

**CITY OF CLEVELAND
DIVISION OF WATER POLLUTION
CONTROL**



**USEPA PHASE II
STORMWATER MANAGEMENT
PROGRAM**

2016

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY

ES.1	Introduction	ES-1
ES.2	Public Education and Outreach	ES-2
ES.3	Public Involvement / Participation	ES-2
ES.4	Illicit Discharge Detection and Elimination	ES-3
ES.5	Construction Site Stormwater Runoff Control	ES-3
ES.6	Post Construction Site Stormwater Management	ES-4
ES.7	Pollution Prevention / Good Housekeeping	ES-5
ES.8	Additional Requirements	ES-6

INTRODUCTION/OVERVIEW

I.1	Introduction	I-1
I.2	Stormwater Steering Committee	I-2
I.3	City Information	I-3

SECTION 1 PUBLIC EDUCATION AND OUTREACH

1.1	Requirements	1-1
1.2	Best Management Practices	1-1
1.2.1	Brochures/Fact Sheets	1-2
1.2.2	Alternative Information Sources	1-2
1.2.3	Riparian Buffer/Wetland Setback	1-2

SECTION 2 PUBLIC INVOLVEMENT / PARTICIPATION

2.1	Requirements	2-1
2.2	Best Management Practices	2-1
2.2.1	City of Cleveland Stormwater Steering Committee	2-1
2.2.2	Stream Cleanups	2-2
2.2.3	Build Your Own Rain Barrel Workshop	2-2
2.2.4	Brochures/Fact Sheets	2-3

SECTION 3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

3.1	Requirements	3-1
3.2	Best Management Practices	3-2
3.2.1	City Policy Regarding Non-Stormwater Discharges	3-2
3.2.2	Revise City of Cleveland Codified Ordinance (CCO) 541	3-2
3.2.3	Update the Storm Sewer and Comprehensive Sewer System Maps	3-3
3.2.4	Revise Illicit Discharge Detection and Elimination	3-3

Program

SECTION 4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

4.1	Requirements	4-1
4.2	Best Management Practices	4-2
	Protect On-Site Areas Prior to Construction; Maintain	
4.2.1	Wetlands in Natural States (When Feasible); Ensure	4-2
	Proper Storage of Materials On-Site	
4.2.2	Natural Vegetative Buffers Between Limits of	4-3
	Disturbance and Water Resources	
4.2.3	Pre-Construction Meetings	4-3
4.2.4	Site Plan Review Procedures	4-4
4.2.5	Procedure for Site Inspection and Enforcement of	4-4
	Control Measures	
4.2.6	Procedures for Enforcement Escalation	4-6

SECTION 5 POST-CONSTRUCTION STORMWATER MANAGEMENT

5.1	Requirements	5-1
5.2	Best Management Practices	5-2
	Require MS4 Compliance Inspectors to Provide a	
5.2.1	Written Report to Post-Construction Facility	5-2
	Owners/Operators for Every Inspection	
	Require the Department of Building and Housing to	
5.2.2	Annually Inspect Public and Private Post-Construction	5-3
	Stormwater Control Measures (SCMs)	
	Adopt Conservation Development, Riparian/Wetland	
5.2.3	Setbacks or Other BMP Planning and Development	5-3
	Code	

SECTION 6 POLLUTION PREVENTION / GOOD HOUSEKEEPING

6.1	Requirements	6-1
6.2	Best Management Practices	6-1
6.2.1	Operation and Maintenance Program	6-1
6.2.2	Employee Training Program	6-4
6.2.3	Street Sweeping Program	6-4
6.2.4	Catch Basin Maintenance Program	6-5
6.2.5	Preventative Maintenance Program	6-5

SECTION 7 ADDITIONAL REQUIREMENTS

7.1	Proper Operation and Maintenance	7-1
7.2	Availability of Information	7-1

7.3	Keeping Plans Current	7-1
7.4	Reporting and Record Keeping	7-2
7.5	Total Maximum Daily Load (TMDL) Allocations	7-2
7.6	Duty to Correct and Report Violations	7-2
7.7	Duty to Provide Information	7-3
7.8	Correction of Inaccuracies	7-3
7.9	Other Applicable Law	7-3

APPENDIX A - ABBREVIATIONS AND DESCRIPTIONS

APPENDIX B - MEMORANDA OF UNDERSTANDING

APPENDIX C - RIPARIAN SETBACK ORDINANCE (Ord. No. 1555-13; CCO CHAPTER 351)

APPENDIX D - CITY OF CLEVELAND CODIFIED ORDINANCE CHAPTER 541

CITY OF CLEVELAND DIVISION OF WATER POLLUTION

APPENDIX E - CONTROL'S ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM MANUAL

APPENDIX F - OHIO ENVIRONMENTAL PROTECTION AGENCY'S STORMWATER POLLUTION PREVENTION PLAN (SWP3) CHECKLIST FOR CONSTRUCTION ACTIVITIES (OHC000004)

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Clean Water Act (CWA) Section 303(d) requires states, territories, and authorized tribes to list the waters for which technology-based limits alone do not ensure attainment of water quality standards. As such, the CWA and United States Environmental Protection Agency (USEPA) regulations require that Total Maximum Daily Loads (TMDLs) be developed for waters on the Section 303(d) list. Per the Ohio Environmental Protection Agency (OEPA) and the Northeast Ohio Stormwater Training Council's "TMDL Community Identifier Table," the City of Cleveland must address the following TMDLs in the designated watersheds/sub-watersheds:

Watershed	Sub-watershed	TMDL Load
Lower Cuyahoga River	Big Creek	Phosphorus, Nitrogen, Habitat, Bacteria, Dissolved Oxygen (DO)
Lower Cuyahoga River	Cuyahoga River (within City of Cleveland)	Phosphorus, Nitrogen, Habitat, Bacteria, Dissolved Oxygen (DO)
Lower Cuyahoga River	Mill Creek	Phosphorus, Nitrogen, Habitat, Bacteria, Dissolved Oxygen (DO)
Euclid Creek	Euclid Creek	Phosphorus, Habitat, Total Suspended Solids (TSS)

Because the majority of these pollution problems are caused by increases in impervious cover and the resulting increases in stormwater volume and velocity, much of our Public Education and Outreach program will focus on increasing public awareness of the links between land use practices and stormwater pollution.

The City of Cleveland agreed to work with other communities in the various watersheds on a comprehensive, Public Involvement and Public Education (P.I.P.E) program. Given the similarity of these two MCMs a unified P.I.P.E. program was developed to encompass all of our watersheds. The City has contracted with Euclid Creek Watershed Partners, Doan Brook Watershed Partnership, and Cuyahoga Soil and Water Conservation District, to provide assistance with these efforts.

This SWMP outlines a plan of BMPs and measurable goals for each of the six (6) minimum control measures including Public Education and Outreach, Public Involvement/Participation, Illicit Discharge Detection and Elimination, Construction Site Stormwater Runoff Control, Post Construction Stormwater Management and Pollution Prevention/Good Housekeeping. The plan requires that a combination of tasks be undertaken to carry out the BMPs selected for each measure. This includes documentation of policies, procedures and training, development of specific programs and products, conducting public information meetings, development of storm sewer

system map, outfall inspection, development of new training and additional maintenance requirements.

The BMPs selected for each minimum control measure are summarized and briefly described in this section. Specific details for each BMP are included in the respective sections for each control measure in this plan. The Commissioner of the Division of Water Pollution Control is the Stormwater Manager for the City and is responsible for overseeing the City's Stormwater Management Program.

ES.2 PUBLIC EDUCATION AND OUTREACH (MCM #1)

This minimum control measure is managed by the Commissioner of Water Pollution Control. Public education and outreach outlines the City's initiative to educate employees and the public of the impacts of stormwater discharges on water bodies, and inform them of the steps that can be taken to reduce stormwater pollution.

The following BMPs have been selected to address the Public Education and Outreach minimum control measure:

- Brochures/Fact Sheets (e.g. pet waste management, grass clipping and yard waste composting);
- Alternative Information Sources (e.g. Website, Social Media); and
- Riparian Buffer/Wetland Setback

These BMPs will require the development and distribution of informational materials such as brochures/fact sheets, and a web site. These materials are expected to reach a diverse audience covering a large geographic area, and help inform the public of the importance of stormwater.

ES.3 PUBLIC INVOLVEMENT/PARTICIPATION (MCM #2)

This minimum control measure, also managed by the Commissioner of Water Pollution Control, outlines the City's program to ensure public support as well as provide community knowledge of pollution problems, by taking a proactive approach and encouraging City employees and the public to get personally involved with improving the quality of the environment.

