



# **Stormwater Management Program**

***Ohio EPA MS4 Permit Number OHQ000004***

***Permit Term: 2021-2026***

***Revised 2022***



## Montgomery County, Ohio Stormwater Management Program

### Table of Contents

<b><u>SECTION</u></b>	<b><u>PAGE</u></b>
Certification	3
Executive Summary	4
Co-Permittees and Urbanized Area	7
Total Maximum Daily Load (TMDL) Overview	8
Organizational Chart	9
MCM 1: Public Education and Outreach on Stormwater Impacts	9
MCM 2: Public Involvement/Participation	21
MCM 3: Illicit Discharge Detection and Elimination	25
MCM 4: Construction Site Stormwater Runoff Control	37
MCM 5: Post-Construction Stormwater Management	40
MCM 6: Pollution Prevention/ Good Housekeeping for Municipal Operations	44



## Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

DocuSigned by:

*Paul Gruner*

93A66D4B086B4F5...

---

Paul Gruner, County Engineer  
Montgomery County



## Executive Summary

The Federal Water Pollution Control Act, more commonly known as the Clean Water Act (CWA), is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Originally enacted in 1948, the CWA has been amended numerous times. In 1972, the CWA was again amended with the language of the original Act with subsequent amendments up to that time being replaced with new language entirely. Amended in 1972, the CWA gave the Environmental Protection Agency (EPA) the authority to set effluent standards for all point source industries, including the offshore oil and gas extraction industry, and included the requirement that the discharge of any pollutant to navigable waters of the United States from a point source is unlawful, except through a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, Congress again passed amendments to the CWA thereby establishing a program to regulate stormwater discharge from nonpoint sources and named the EPA as the agency responsible for carrying out the requirements of this program.

In November of 1990, requirements developed by the EPA for Phase I of the NPDES permit were approved and signed into law. Phase I named three types of activities to be regulated through NPDES permits to help reduce pollutant sources:

- Industrial facilities that fall into one of ten categories. Industrial facilities that fall into one of ten categories established by the EPA are required to obtain permit coverage under a general permit or an individual permit, depending upon the facility's standard identification code and the industrial activity occurring at the facility.
- Construction activities that disturb five or more acres of land. Developers of such construction sites are required to obtain a general or an individual permit as well as develop and implement an approved site-specific erosion and sediment control plan.
- Municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more based on 1990 census data. Each subject local government is required to develop and implement a Stormwater Management Program that meets the requirements of the NPDES Phase I Permit.

In December of 1999, requirements developed by the EPA for Phase II of the NPDES permit were approved and signed into law. These requirements built upon the existing Phase I requirements and required "smaller communities", again called (MS4s), to obtain a permit. "Smaller communities" are defined as having a total population of more than 50,000, but less than 100,000, and a density of 1,000 persons per square mile based upon the latest census data. Such a population density is within what is called an "urbanized area". The Phase II rules also allowed the EPA to establish a MS4 if the community has a population of at least 10,000, and it determines that wet-weather flow discharges could cause an adverse impact on the quality of receiving waters. The Phase II rules also allowed the EPA to establish a MS4 if the community has a population of at least 1000 and it determines that the discharge of stormwater from that community is contributing substantially to pollutant loading of a physically interconnected and regulated MS4. The Phase II rules also lowered the threshold for construction activities that disturb earthen areas from 5 acres to 1 acre.

The purpose of this Stormwater Management Program (SWMP) is to protect and improve water quality, stream corridors and public health in accordance with federal and state stormwater regulations. Polluted stormwater runoff is often transported through municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. To address this reality, federal and state regulations require the establishment of MS4 stormwater management programs to improve the



nation's waterways by reducing the quantity of pollutants that stormwater picks up and carries into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, bacteria from failing septic systems and carelessly discarded trash. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging recreational use of the resource, contaminating drinking water supplies and impairing the habitat of fish, other aquatic organisms and wildlife.

