Pollution Prevention/Good Housekeeping Program**

Our facilities subject to the PPGH program include the following:

- City of Lorain Central Services Facility
  - West Park Road, Lorain, Ohio
- City of Lorain Sewer Department
  - 6301 1/2 West Erie Avenue, Lorain, Ohio
- City of Compost Facility
  - 2601 E. 28th Street, Lorain, Ohio

A SWP3 is prepared for each of our facilities and a copy is kept on file at each facility as well as with the Engineering Department.

### **Evaluation of Flood Management Projects**

For any flood management projects undertaken by municipal staff, construction and maintenance activities within the jurisdictional waters of the United States are done in compliance with Sections 402 and 404 of the Clean Water Act. Plans and specifications of such activities requiring permits and NOI are forwarded to the Ohio EPA and the US Army Corps of Engineers when appropriate. We require the use of sediment and erosion control measures on all municipal projects per our Erosion and Sediment Control ordinance. The City of Lorain Engineering Department reviews municipal projects as appropriate to determine the feasibility of additional water quality protection devices and practices.

### **Municipal Staff Training**

The City of Lorain Engineering Department coordinates with Ohio EPA, OSHA, and ODOT to secure available employee training materials and ensure they are up to date and relevant to the community operations. The City of Lorain Engineering Department is responsible for the scheduling and organization of the training. We provide a minimum of one training per year to City staff on MCM 6, including how to identify illicit discharges and handle hazardous spills. The City of Lorain Engineering Department is responsible for the overall management and implementation of our Pollution Prevention/Good Housekeeping program.

### **Quarterly Monitoring**

Quarterly visual monitoring is conducted at the required City facilities per the inspection form available as an attachment to each site SWPPP. Monitoring data will be kept on file in the Engineering Department and will be available for review, upon request.

### **TMDL Performance Standards for Municipal Operations**

While only one is required for implementation within 2 years of the permit effective date, the City's pollution prevention/good housekeeping program includes the following performance standards:

1. Street sweeping program with proper debris management and disposal. The program documents debris collected to prioritize areas to sweep and/or document lane miles swept. At a minimum, sweeping shall occur on curbed streets two times per year.

2. Develop and implement a catch basin cleaning program with proper debris management and disposal. The program will track and document debris collected to prioritize areas to clean. All catch basins will be scheduled to be cleaned once every five years.
3. Continue implementation of the leaf collection program.
4. Conduct routine quarterly facility inspections at the three facilities subject to Pollution Prevention and Good Housekeeping Program.

#### **Program Evaluation and Oversight**

The City of Lorain Engineering Department and facility managers are responsible for management and oversight of the Pollution Prevention/Good Housekeeping program. Where distinct milestones are noted for BMPs under this MCM, they are tracked by the responsible parties noted in the below table. Our goals are selected to reflect TMDL recommendations, permit requirements, current practices, and manpower requirements of the BMPs.

Table 6: Pollution Prevention/Good Housekeeping for Municipal Operations Program

<b>MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations Program</b>			
<b>Required BMP</b>		<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>
Update and implement facility SWP3s to reflect minimum requirements of the Ohio EPA General NPDES Permit for Storm water Associated with Industrial Activities (OHR000005): perform quarterly routine facility inspections and quarterly visual assessment of storm water discharges.		Update all required SWP3s as needed.	City of Lorain
Implement pollution prevention and good housekeeping practices at the following municipally-operated facilities: streets, roads and highways; municipal parking lots; maintenance and storage yards (including but not limited to municipal composting facilities and leaf collection yards); parks, and related maintenance facilities; compost facilities; fleet and/or maintenance shops; salt/sand storage locations; and snow disposal areas.		Continue to implement SWP3 procedures at all relevant municipal facilities	Affected Department Management
Conduct annual staff training for pollution prevention/good housekeeping		One annual training to managers and staff of all relevant municipal facilities	City of Lorain
Soil disturbing activities associated with all ditch/MS4 maintenance will be stabilized in accordance with requirements of the NPDES Construction Storm Water general permit (CGP).		Ensure compliance no later than two (2) years after the effective date of permit.	City of Lorain and Affected Department Management
Salt piles shall be covered with no run-on and subsequent run-off of salt and all tanks of brine or other liquid road treatments shall have secondary containment and/or bollard protection. This performance standard shall be		Ensure compliance no later than two (2) years after the effective date of permit.	City of Lorain and Affected Department Management
<b>Enhanced BMP</b>	<b>TMDL Applicability</b>	<b>Schedule and Measurable Goal</b>	<b>Responsible Party</b>
Conduct street sweeping program on municipal streets	Addresses Black River Main Stem TMDL recommendations for bacteria and low DO/organic enrichment.	100% of streets swept at least once per year (normally occurs 4x annually)	Public Properties Manager
Catch Basin Cleaning	Addresses Black River Main Stem TMDL recommendations for bacteria and low DO/organic enrichment.	Complete catch basin cleaning on an as-needed basis based on visual assessments and complaints.	Sewer Dept

Where possible at community-owned and operated facilities, maintain, protect and restore permanent natural vegetative buffers between developed areas and water resources	Addresses Black River Main Stem TMDL recommendations for bacteria and low DO/organic enrichment.	Identify, restore, and maintain buffers wherever feasible at all municipal facilities by end of permit term	City of Lorain and Public Properties Manager
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## Review and Update of the Stormwater Management Program

We perform an annual review of our SWMP in conjunction with preparation of the annual report to Ohio EPA required under Part IV.C of the MS4 Permit #OHQ000004. Any proposed additions to the SWMP during the life of the permit are made upon written notification to Ohio EPA. Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternate BMP are requested of Ohio EPA according to the procedure outlined in accordance with Part V.G of the MS4 Permit #OHQ000004 and include the following information:

1. An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),
2. Expectations on the effectiveness of the replacement BMP, and
3. An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

Unless specifically denied by Ohio EPA, the requested changes proposed in accordance with the criteria above shall be deemed approved and may be implemented 60 days from submittal of the request.

## Evaluating, Record Keeping and Reporting

Through the procedures established in each MCM rationale, we evaluate our program compliance, the appropriateness of identified BMPs, and progress toward achieving identified measurable goals and satisfying the performance standards. We retain copies of all reports and documentation required by Part IV.B.1 of the MS4 Permit #OHQ000004 and will retain and make our required documentation accessible to the public if requested to do so in writing according to Part IV.B.2 of the MS4 Permit OHQ000004. For the 5-year term of the permit, yearly reports are prepared detailing the progress of our community in meeting the measurable goals of the program using the reporting forms provided by Ohio EPA. Reports are filed annually in accordance with the requirements of Part IV.C of the MS4 Permit #OHQ000004.