The following BMPs have been selected to address the Public Participation/Involvement minimum control measure:

- City of Cleveland Stormwater Steering Committee;
- Stream cleanups;

- Build your own rain barrel workshop;
- Storm drain stenciling/decorating; and
- Brochures/Fact sheets

Public information and outreach information is included on WPC's website and at public meetings.

ES.4 ILLICIT DISCHARGE DETECTION AND ELIMINATION (MCM #3)

The illicit discharge detection and elimination program, managed by the Commissioner of WPC, is designed to detect and eliminate potential point sources of contaminants, leaking or discharging into storm sewer systems and ultimately to receiving water bodies.

The following BMPs have been selected to address the Illicit Discharge Detection and Elimination minimum control measure:

- Revise City of Cleveland Codified Ordinance (CCO) 541 to reflect changes to SWMP;
- Update the Storm Sewer and Comprehensive Storm Sewer System Maps;
- Revise Illicit Discharge Detection and Elimination Program;
- At least 1 screening of all outfalls per permit term; and
- Train WPC House Connection Inspectors (HCIs) to identify sources of illicit discharge

The City does not allow non-stormwater discharges into its storm sewer systems. This policy and guideline will continue as part of this plan.

The City has and will continue to monitor its stormwater discharges in an effort to detect and address future non-stormwater discharges, and will coordinate with other agencies in identifying illegal discharge/dumping.

ES.5 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL (MCM #4)

Construction site stormwater runoff control outlines the program that reduces pollutants in any stormwater runoff to MS4s from construction activities that result in a land disturbance greater than or equal to one acre. The City of Cleveland Department of Building and Housing (B & H), is responsible for managing this MCM. B & H administers Cleveland Codified Ordinance Chapter 3116 titled "Construction and Post-Construction Site Stormwater Runoff Control," that was passed by Cleveland City Council in 2009. B & H, also entered into a contract with the Cuyahoga Soil and Water Conservation District to review plans, conduct inspections, provide reports, and do field enforcement of the ordinance.

The following BMPs have been selected to address the Construction Site Runoff Control minimum control measure:

- Require on-site protected areas be physically marked in field prior to construction; maintain wetlands in natural states wherever feasible; and ensure proper storage of materials on site;
- Require 50 foot natural vegetative buffers to be maintained between limits of disturbance and water resources;
- Hold pre-construction meetings;
- Develop procedures for site plan review;
- Develop procedures for site inspection and enforcement of control measures; and
- Develop an enforcement escalation plan that outlines how and when the City will address non-compliance with approved erosion, sediment and non-sediment control plans

Under CCO Chapter 3116, the City requires erosion and sediment controls and registration of permits for all construction projects within the City that disturb one or more acres of land. CCO 3116 incorporates the requirements prescribed in OEPA's general permit governing construction activity. CCO Chapter 3116 states that any person undertaking construction activity that disturbs one or more acres of land, of which the threshold acreage includes the entire area disturbed in the larger common plan of development or sale, must obtain a permit from the Department of Building and Housing. Any project involving land owned by the City, or in the City's right-of-way, that disturbs one or more acres must also submit their project for review and approval under the same standards to B & H. Any public agency submitting plans to the Division of Engineering and Construction (E & C) or other City divisions will be directed to submit plans to B & H for review and approval.

The City has several phone lines for receiving complaints from the public about construction sites. These numbers include the Mayor's Action Center, the Department of Building and Housing, the Division of Water Pollution Control Customer Service, and the Cleveland Police's Illegal Dumping hot line.

ES.6 POST CONSTRUCTION STORMWATER MANAGEMENT (MCM #5)

The post construction stormwater management component, also managed by B & H, addresses stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one (1) acre, including projects less than one acres that are part of a larger common plan of development, that discharge into small MS4s.

The following BMPs have been selected to address the Post Construction Site Runoff Control minimum control measure:

- Require MS4 compliance inspectors to provide a written report to post-construction facility owners/operators for every inspection;
- Require the Department of Building and Housing to annually inspect public and private post construction BMPs; and
- Adopt a conservation development, riparian/wetland setbacks or other BMP planning and development code

Following the update to CCO 3116 in 2009, the Department of Building and Housing agreed to annually renew their contract with the Cuyahoga Soil and Water Conservation District to assist with regulation of post-construction sites. Beginning in 2012, all applicable public projects had to undergo the same process. All applicable plans are submitted to B & H, reviewed, and approved by CSWCD. Per this plan, CSWCD will make annual inspections of the stormwater control measures (SCMs) and enforce the proper controls according to the approved plans.

The enforcement and penalty provisions for CCO Chapter 3116 are found in CCO Chapter 3103, "Enforcement and Penalty." It provides the Director of B & H with the authority to conduct inspections, issue stop work orders, revoke permits, issue notices of violation, institute an action to restrain the execution of work, and institute criminal action for violations for which penalties are provided in CCO Section 3103.99.

ES.7 POLLUTION PREVENTION/GOOD HOUSEKEEPING (MCM #6)

This minimum control measure will outline an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance. The City of Cleveland Department of Public Works is responsible for managing this MCM.

The following BMPs have been selected to address the Pollution Prevention/Good Housekeeping minimum control measure:

- Operation and Maintenance Program;
- Employee Training Program;
- Catch Basin Maintenance Program; and
- Preventative Maintenance Program

Training will be developed to directly address stormwater management and the requirements of this SWMP. Record keeping will be performed and will be modified to incorporate additional information associated with this SWMP.

Sweeping of all roadways and City facilities will continue to be performed at least once every year. The sweeping will be performed as soon as possible after snowmelt. Priority areas such as interchange zones, places of public gatherings, and environmentally sensitive areas will be given priority.

WPC will attempt to annually clean at least one-third (1/3) of the City's total number of catch basins. These catch basins may be selected based upon routine scheduled field inspections and also inspections resulting from other program requirements. WPC will conduct routine inspections by selecting a representative number of catch basins once every year. If a catch basin sump is found to be more than one-half (1/2) full, the catch basin will be cleaned.

The WPC will continue to operate its preventative maintenance program and will incorporate all of the requirements of this general permit.

ES. 8 ADDITIONAL REQUIREMENTS

The following topics are also required for compliance with the MS4 General Permit. A detailed explanation of these requirements is located in Section 7 of this plan.

- Proper Operation and Maintenance
- Availability of Information
- Keeping Plan Current
- Reporting and Record Keeping
- Total Maximum Daily Load (TMDL) Allocations
- Duty to Correct and Report Violations
- Duty to Provide Information
- Correction of Inaccuracies
- Other Applicable Law

INTRODUCTION/OVERVIEW

I.1 INTRODUCTION

The City of Cleveland developed this Stormwater Management Program (SWMP) for the purpose of reducing the discharge of pollutants, to the maximum extent practicable, to protect local water quality, and to satisfy the appropriate requirements of the Clean Water Act.

The U.S. Environmental Protection Agency (EPA) published the regulation entitled "National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges on December 8, 1999, as required by Section 402(p) of the Clean Water Act (CWA). This is commonly referred to as the National Pollutant Discharge Elimination System (NPDES) Phase II program.

This SWMP also directly addresses the requirements of the NPDES Phase II program as implemented and administered by the Ohio Environmental Protection Agency (OEPA) as the regulatory authority for the State of Ohio. The NPDES Phase II program is implemented by OEPA through the use of the General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems (MS4).

The City currently has many practices and programs in place relating to stormwater management and pollution prevention. This plan will coordinate and incorporate these programs, policies, guidelines and practices into the SWMP document by reference.