The second generation National Pollutant Discharge Elimination System (NPDES) permit for authorization for small Municipal Separate Storm Sewer Systems (MS4s) to discharge stormwater (NPDES Permit No.

OHQ000002) required the development and implementation of a Stormwater Management Program (SWMP) that satisfied the appropriate water quality requirements of Ohio Revised Code (ORC) 6111, entitled "Water Pollution Control", and the Clean Water Act. The SWMP document is intended to identify and describe the best management practices (BMPs) selected by Montgomery County, Ohio, and the township co-permittees listed below, to meet the requirements of the six minimum control measures (MCMs) described in the permit, why those BMPs were selected in light of local water quality issues, and performance standards for BMP implementation. The six MCMs are:

1. Public Education and Outreach on Stormwater Impacts. Establish and implement BMPs to educate the public about the impacts of stormwater discharges on receiving waters and what individuals can do to prevent stormwater pollution.
2. Public Participation and Involvement. Establish and implement BMPs, which give the public an opportunity to actually participate in both the development and implementation of a stormwater program.
3. Illicit Discharge Detection and Elimination. Requires the MS4 to develop, implement and enforce BMPs to detect and eliminate illicit discharges to and/or from the conveyance system operated by the MS4. In addition, means of identifying and eliminating any contaminants being discharged must be developed and implemented.
4. Construction Site Stormwater Runoff Control. Requires the MS4 to develop, implement and enforce BMPs to reduce pollutants in any stormwater runoff that discharges into the conveyance system operated by the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.
5. Post Construction Stormwater Management in New Development and Redevelopment. Requires the MS4 to develop, implement and enforce BMPs that prevent or minimize water quality impacts from new development and redevelopment projects that discharge into the conveyance system operated by the MS4. Projects which disturb land areas greater than or equal to one acre must be addressed, or part of a larger common development.
6. Pollution Prevention and Good Housekeeping for Municipal Operations. Requires the MS4 to develop and implement an operations and maintenance BMPs that prevent or reduce pollutant runoff from facilities the MS4 operates. Training of employees on how to prevent or reduce stormwater pollution from maintenance activities included.

The NPDES small MS4 permit was reissued on April 1<sup>st</sup>, 2021 (NPDES Permit No. OHQ000004) and requires MS4 communities which are renewing coverage under this permit to update their SWMP to be consistent with the permit and submit the updated SWMP to Ohio EPA for review. Permit No. OHQ000004 requires that where applicable, BMPs shall be selected to address U.S. EPA approved Total Maximum Daily Load (TMDL) recommendations for identified water quality problems associated with MS4 discharges within the Montgomery County's watershed(s). TMDL watershed and report overview can be found on page 7 through 9.



## Co-Permittees and Urbanized Area

The Montgomery County Engineer's Office (County) took over the responsibility for the County MS4 NPDES permit OHQ000004 starting in 2021. This permit covers the applicable County owned MS4 network, as well as the following co-permittees:

- Miami Township
- Washington Township
- Harrison Township

All other municipalities and townships within Montgomery County are covered separately and are not included in the County's MS4 permit.

The NPDES Permit only applies to the portions of the service area within the urbanized area as delineated in the most recent U.S. Census. Therefore, the County owned MS4 service area includes the roadways and the associated drainage network (primarily ditches and culverts) which are located in the urbanized area. The areas of Miami, Harrison, and Washington townships which are within the urbanized area are also covered by the MS4 permit. The following maps highlight the NPDES Phase II MS4 service area that is located within the urbanized area as well as County owned culverts that are located within the urbanized MS4 service area.