The plan outlines a program of best management practices (BMPs) and measurable goals for the following six minimum control measures (MCM):

- Public Education and Outreach (MCM #1)
- Public Involvement / Participation (MCM #2)
- Illicit Discharge Detection and Elimination (MCM #3)
- Construction Site Stormwater Runoff Control (MCM #4)
- Post-Construction Stormwater Management (MCM #5)
- Pollution Prevention / Good Housekeeping (MCM #6)

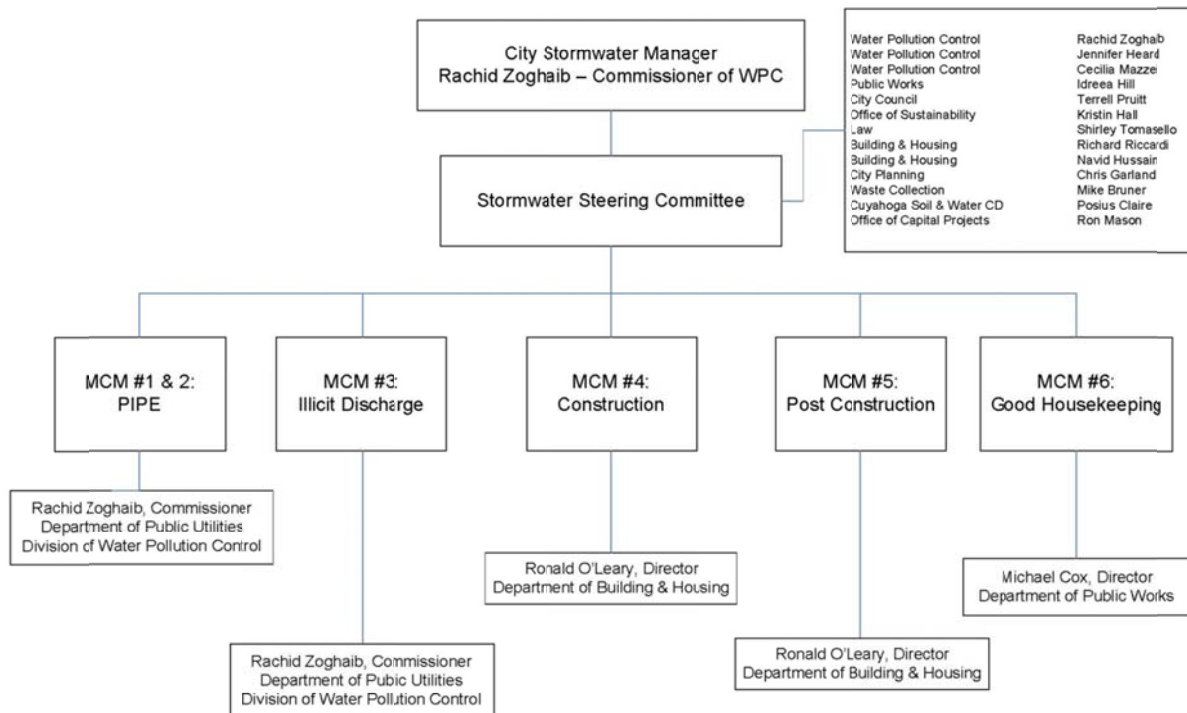
For each MCM, the City will define appropriate BMPs, a timeframe for implementation for each BMP, and measurable goals for each BMP.

I.2 STORMWATER STEERING COMMITTEE

The City of Cleveland (City) has the legal authority to implement the following SWMP 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.

The Commissioner of the Division of Water Pollution Control (WPC) has been designated as the Stormwater Manager for the City of Cleveland, responsible for overseeing the implementation of the entire stormwater management program. As part of the development of the SWMP, the Stormwater Steering Committee was established with representatives from various City departments/divisions to provide assistance to the Commissioner. Figure I.1, details the structure of the City of Cleveland's Stormwater Management Program, including the City department/division that is responsible for managing each of the minimum control measures.

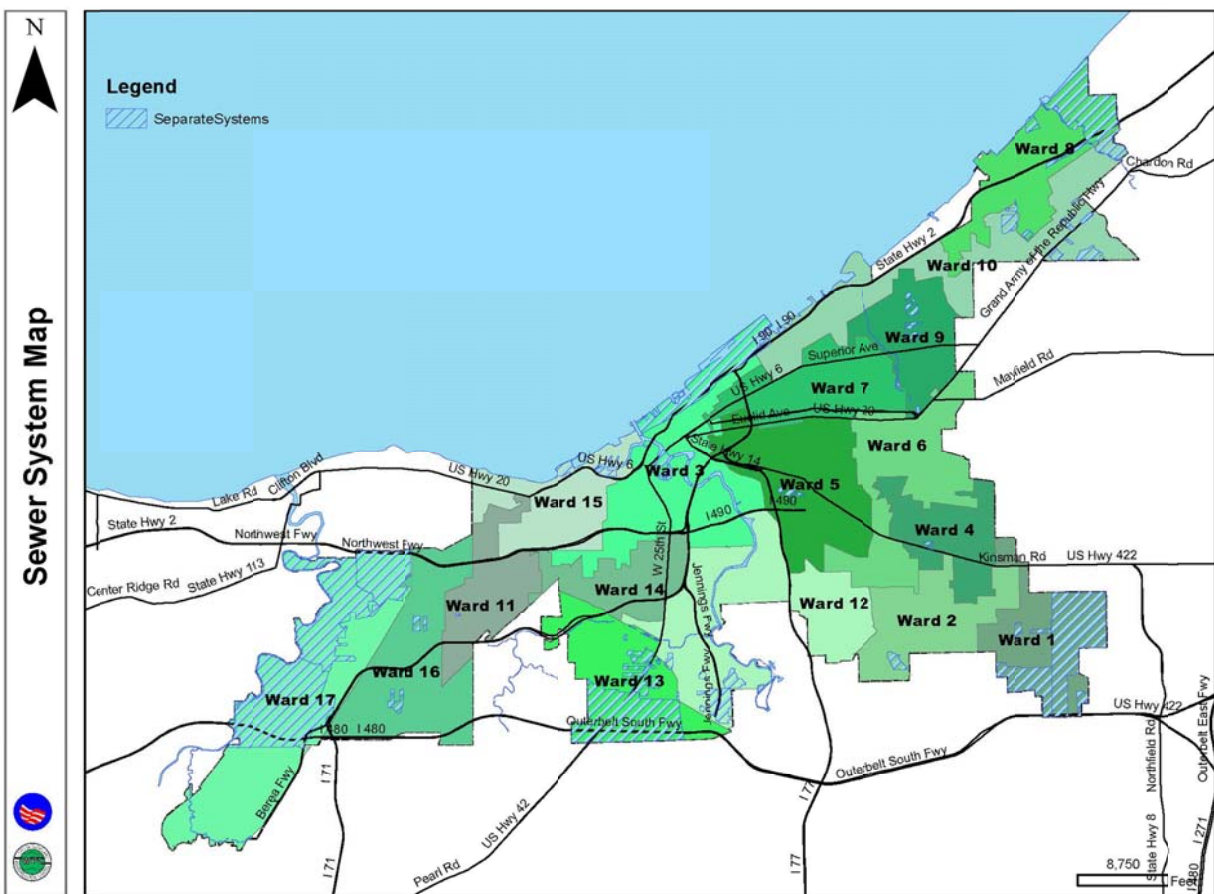
Figure I.1 Stormwater Management Program Organizational Chart



I.3 CITY INFORMATION

The City of Cleveland, located in the Lake Erie Drainage Basin, covers an area of approximately 75.6 square miles, of which approximately 6.8 square miles drains into natural watercourses. The community is 91% combined sewers and 9% separate sewers (see Figure I.2). The Lake Erie Drainage Basins includes the Rocky River Watershed, Big Creek Watershed, Mill Creek Watershed, Doan Brook Watershed, and Euclid Creek Watershed. Cleveland also includes Morgan Run Watershed, Dugway Brook Watershed, Shaw Brook Watershed, Nine Mile Creek Watershed, Green Creek Watershed, Kingsbury Run Watershed, and Walworth Run Watershed.

Figure I.2 City of Cleveland Sewer System Map



SECTION 1 – PUBLIC EDUCATION AND OUTREACH

According to the 2010 U.S. Census, the population of Cleveland was 396,815, of which approximately 81% of the land use was comprised of single-family residents; residents whose activities directly contribute to polluted stormwater runoff in the City's MS4. As a result, the focus of our Public Education and Outreach program will be on increasing public awareness of the links between land use practices and stormwater pollution. This MCM is critical to the success of the overall stormwater management program as it helps to ensure greater support for the program by the public and City employees and effectuates greater compliance.

The Commissioner of Water Pollution Control is responsible for executing this MCM. To assist in implementing our public education/outreach activities under MCM #1, we have entered into a joint Memorandum of Understanding (MOU) with the Cuyahoga Soil and Water Conservation District (CSWCD) and the Euclid Creek Watershed Council (ECWC). We have also entered into agreement with the Doan Brook Watershed Partnership (copies of these MOUs can be found in Appendix B).

1.1 REQUIREMENTS

Implementation of a public education program to distribute educational materials to the public and/or conduct equivalent outreach activities regarding the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

1.2 BEST MANAGEMENT PRACTICES

The City's MS4 ultimately discharges to receiving waters that have been identified as not meeting water quality standards. Subsequent studies, called Total Maximum Daily Load (TMDL) studies, have been performed and identify specific pollutants causing the impairments to the receiving waters and designate the amount of the pollutant the receiving water can assimilate to achieve water quality standards. A required reduction of the pollutants is typically assigned to the MS4s that drain to the impaired segment of the water body. A list of the impaired water bodies and their respective pollutants of concern are listed in the Executive Summary.

Our education and outreach program will target pollutant sources identified in our TMDL(s), such as sediment pollution from stream bank erosion and improperly controlled construction sites and habitat alteration due to land use changes. The goal is to reach a minimum of 50% of our MS4 population over the five-year permit term. Appropriate themes for this minimum control measure must be determined, along with designating the person(s) or position(s) responsible for the implementation of each BMP. CSWCD and our community will conduct public opinion and awareness surveys in 2017 and 2019 with the goal of evaluating public knowledge and awareness of

stormwater issues and to what extent the public has adopted appropriate BMPs. If it appears that this goal is not being reached, the program will be re-evaluated and different themes and/or mechanisms will be selected.

The following BMPs will be utilized in the implementation of the program to address the minimum control measure for Public Education and Outreach.

1.2.1 Brochures/Fact Sheets

Brochures/fact sheets have been developed to increase public awareness on the links between land use practices and stormwater pollution. Program themes or messages will be established to convey the effects of stormwater quality on the environment and how it can be improved. Brochures are typically distributed at community activities, workshops, and public information meetings. Brochures will continue to be developed and updated to provide the public with easy to comprehend stormwater knowledge.

The benefits associated with this BMP include reaching a diverse audience covering a large geographic area.

1.2.2 Alternative Information Sources

A web site has been developed that addresses the effect of stormwater quality on the environment. The web site is part of WPC's main web page and is available to the public by means of internet access. The web site URL is: <http://www.clevelandwpc.com>. Continued development and updating to the website will take place.

A multi-layered campaign consisting of utilizing several large kiosks posters positioned around Cleveland, messaging on Cleveland Public Power's digital billboard on Interstate 90, and social media will be developed to also increase public awareness.

By offering multiple sources of information, convenience, and a point of reference, we are adding value to our purpose by creating awareness and reaching a very large, diverse audience.

1.2.3 Riparian Buffer/Wetland Setback

To date, riparian corridors and wetlands have been undervalued and poorly understood. As a result, these important parts of the watershed have ranged in many stretches from benign neglect to overt destruction. Few communities in the Cuyahoga River watershed have policies or programs to protect riparian corridors and wetlands. The status of riparian corridor protection and restoration

can be described as the missing piece of the puzzle to preserve natural features and mitigate damages.

Embarking on an initiative to raise awareness on the protection of riparian corridors and wetlands will plant the seed of responsible stewardship. In 2016, the City of Cleveland adopted a Riparian Setback Ordinance (Ord. No. 1555-13) that is found in CCO Chapter 351 and administered and enforced by the Director of Building and Housing and other City officials, such as the City's Zoning Administrator, to protect areas along the banks of rivers, streams, and wetlands. Through policy development, such as the Riparian/Wetland Setback Ordinance, public education and stakeholder engagement efforts will need to be maintained long-term to nurture the growth of this SMWP component (See Appendix C for a copy of the ordinance).

SECTION 2 – PUBLIC INVOLVEMENT/PARTICIPATION

A key component to the stormwater management program, public involvement/participation, helps to ensure broader public support, and shorter implementation schedules, as well as provide a broader base of knowledge. People who are actively engaged with the decision making process are less likely to challenge the program and can provide a valuable resource of knowledge that will be beneficial to the development, implementation and enforcement of the program.

As described in Section 1, the primary audience for this MCM will be homeowners as well, as residential homes comprise over 80% of the City's land use. We will work with individual landowners, homeowner's associations, children, and public employees.

The Commissioner of Water Pollution Control is responsible for executing this MCM. To assist in implementing our public involvement/participation under MCM #2, we have entered into a joint Memorandum of Understanding (MOU) with the Cuyahoga Soil and Water Conservation District (CSWCD) and the Euclid Creek Watershed Council (ECWC). We have also entered into agreement with the Doan Brook Watershed Partnership.

2.1 REQUIREMENTS

Compliance with applicable state and local public notice and Freedom of Information regulations are required when implementing a public involvement/participation program. Where notice requirements are inconsistent, the notice provisions providing for the most notice and opportunity for public comment shall be followed.

The development of a public involvement/participation program that includes the public in developing, implementing, and reviewing the stormwater management program is required.

2.2 BEST MANAGEMENT PRACTICES

The following BMPs will be utilized in the implementation of the program to address the minimum control measure of Public Involvement and Participation. In an effort to engage the public to garner public support to improve the quality of the environment, BMPs were selected based on their ability to improve in-stream habitat and nutrient pollution, excessive stormwater flow, sediment, and low DO, which are noted in the Big Creek, Lower Cuyahoga River, and Mill Creek watersheds as issues of concern.

The goal is to reach a minimum of 50% of our MS4 population over the five-year permit term. Appropriate themes for this minimum control measure must be determined, along with designating the person(s) or position(s) responsible for the implementation of each BMP. CSWCD and our community will conduct public opinion and awareness surveys in 2017 and 2019 with the goal of evaluating public knowledge and awareness

of stormwater issues and to what extent the public has adopted appropriate BMPs. Individual involvement activities will include a post-activity survey to gauge whether awareness of stormwater issues increased as a result of the program.

2.2.1 City of Cleveland Stormwater Steering Committee

As part of the development of the stormwater management plan, a working committee was established with representatives from several units within the City including the Division of Water Pollution Control, the Division of Building and Housing, the Department of Public Works, and the Mayor's Office of Sustainability. Representatives from our watershed partnerships are also on the committee.

The Stormwater Steering Committee's primary objective is to provide support, guidance and oversight of the City's stormwater management efforts. The Committee meets once, bi-monthly to discuss stormwater management issues, events, and/or trends, in order to make sure the City remains in compliance with stormwater regulations.

2.2.2 Stream Cleanups

Many of our streams, creeks, and rivers are regularly polluted with trash. Littering and illegal dumping results in unwanted trash and debris in our waterways. The goal of stream cleanups is to promote watershed stewardship by encouraging environmental awareness through positive actions and advocacy. Public involvement is meant to ensure that citizens are actively engaged and have an opportunity to participate in the decision process.

WPC participates in or coordinates several stream cleanups per year to clear streams and their banks of debris and flow obstructions in an effort to improve local water quality. Following is a tentative schedule of annual cleanups:

- April - Doan Brook Stream Cleanup
- May – River Sweep Mill Creek Falls
- June – Big Creek Cleanup
- September – Euclid Creek Reservation/Wildwood Park

2.2.3 Build Your Own Rain Barrel Workshop

Urban runoff is a major cause of water pollution. Rain barrels help preserve water quality and reduce water pollution by decreasing the amount of stormwater runoff reaching local streams and rivers by capturing water from rooftops and holding it for later use.

Do-it-yourself (DIY) rain barrel workshops have been and will continue to be a stormwater community engagement activity implemented in the City of Cleveland. The workshops are organized and conducted by the Cuyahoga Soil & Water Conservation District (CSWCD). Participants pay a nominal fee to build their own rain barrel. The cost covers the barrel, spigot, water diverter, installation instructions, and a brief lesson on the benefits of rain barrels. In addition to CSWCD workshops, Community Development Corporations (CDCs) conduct free rain barrel programs throughout the City of Cleveland.

2.2.4 Brochures/Fact Sheets

Brochures/fact sheets have been developed to increase public awareness on the links between land use practices and stormwater pollution. Program themes or messages have been established to convey the effects of stormwater quality on the environment and how it can be improved. Brochures are distributed at community activities, workshops, and public information meetings. Brochures will continue to be developed and updated to provide the public with easy to comprehend stormwater knowledge.

The benefits associated with this BMP include reaching a diverse audience covering a large geographic area.

SECTION 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION

This minimum control measure, which is administered by the Division of Water Pollution Control for the City of Cleveland, is critical to the success of the stormwater management program as it will identify and reduce untreated discharges that contribute high levels of pollutants, including heavy metals, toxic materials, oil and grease, solvents, nutrients, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

3.1 REQUIREMENTS

- 3.1.1 Implement revised City of Cleveland Codified Ordinance (CCO) 541 to reflect changes to the SWMP and effectively prohibit non-stormwater discharges.
- 3.1.2 Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.
- 3.1.3 By the end of the 5th year of the General Permit for the Discharge of Stormwater from small MS4s, expand the map showing all stormwater discharges from a pipe or conduit with a diameter of 15" or greater owned or operated by the City of Cleveland. The 15" minimum outfall requirement allows for collection of a manageable amount of outfalls, if 12" outfalls were collected a much larger data set would need to be collected and would complicate collection efforts. For each discharge the following information shall be included:
 - a. Type, material, and size of conveyance, outfall or channelized flow (e.g. 24" concrete pipe).
 - b. The name of the immediate surface water body (if available) or wetland to which the stormwater runoff discharges within 500'.
 - c. If the outfall does not discharge directly to a named water body, the name of the nearest named water body to which the outfall eventually discharges.
- 3.1.4 Develop, implement, and enforce a program to detect and eliminate existing illicit discharges, as defined by 40 CFR 122.26(b)(2).
- 3.1.5 Develop and implement a plan to detect and address future non-stormwater discharges.