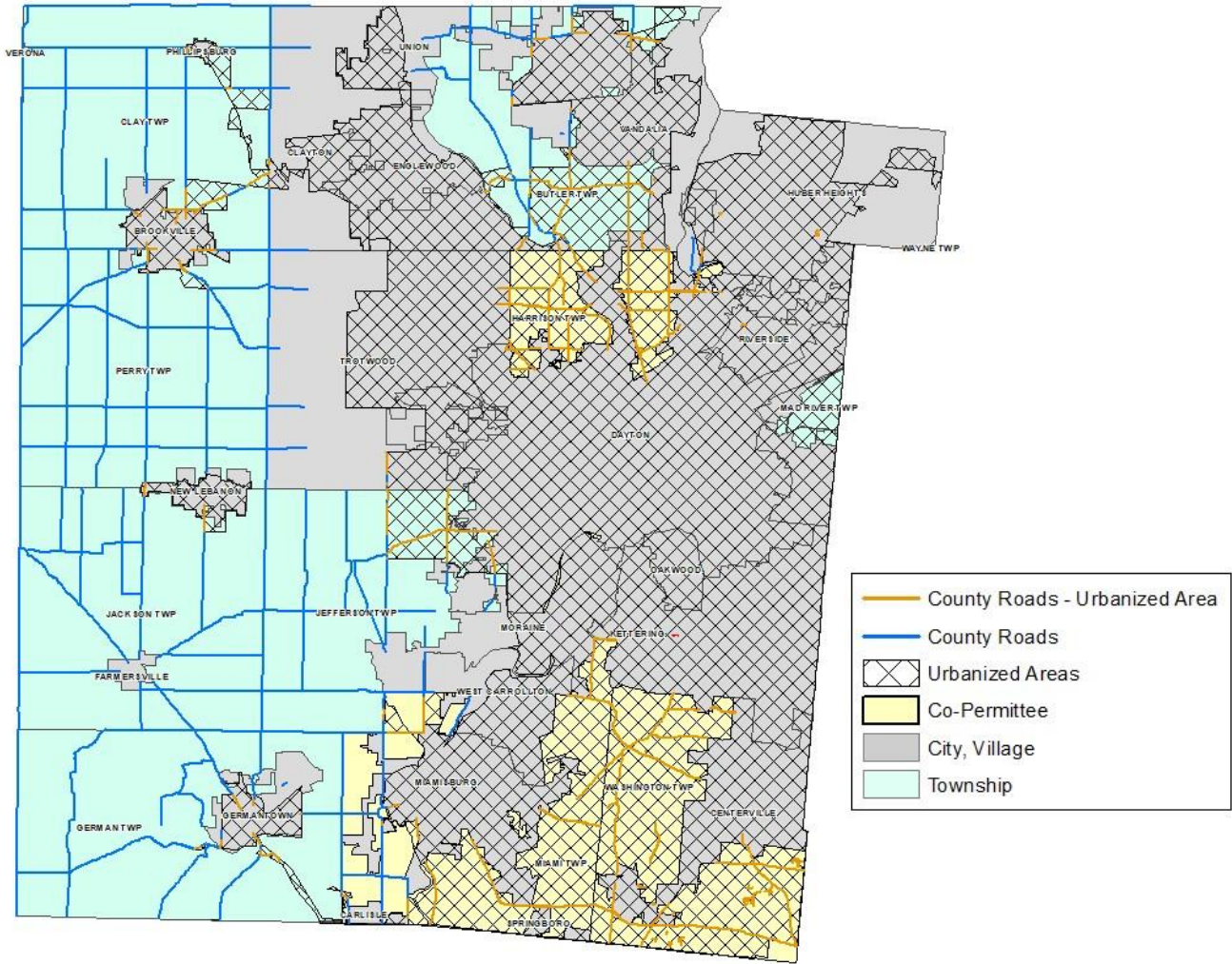


Figure 1

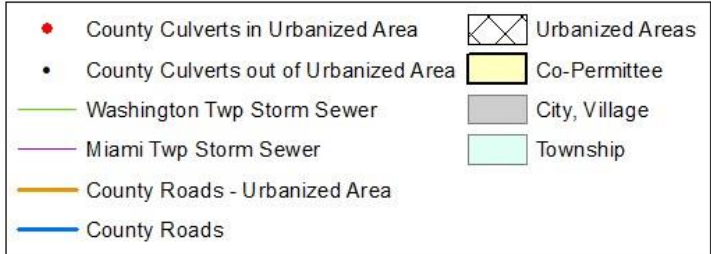
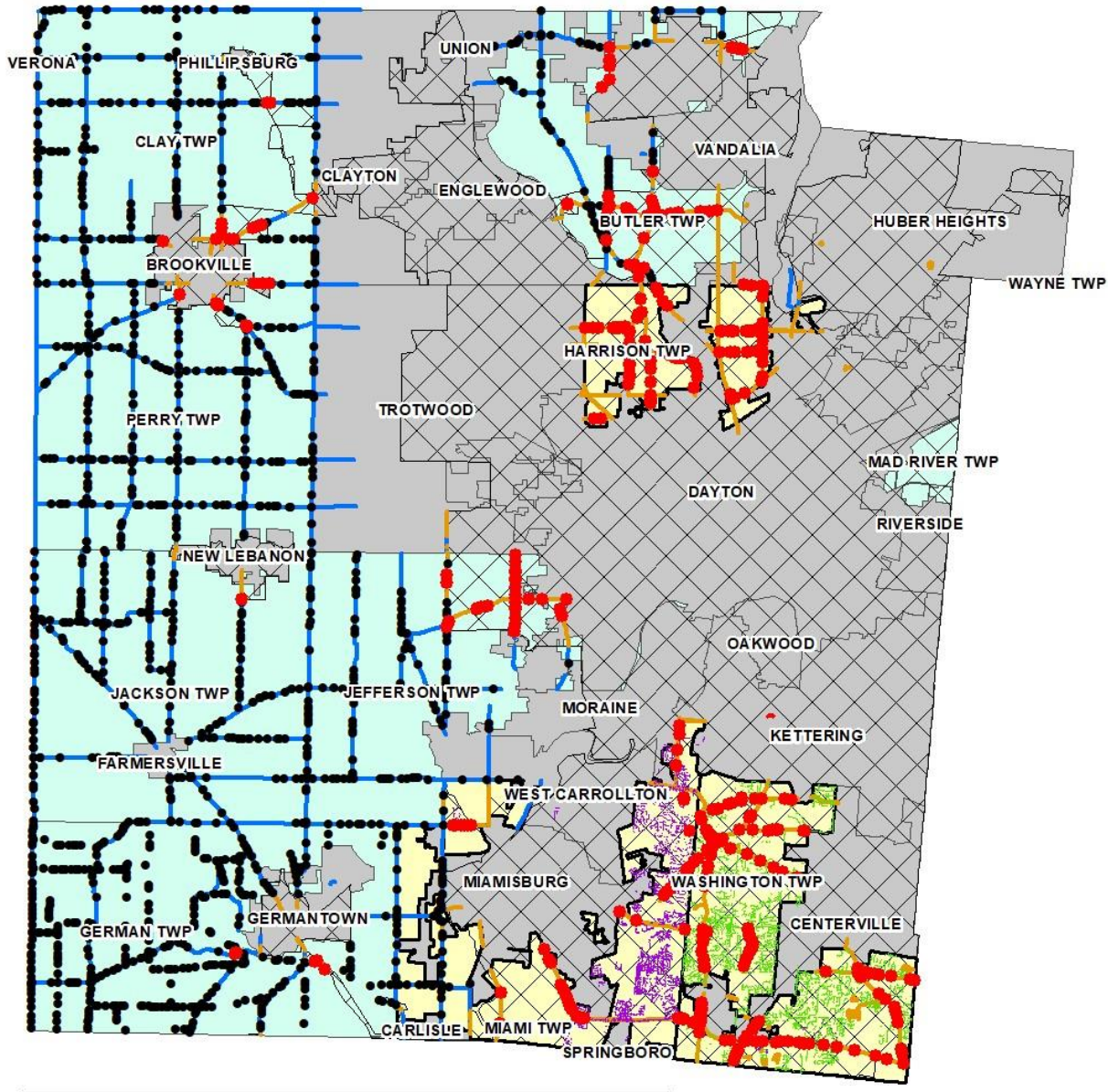


Figure 2





## Total Maximum Daily Load (TMDL) Overview

The County and its Co-Permittees Phase II MS4 service area overlaps with seventeen 12-digit hydrologic unit code (HUC-12) watersheds. The following map and table displays these watersheds and their associated TMDL status.