3.2 BEST MANAGEMENT PRACTICES

The following BMPs will be utilized in the implementation of the program to address minimum control measure #3 - Illicit Discharge Detection and Elimination.

3.2.1 Division Policy Regarding Non-Stormwater Discharges

The City currently does not allow non-stormwater discharges into storm sewer systems owned and maintained by the City. City policy and guidelines requires action by Water Pollution Control for discharges of this type that are discovered. Upon identifying a non-stormwater discharge, the source of the discharge shall be determined and if found to be outside the City's permitted system, the MS4 will be notified along with Northeast Regional Sewer District (NEORS). If the non-stormwater discharge is from a City facility, the source location shall be confirmed and corrective actions taken to eliminate the non-stormwater discharge. The City will continue to prohibit these discharges and will use all available resources for its enforcement.

Training will be provided to City personnel regarding the hazards associated with illegal discharges and improper disposal of wastes.

3.2.2 Revise City of Cleveland Codified Ordinance (CCO) 541

City of Cleveland Codified Ordinance 541 – Sewer Connections and Sewer Use Code, is the mechanism used to prohibit illegal/illicit discharges and establishes the process for dealing with these discharges (See Appendix D). The Division of Water Pollution Control responds to illicit discharge violations and enforces the requirements of the ordinance. The ordinance has been revised to ensure that it meets or exceeds the requirements of OEPA's NPDES General Permit for the Discharge of Stormwater from Small MS4s and will be introduced for passage in 2017.

Training will be provided to WPC personnel regarding the hazards associated with illegal discharges and improper disposal of wastes. The results of these activities will be reviewed by the Stormwater Management Committee at least once annually.

3.2.3 Update the Storm Sewer and Comprehensive Sewer System Maps

The City has developed a comprehensive collection system map that includes home sewage treatment system (HSTS) locations using GIS mapping. The receiving waters for the City's MS4 drainage are Lake Erie, Rocky River, Big Creek, and Euclid Creek. Outfalls were located using existing topography and maps. The comprehensive sewer system map was completed in 2006. Updates are made annually to include catch basins, pipes, flood control facilities, and public and private post construction water quality BMPs installed to satisfy OEPA's NPDES Construction General Permit requirements. The most recent version of the 2016 storm sewer map is included in the SWMP Appendix. Updated copies of the map are available upon request at WPC.

3.2.4 Revise Illicit Discharge Detection and Elimination Program

An illicit discharge detection and elimination program manual has been developed to provide written procedures to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping to WPC's small municipal separate storm sewer system to the maximum extent practicable. The plan will utilize personnel and equipment, along with the storm sewer map for locating sources of illicit discharge.

WPC's IDDE program includes five distinct components:

- **Training** – procedures to train applicable field personnel related to the IDDE program are discussed in Section 2.0 of this manual
- **Tracking** – Procedures to track and document all efforts related to the IDDE process are outlined in Section 6.2 of this manual
- **Identification of an illicit discharge** – Procedures to screen, identify and report questionable illicit discharges are outlined in Section 4.0 of this manual
- **Investigating the source of an illicit Discharge** – Procedures to investigate questionable illicit discharges that have been reported are outlined in Section 5.0 of this manual
- **Elimination of an illicit discharge** – Procedures to eliminate illicit discharges that have been confirmed through the investigation efforts are outlined in Section 7.1 of this manual.

For WPC to demonstrate compliance with the conditions of the MS4 permit, documentation of IDDE activities performed is paramount. WPC will continue to monitor its stormwater discharges in an effort to detect and address future non-stormwater discharges. For a complete overview of WPC's comprehensive IDDE program, see Appendix E for a copy of WPC's IDDE Program Manual.

SECTION 4 – CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

This minimum control measure, which is administered by the Director of the Department of Building & Housing for the City of Cleveland, with assistance provided through a written agreement with the Cuyahoga Soil & Water Conservation District, is a critical component of the stormwater management program because polluted stormwater runoff from construction sites often flows to storm sewer systems and ultimately is discharged into local rivers and streams. Sediment is typically the main pollutant of concern however other pollutants include solid and sanitary wastes, phosphorus (fertilizer), pesticides, nitrogen (fertilizer), oil and grease, concrete truck washout, construction chemicals and construction debris.

Sediment runoff rates from construction sites are typically greater than those of agricultural lands, and significantly greater than those of forested lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites can cause physical, chemical, and biological harm to the state's waters.

4.1 REQUIREMENTS

The development, implementation and enforcement of a program, or modification of an existing program, is required to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one (1) acre. Reduction of stormwater discharges from construction activity disturbing less than one acre shall be included in the program if that construction activity is part of a larger common plan of development that would disturb one acre or more. The program shall include but not be limited to the following:

- 4.1.1 An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions for non-compliance, to the extent allowable under State or local law.
- 4.1.2 Procedures for notifying construction site developers and operators of the requirements for registration under the General Permit for Stormwater Discharges Associated with Construction Activities.
- 4.1.3 Requirements for construction site operators to implement appropriate erosion and sediment control best management practices in accordance with the Ohio Environmental Protection Agency's Rainwater and Land Development Manual or Ohio Department of Transportation's Location & Design Manual, Volume 2.
- 4.1.4 Requirements for construction site operators to control waste at the site such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.

- 4.1.5 Procedures for site plan review, which incorporate consideration of potential water quality impacts.
- 4.1.6 Procedures for site inspection and enforcement of control measures.

4.2 BEST MANAGEMENT PRACTICES

Damage to natural resources is often an unavoidable consequence of construction. The goal of construction site BMPs is to keep clearing, grading, and other site disruptions to a minimum. The City requires erosion and sediment controls for all projects in accordance with all State and Federal regulations. Construction site operators are required to implement appropriate erosion and sediment control best management practices as outlined in contract plans, contract specifications and standard drawings. The contractor is also required, at all times, to conduct operations in conformity with all State and Federal permit requirements concerning water, air noise pollution and the disposal of contaminated, or hazardous materials.

The following BMPs will be utilized in the implementation of the program to address the minimum control measure for Construction Site Runoff Control.

4.2.1 Protect On-Site Areas Prior to Construction; Maintain Wetlands in Natural States (When Feasible); Ensure Proper Storage of Materials On-Site

On-site tree and natural area preservation ensures that designated vegetation survives the construction process. All areas that are to remain undisturbed during construction should be clearly marked on plans and on the site; these areas are best staked out during a site walk through. Temporary fencing, such as snow fence or bright plastic mesh fencing provides a tangible, visible boundary to protect features.

Maintenance of a stormwater pond or wetland is necessary for it to operate as designed on a long-term basis. Pollutant removal, channel protection and flood control capabilities will decrease if sediment accumulates in the pond (reducing pond storage volume), debris blocks the outlet structure, slope stabilizing vegetation is lost, or if the structural integrity of the embankment, weir, or riser is compromised.

Responsible management of common chemicals, such as fertilizers, solvents, paints, cleaners, and automotive products, can significantly reduce polluted runoff. Such products must be handled properly during all stages of development, use, and disposal. Sites where chemicals, cements, solvents, stockpiles or other potential water pollutants are to be stored should be isolated in areas where they will not cause runoff pollution.

For a comprehensive list of perimeter controls and on-site protection methods, consult the Ohio Environmental Protection Agency's Rainwater and Land Development Manual or Ohio Department of Transportation's Location & Design Manual, Volume 2.

4.2.2 Natural Vegetative Buffers Between Limits of Disturbance and Water Resources

Natural vegetation filters runoff, prevents sediment from washing into streams and water supplies, provides shelter for wildlife, and improves soil percolation. A healthy vegetative buffer minimizes stream bank erosion and traps pollutants before they wash into the water. Without a buffer, sediment accumulates in the stream channel; changing stream flow dynamics and creating stagnant pools of trapped water. Protecting these areas provides a cost-free method of preventing erosion.

The recently adopted Riparian Setback Ordinance administered and enforced by the Director of Building and Housing, is a tool that was implemented to protect areas along the banks of rivers, streams, and wetlands from construction and post-construction activities and other damaging impacts. The ordinance promotes natural flood control, assists in stabilizing stream banks to reduce erosion, and promotes vegetated areas to reduce the amount of pollutants entering streams. These setback areas are based on a map titled "Water Features of the City of Cleveland," produced by the City Planning Commission as the map identifying designated water courses within the City and their respective setbacks. These setbacks were also based on OEPA classified wetlands, the Ohio Wetland Inventory, the National Wetland Inventory, local soil surveys, and topographic maps.

4.2.3. Pre-Construction Meetings

Most construction problems result from differing expectations on the part of the owner and/or the contractor. The source of which is typically poor communication. The best time to clarify what is unclear in the plans and/or specifications and to identify and reconcile potential job-site conflicts is before construction begins. A pre-construction meeting assists the owner and the contractor by helping to avoid surprises or conflicts that may arise during work.

For projects that require the submittal of a Stormwater Pollution Prevention Plan (SWP3) to and approved by the Department of Building & Housing (B & H), a pre-construction meeting will be held prior to commencing construction activity in order to discuss SWP3 implementation. Dates and times will be coordinated by B & H or their designated representative.

4.2.4 Site Plan Review Procedures

Procedures for site plan review which incorporate consideration of potential water quality impacts are utilized by the City. Construction plans and specifications are reviewed by the Department of Building & Housing for conformance to B & H's requirements and Federal and State permit requirements relating to construction site runoff control.

Projects requiring permitting and approval under CCO Chapter 3116 or the OEPA General Permit for the Discharge of Stormwater Associated with Construction Activities shall submit site plans, the permit application, and a site specific stormwater pollution prevention plan to B & H. B & H will then forward copies of the SWP3 to the Cuyahoga Soil & Water Conservation District for review. CSWCD reviews the SWP3 for compliance with established Federal, State, and local regulations that govern activities including but not limited to the following: erosion control, sediment control, post-construction stormwater management, and filling of wetlands (See Appendix F for a copy of OEPA's SWP3 checklist for Construction Activities). CSWCD provides comments, if applicable, to the SWP3 designer so that any deficiencies may be revised. Once the SWP3 is approved by CSWCD, a *Recommendation of Approval* letter is issued to the SWP3 designer and the Department of Building & Housing, after which, B & H will issue an approval and permit.

4.2.5 Procedures for Site Inspection and Enforcement of Control Measures

Site inspection and enforcement of control measures are utilized on all projects requiring a SWP3. CSWCD will perform monthly inspections of active construction sites to verify proper implementation of the approved SWP3. The inspection will also look for unintended erosion, sediment-laden discharges, and non-sediment pollution discharges. A report of findings is prepared for each inspection and forwarded to the owner, site contractor, and the City of Cleveland. CSWCD will also follow-up with the owner and site contractor to ensure that any noted deficiencies are corrected.

In the event site deficiencies persist, the site will be issued a *Notice of Violation* and referred to the Department of Building & Housing for enforcement action. A re-inspection fee may be assessed if a follow-up inspection is required.

4.2.6 Procedures for Enforcement Escalation

The primary goal of MCM #4, is to educate and advise owners, contractors, and engineers in order to achieve compliance with City regulations through effective communication and voluntary remediation of deficiencies. In the event that compliance with City regulations cannot be obtained, the enforcement escalation process will be implemented:

1. Upon issuance of the *First Notice of Violation*, the owner will have 30 days to remedy the noted violation. A re-inspection of the project site must be conducted in order to verify remediation and lift the *Notice of Violation*. A fee may be assessed for the re-inspection.
2. If the violation has not been corrected within 30 days of the *First Notice of Violation*, a Stop Work Order will be issued. A re-inspection of the project site must be conducted prior to work commencing on the job site. A fee may be assessed for the re-inspection.
3. Failure to comply with an order from the Director of Building and Housing subjects the person in non-compliance to criminal prosecution and penalty.

SECTION 5 – POST CONSTRUCTION STORMWATER MANAGEMENT

This minimum control measure is a critical component of the stormwater management program because stormwater runoff from developed sites often flows to storm sewer systems and ultimately is discharged into local lakes, rivers and streams. Runoff from these development and/or redevelopment areas has been shown to significantly affect receiving water bodies.

There are two significant water quality impacts generally associated with post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in stormwater runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients. These pollutants often become suspended in runoff and are carried to receiving waters. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans.

The second significant water quality impact occurs due to the increased quantity of water delivered to the water body during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water body. The effects of this process include stream bank scouring and downstream flooding, which often leads to a loss of aquatic life and damage to property.

The Department of Building and Housing, with assistance provided through a Memorandum of Understanding by the Cuyahoga Soil & Water Conservation District, manages and implements this minimum control measure.

5.1 REQUIREMENTS

The development, implementation and enforcement of a program, or modification of an existing program is required to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development, that discharge into the City's storm sewer system or directly to the waters of the State. The program shall ensure that controls are implemented to require appropriate infiltration practices, reduction of pervious surface, creation of or conversion to sheet flow, measures and/or structures to reduce sediment discharge and any other innovative measures that will prevent or minimize water quality impacts and including the following:

- 5.1.1 The development and implementation or modification of strategies which include a combination of structural and/or non-structural best management practices.
- 5.1.2 Use of an ordinance, regulatory mechanism or procedures to address post construction runoff from new development and redevelopment projects to the extent allowable under State law.
- 5.1.3 Ensure long term operation and maintenance of Best Management Practices.

Appropriate BMPs and measurable goals for this minimum control measure must be determined. These include the person(s) or position(s) responsible and implementation dates for each BMP.

5.2 BEST MANAGEMENT PRACTICES

The following BMPs will be utilized in the implementation of the program to address the minimum control measure for Post Construction Stormwater Management.

5.2.1 Require MS4 Compliance Inspectors to Provide a Written Report to Post-Construction Facility Owners/Operators for Every Inspection

In order to address post-construction stormwater runoff from new development and redevelopments that disturb one or more acres, the City requires developments to mitigate stormwater impacts by implementing practices to treat, store, and infiltrate runoff on site before it can affect water bodies downstream.

Typically, B & H or their designated representative will inspect or cause to be inspected all public and private stormwater control measures (SCM). The inspection process is as follows:

1. The site inspection/site visit occurs;
2. A report is compiled of the inspector's findings and issued to the property owner and B & H;
3. If items need to be addressed an Out of Compliance report will be sent to the owner with a description of what needs to be done along with a reasonable time frame;
4. If the issues are not addressed within the agreed upon time frame, procedures for enforcement escalation (found in Section 4.2.6) will be followed;
5. Once the issues have been addressed, within the established time frame, the owner of the SCM is directed to send compliance photos to B & H or

their designated representative to request a compliance letter be issued;
and

6. A follow up inspection/visit may occur if needed to verify compliance

5.2.2 Require the City to Inspect or Cause the Inspection of Public and Private Post-Construction Storm Control Measures (SCMs)

Public and private SCMs will be inspected or cause to be inspected by the City or their designated representative to ensure that that the long term operation and maintenance of each SCM is taking place. The inspection procedure listed in Section 5.2.1 will be followed.

5.2.3 Adopt conservation development, riparian/wetland setbacks or other BMP planning and development code

In 2016, the City of Cleveland adopted a Riparian Setback Ordinance (Ord. No. 1555-13) that is found in CCO Chapter 351 and administered and enforced by the Director of Building and Housing and other City officials, such as the City's Zoning Administrator, to protect areas along the banks of rivers, streams, and wetlands from construction and post-construction activities and other damaging impacts. This regulatory tool was implemented to promote natural flood control, assist in stabilizing stream banks to reduce erosion, and to promote well vegetated areas to reduce the amount of pollutants entering streams. These setback areas are based on a map titled "Water Features of the City of Cleveland" produced by the City Planning Commission as the map identifying designated water courses within the City and their designated setbacks and are also based on OEPA classified wetlands including in the Ohio Wetland Inventory, the National Wetland Inventory, local soil surveys or topographic maps and wetlands setbacks established in the ordinance.

SECTION 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING

This minimum control measure helps to improve or protect receiving water quality by evaluating, altering and maintaining City facility operations.

This measure requires the City to examine and subsequently alter its own actions to help ensure a reduction in the amount and type of pollution that collects on roadways, parking lots, open spaces, storage and vehicle maintenance areas, and all City maintained facilities (owned or leased) that have operations that ultimately discharge into local waterways in MS4 areas.

6.1 REQUIREMENTS

- 6.1.1 The development and implementation of an operation and maintenance program that includes a training component for City employees and contractors and has the ultimate goal of preventing or reducing pollutant runoff from City operations
- 6.1.2 The development and implementation of a program to sweep all streets at least once a year
- 6.1.3 The development and implementation of a program to evaluate and, if necessary, clean catch basins and other stormwater structures that accumulate sediment at least once a year including a provision to identify and prioritize those structures that may require cleaning more than once a year.
- 6.1.4 The development and implementation of a program to evaluate and, if necessary, prioritize for repairing, or upgrading the conveyances, structures and outfalls of the MS4
- 6.1.5 The development and implementation of a program to evaluate and prioritize those streets that may require sweeping more than once a year

6.2 BEST MANAGEMENT PRACTICES

The following BMPs will be utilized in the implementation of the program to address the minimum control measure for Pollution Prevention/Good Housekeeping.