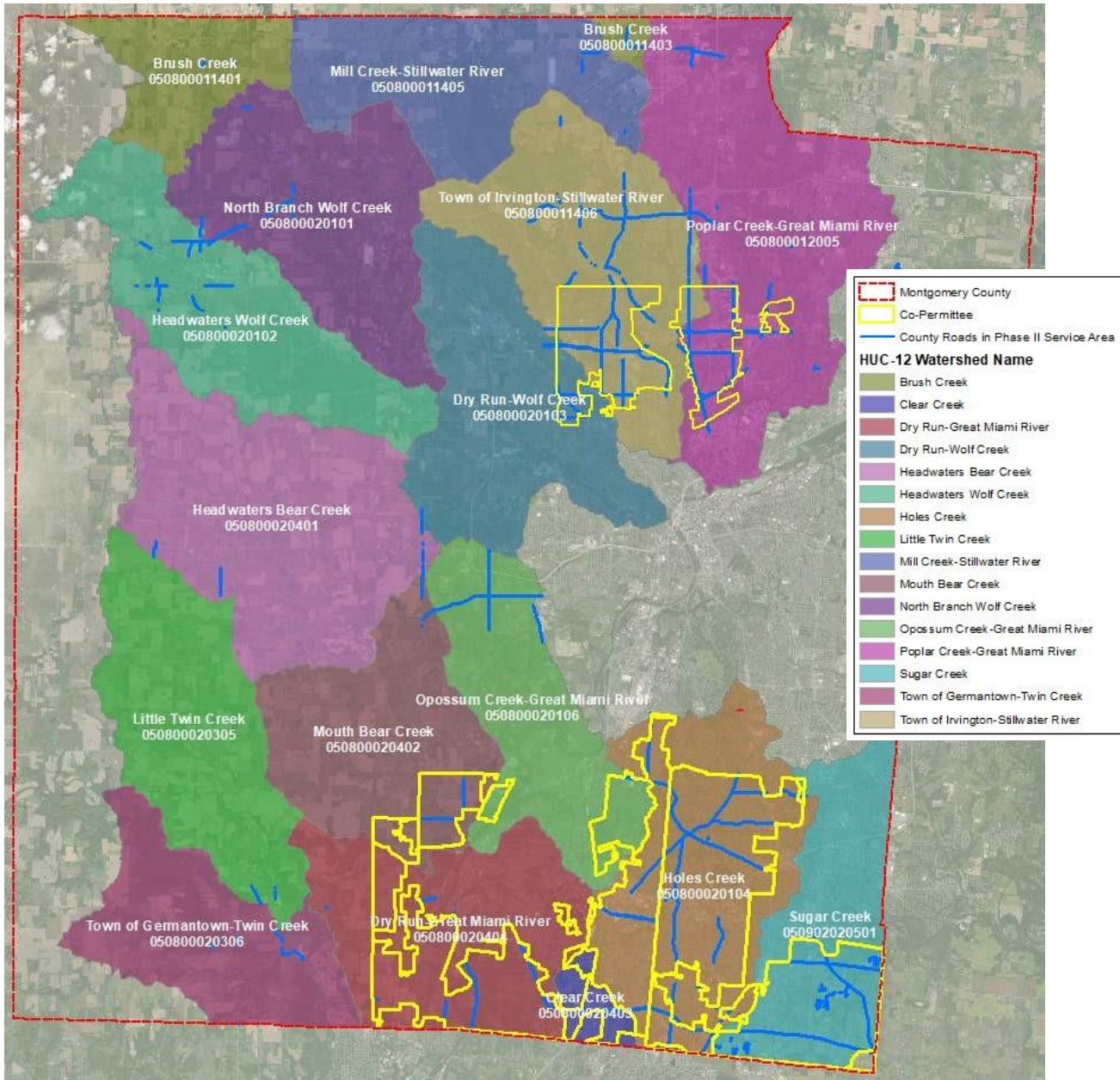


Figure 3

The MS4 Permit requires that where applicable, BMPs shall be selected to address U.S. EPA approved TMDL recommendations. The Montgomery County and its co-permittees MS4 area covers the 17 watersheds. Information on each watershed and respective current TMDL status is described in the table