6.2.1 Operation and Maintenance Program

Operation and maintenance is an integral component of all stormwater management programs. This measure is intended to improve the efficiency of these programs through appropriate maintenance practices, internal procedures and scheduling. Proper development and implementation of these programs reduce the risk of water quality problems. There are several elements that are

essential for the success of an operation and maintenance program including, training, record keeping, internal reporting, maintenance and preventative maintenance. The City will include the following elements in the development and implementation of its program.

Employee Training

The City will continue a program to provide education and training to its employees, regarding stormwater management and how it relates to the City's design, construction and maintenance operations. The training will focus on pollution prevention, best management practices and good housekeeping. Training may also include topics such as illicit discharge detection, inspection, record keeping, internal reporting, general maintenance, preventative maintenance and other topics relating to proper stormwater management and the requirements of the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Employee training will be discussed in greater detail in Section 6.2.2.

Record Keeping

The City's procedures for record keeping will incorporate the documentation of information and data, resulting from the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems procedures. Keeping records of spills, leaks, and other discharges provide useful information for ensuring proper maintenance of facilities and equipment, and improving best management practices to prevent future spills. Generally, record keeping will be conducted on a department/division level for information pertaining to that department/division. Within City departments/divisions, records may be kept at individual facilities, providing greater accessibility to personnel that would need immediate information.

The key to a successful records keeping program is to maintain records through regularly scheduled updates. The City will utilize the following techniques to document and report data and records:

- Field notebooks
- Timed and dated photographs
- Drawings and maps
- Computer spreadsheets and database programs

Record keeping will be coordinated with internal reporting and other BMPs as it is integrated into the development of City's stormwater pollution prevention plan.

The City will submit annual reports containing records required by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, to OEPA. These annual reports will include the information as described in Section 7 "Additional Requirements" of this plan.

Internal Reporting

Internal reporting provides a framework for "chain-of-command" reporting of stormwater management issues, and is an essential part of any good records keeping program. When properly employed, an internal reporting program can clearly define individual's roles and responsibilities for implementing and maintaining the stormwater pollution prevention program, thereby making it easier to prevent and contain potential stormwater contamination.

The City's internal reporting procedures will incorporate the additional effort needed with this stormwater management program, and the position(s) responsible for each stormwater management task. In general, the position(s) responsible for each BMP is mentioned in each section of this stormwater management plan. Stormwater problems identified in the field will be relayed from the field personnel to the crew leader, then the immediate supervisor, Commissioner/Director. If the issue requires special attention, the City will notify OEPA.

Maintenance Program

Maintenance involves pollution prevention techniques that reduce or eliminate pollutant loadings from existing roadways and facility surfaces as part of the operation and maintenance program. Substantial amounts of sediment and pollutants are generated during daily roadway and facility use, and these pollutant loadings can threaten local water quality by contributing heavy metals, hydrocarbons, sediment, and debris to stormwater runoff. Good cleaning practices including street sweeping and catch basin cleaning can help limit impacts to stormwater runoff. Sweeping heavily traveled roadways to remove sediment and debris can reduce the amount of pollutants in runoff. Regular cleaning of runoff control structures such as catch basins can help improve the overall quality of stormwater discharges.

The City's maintenance plan for sweeping roadways and facility surfaces and cleaning catch basins will meet the requirements of this stormwater management program.

Street sweeping and catch basin cleaning will be discussed in greater detail in Sections 6.2.3 & 6.2.4 respectively.

Preventative Maintenance Program

Preventative maintenance will be utilized by the City for eliminating potential problems associated with drainage systems, facilities and equipment. These measures are intended to reduce the frequency and quantity of pollutants that are discharged to water bodies as a result of the failure and deterioration of aging systems. Preventative measures utilized by the City include the following:

- Catch basin inspection during routine maintenance
- Drainage system inspection for Capital Improvement Projects (CIPs)

Preventative maintenance will be discussed in greater detail in Section 6.2.5.

6.2.2 Employee Training Program

The Mayor's Office of Sustainability conducts an employee training program that provides personnel with an understanding of the City's stormwater management plan, including BMPs, proper maintenance SCMs, processes and materials with which they are working, and preventing discharges. Additional topics may include the proper procedures for reporting and documenting any potential pollutants discovered.

The program will consist of scheduled training for design, construction, maintenance, and facility personnel, including both office and field positions. Topics will include sedimentation and erosion control and permanent BMPs. Training will also be implemented for agencies/businesses operating and maintaining facilities located on property owned by the City.

6.2.3 Street Sweeping Program

Street sweeping is practiced in most areas to remove sediment buildup and large debris from curb gutters. Street sweeping is also used during the spring snowmelt to reduce pollutant loads from road salt to receiving waters.

The City will continue to conduct street sweeping on a scheduled basis to minimize pollutant export to State and local water bodies. These cleaning practices will remove sediment, large debris from curb gutters and other pollutants, from roadways, and facility surfaces. Street sweeping frequency will range from one time per year, to multiple times per year for areas with heavier concentrations of sediment and debris.

6.2.4 Catch Basin Maintenance Program

Catch basins fitted with sumps are intended to retain coarse sediment by trapping this material in a chamber or low area below the invert of the outlet pipe. By trapping sediment, the catch basin prevents solids from clogging the storm sewer and being washed into receiving waters.

The City (WPC) has instituted a catch basin maintenance program that consists of inspecting and cleaning catch basins on a regularly scheduled basis. WPC is using the following criteria for catch basin inspecting and cleaning:

Clean all catch basins throughout the City at least once in a three (3) year period. These catch basins may be selected based upon routine scheduled field inspections and also inspections resulting from other program requirements. Priority areas will be established to maximize the effectiveness of available resources for routine inspections. These priority areas will be developed using WPC's knowledge of problem areas.

WPC will conduct routine inspections by selecting a representative number of catch basins for each stretch of roadway once every year. If a catch basin sump is found to be more than one half (1/2) full, the catch basin will be cleaned. Additional catch basins will be inspected and cleaned if necessary for that given stretch to ensure that the cleaning is completed to the maximum extent practicable.

6.2.5 Preventive Maintenance Program

Preventative maintenance takes a proactive approach to stormwater management and seeks to prevent problems before they occur. This measure involves the inspection, evaluation and replacement or repair of equipment and operational systems. Inspections can identify cracks, leaks, and other conditions that could cause breakdowns or failures of stormwater structures and equipment, which in turn could result in discharges of pollutants to surface waters either by direct overland flow or through storm drainage systems.

The Division of Water Pollution Control is currently conducting a sewer system evaluation survey (SSES) that will assess sewers that have exceeded their useful life based on age (100 years). This equates to approximately 27% of the 1,436 miles of combined, sanitary, and storm main sewers in the City of Cleveland. The scope of the project will consist of flow monitoring, manhole inspection, smoke and dye testing, sewer cleaning, closed circuit television (CCTV) inspection, and hydraulic and cost effective analysis. The assessment will concentrate on this portion of the collection system in an effort to prioritize capital improvement projects. Coordination efforts are underway between WPC

and the Northeast Ohio Regional Sewer District, who is also currently performing a SSES in combined sewer areas in the City of Cleveland.

SECTION 7 – ADDITIONAL REQUIREMENTS

7.1 PROPER OPERATION AND MAINTENANCE

The City will properly operate and maintain all facilities, including related appurtenances, which are installed or used by the City to achieve compliance with the conditions of the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Section 6 of this document contains detailed information for specific operation and maintenance measures.

7.2 AVAILABILITY OF INFORMATION

As stormwater manager for the City of Cleveland, Water Pollution Control will make a copy of the Stormwater Management Plan available to the following upon request:

- OEPA – Office of Surface Water
- In the case of an MS4 adjacent to or interconnected with the WPC's storm sewer system, to the operator of that MS4

7.3 KEEPING PLANS CURRENT

Water Pollution Control will amend the Stormwater Management Plan whenever: (1) there is a change which has the potential to cause pollution of the waters of the State; or (2) the actions required by the SWMP fail to ensure or adequately protect against pollution of the waters of the state; or (3) the Commissioner of WPC requests modification of the SWMP. The amended plan will be completed and all actions required by such SWMP will be completed within a time period determined by the Commissioner of WPC.

The Commissioner of WPC may notify relevant City departments at any time that the SWMP does not meet one or more of the requirements of this general permit. Within 30 days of such notification, unless otherwise specified by the Commissioner of WPC in writing, the other City departments will respond to the Commissioner of WPC indicating how they plan to modify the SWMP to address these requirements. Within 90 days of this response or within 120 days of the original notification, whichever is less, unless otherwise specified by the Commissioner of WPC in writing, the City will then revise the SWMP, perform all actions required by the revised SWMP, and shall certify to the Commissioner of WPC that the requested changes have been made and implemented.

7.4 REPORTING AND RECORD KEEPING

Records required by the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems will be kept for at least 5 years following its expiration or longer if requested by the Commissioner of WPC in writing. Such records, including the Stormwater Management Plan, will be available to the public at reasonable times during regular business hours.

The City will submit an annual report to OEPA by April 1st each year.

The annual report will include the following:

- The status of compliance with the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, an assessment of appropriateness of the identified best management practices, and progress towards achieving the implementation dates and measurable goals for each of the minimum control measures
- All monitoring data collected and analyzed pursuant of Section 3, Illicit Discharge Detection and Elimination, of this Stormwater Management Plan
- All other information collected and analyzed, including data collected under Section 3 of this Stormwater Management Plan
- A summary of the stormwater activities the City plans to undertake during the next reporting cycle
- A change in any identified measurable goals or implementation dates that apply to the program elements

7.5 TOTAL MAXIMUM DAILY LOAD (TMDL) ALLOCATIONS

If a TMDL is approved for any water body into which the City discharges, the City will review its Stormwater Management Plan to determine if the plan includes control of stormwater discharges required by the TMDL. If the stormwater discharge(s) do not meet TMDL allocations, the City will modify its Stormwater Management Plan to implement the TMDL within four months of the TMDL's approval and notify OEPA of this modification.

7.6 DUTY TO CORRECT AND REPORT VIOLATIONS

Upon learning of a violation of a condition of the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, the City will immediately take all reasonable action to determine the cause of such violation, correct and mitigate the results of such violation and prevent further such violation. The City will report in writing such violation and such corrective action to OEPA within five (5) days of the City's learning of such violation. Such information will be filed in accordance with the requirements of this general permit.

7.7 DUTY TO PROVIDE INFORMATION

If OEPA requests any information pertinent to or in compliance with the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems or with the City's authorization under this general permit, the City will provide such information within thirty (30) days of such request. Such information shall be filed in accordance with the requirements of this general permit.

7.8 CORRECTION OF INACCURACIES

Within fifteen days (15) after the date the City becomes aware of a change in any information in any material submitted pursuant to this general permit, or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, the City will correct the inaccurate or misleading information or supply the omitted information in writing to the OEPA. Such information will be filed in accordance with the requirements of this general permit.

7.9 OTHER APPLICABLE LAW

Nothing in the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems will relieve the City of the obligation to comply with any other applicable Federal, State and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

APPENDIX A
ABBREVIATIONS AND DEFINITIONS

ABBREVIATIONS AND DEFINITIONS

The definition of terms used in this stormwater management plan shall be the same as the definitions used in the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer System. The following additional definitions shall apply:

"Authorized activity" means any activity authorized under the General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems.

"Best Management Practices (BMP)" means those practices, which reduce pollution and which have been determined by the Ohio Environmental Protection Agency, to be acceptable based on, but not limited to, technical, economic, and institutional feasibility.

"Catch Basin" any structure designed and constructed to collect stormwater runoff and convey the flows through a storm sewer system.

"City" means the City of Cleveland

"CWA" means Clean Water Act

"Drainage System" means any structure(s) or facility, including inlets, catch basins, storm drains, under drains, ditches, channels, culverts, designed and constructed for the removal of stormwater from streets, highway sections, parking areas, and other drainage areas.

"Dry Weather Flows" means flows that exist within storm sewer systems during dry weather periods experiencing little or no precipitation.

"EPA" means the United States Environmental Protection Agency.

"Facility" may be defined by the following, but not be limited to buildings, parking lots, highways, roadways, and railways.

"First Flush" pollutants deposited on to exposed areas can be dislodged and entrained By the rainfall-runoff process. Usually the stormwater that initially runs off an area will be more polluted than the stormwater that runs off later, after the rainfall has "cleansed" the catchment. The stormwater containing this high initial pollutant load is called the "first flush."

"Hazardous Substance" means any substance, other than oil, which when discharged in any quantity into waters of the United States, presents an imminent and substantial danger to the public health or welfare, including but not limited to

fish, shellfish, Wildlife, shorelines and beaches (Section 311 of the CWA); identified by EPA as the Pollutants listed under 40 CFR Part 116.

"Illicit Discharge" means any unpermitted discharge to waters of the State that does not consist entirely of stormwater or uncontaminated groundwater except those discharges identified authorized under a NPDES permit (other than the NPDES permit for discharges from the municipal sewer system) and also except discharges resulting from firefighting activities.

"Industrial Activity" activities subject to the NPDES Industrial Stormwater Permit as defined in 40 CFR, Section 122.26(b) (14).

"Minimum Control Measure" means the measures as described by EPA, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving water bodies.

"Municipal Separate Storm Sewer System" the system of conveyances (including roads With drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) owned or operated by the federal government, State municipality, township, county, district, or other public body (created by or pursuant to State or Federal law) including special district under State law such as a sewer district, flood control district or drainage districts, or similar entity or a designated and approved management agency under Section 208 of the Clean Water Act that discharges into surface waters of the State; and designed or used for collecting or conveying solely storm water, that is not a combined sewer; and not part of a publicly owned treatment works.

"National Pollutant Discharge Elimination System (NPDES)" means a permit issued by US EPA (or by the State) under authority delegated pursuant to 33 USC Sec. 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable to an individual, group, or general area-wide basis.

"Outfall" the mechanism or structure by which a storm sewer, storm drain, stream or water course discharges to a receiving water body.

"Point Source" means any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

"Pollutants" means dredged spoil, solid waste, incinerator residue, filter backwash,

Sewage, garbage, sewage sludge munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

“Registrant” means a municipality, State or Federal agency, which files a registration pursuant to Section 4 of the NPDES Phase II MS4 general permit.

“Regulated Small MS4” means any small MS4 (as defined below) authorized by the general permit including all those located partially or entirely within an urbanized area and those additional small MS4s located outside an urban area which, as of the issuance of this general permit, have been designated as a Regulated Small MS4.

“Retain or retention” means to permanently hold stormwater runoff on-site with no subsequent point source release.

“Small MS4” any MS4 that is not already authorized by the Phase I MS4 stormwater program including State and Federally-owned systems, such as colleges, universities, prisons, and military bases. State and Federally-owned MS4s are authorized under separate general permits.

“State” means State of Ohio

“Storm Drain” means inlet, including catch basins, which capture stormwater runoff for conveyance through a storm sewer system.

“Storm Sewer System” means any structure(s) or facility, including inlets, catch basins, storm drains, under drains, ditches, channels, culverts, designed and constructed for the removal of water from streets, highway sections, parking areas, and other drainage areas.

“Stormwater” means waters consisting of precipitation runoff.

“Stormwater Management Plan (SWMP)” means a stormwater management program required under the general permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, designed to reduce the discharge of pollutants from the small MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.

“SWPP” means a Stormwater Pollution Prevention Plan, usually associated with an individual permit for the discharge of stormwater.

"Urbanized Area (UA)" means the areas of the State of Ohio so defined by the U.S. Census Bureau for the 2010 Census.

"Total Maximum Daily Load (TMDL)" means the maximum capacity of a surface water to assimilate a pollutant as established by the Director of the Ohio Department of Environmental Protection including pollutants contributed by point and non-point sources and a margin of safety.

"Water Bodies" means any natural or artificial inland body of water or expanded part Of a water course, including lakes, ponds and reservoirs.

"Water Courses" means any natural or artificial channel including, rivers, creeks, Streams, wash, arroyo, channels or other topographic feature on or over which waters flows at least periodically.

"Waterways" any navigable body of water, such as a river, channel, or canal.

APPENDIX B
MEMORANDA OF UNDERSTANDING

APPENDIX C

RIPARIAN SETBACK ORDINANCE (Ord. No. 1555-13; CCO CHAPTER 351)

APPENDIX D

CITY OF CLEVELAND CODIFIED ORDINANCE CHAPTER 541

APPENDIX E

CITY OF CLEVELAND DIVISION OF WATER POLLUTION CONTROL'S ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM MANUAL

APPENDIX F

OHIO ENVIRONMENTAL PROTECTION AGENCY'S STORMWATER POLLUTION PREVENTION PLAN (SWP3) CHECKLIST FOR CONSTRUCTION ACTIVITIES (OHC000004)