below. For those watersheds without a TMDL, the latest findings from water quality studies are reported. The only TMDL within Montgomery County's permitted area is Brush Creek (HUC 05080001-14-01) which is impaired for total phosphorus.

Watershed	Status of TMDL	HUC	Pollutants for TMDL	Notes	Location
Great Miami River (Lower)	TMDL report is in preparation By OEPA	North Branch Wolf Creek 05080002-01-01	N/A	2010 Samples in Full Attainment <sup>4</sup>	County Right-of-Way
		Headwaters Wolf Creek 05080002-01-02	N/A		County Right-of-Way
		Dry Run - Wolf Creek 05080002-01-03	N/A	2010 Samples in Full Attainment <sup>4</sup>	County Right-of-Way Harrison Township
		Holes Creek 05080002-01-04	N/A		Miami Township Washington Township County Right-of-Way
		Opossum Creek 05080002-01-06	N/A	2010 Samples in Full Attainment <sup>4</sup>	Miami Township County Right-of-Way
		Headwaters Bear Creek 05080002-04-01	N/A	2010 Samples in Full Attainment <sup>4</sup>	County Right-of-Way
		Mouth Bear Creek 05080002-04-02	N/A	2010 Samples in Full Attainment <sup>4</sup>	Miami Township County Right-of-Way
		Clear Creek 05080002-04-03	N/A	2010 Samples in Full Attainment <sup>4</sup>	Miami Township Washington Township
		Dry Run 05080002-04-04	N/A		Miami Township County Right-of-Way
Little Miami River (upper)	TMDL Issued in 2002 <sup>5</sup>	Sugar Creek 05090202-05-01	N/A	Stream Listed in Full Attainment <sup>5</sup>	Washington Township County Right-of-Way
Great Miami River (middle)	TMDL report is in preparation by OEPA	Poplar Creek-Great Miami River 05080001-20-05	N/A		County Right-of-Way Harrison Township
Stillwater River	Issued in 2004 and Updated 2009	Brush Creek <sup>2</sup> 05080001-14-01	Total Phosphorus	Target 71% Phosphorus Reduction. Source identified as septic and	County Right-of-Way



				agricultural uses.	
		Brush Creek <sup>2</sup> 05050001-14-03	Not Impaired		County Right-of-Way
		Mill Creek-Stillwater River <sup>2</sup> 05080001-14-05	Not Impaired		County Right-of-Way
		Town of Irvington-Stillwater River <sup>2</sup> 05080001-14-06	No Impairment		County Right-of-Way Harrison Township
Twin Creek	TMDL Report Issued in 2010	Town of Germantown-Twin Creek <sup>1</sup> 05080002-03-06 (HUC 14: 05080002040080)	No Impairment	No TMDL Action Needed	County Right-of-Way
		Little Twin Creek <sup>1</sup> 05080002-03-05 (HUC 14: 05080002040090)	Low Flow (No Action Needed)	No TMDL Action Needed	County Right-of-Way

<sup>1</sup> [https://www.epa.ohio.gov/portals/35/tmdl/TwinCreekTMDL\\_final\\_jan10\\_wo\\_app.pdf](https://www.epa.ohio.gov/portals/35/tmdl/TwinCreekTMDL_final_jan10_wo_app.pdf)

<sup>2</sup> [https://www.epa.state.oh.us/portals/35/tmdl/StillwaterTMDL\\_final\\_aug09.pdf](https://www.epa.state.oh.us/portals/35/tmdl/StillwaterTMDL_final_aug09.pdf)

<sup>3</sup> [https://www.epa.state.oh.us/portals/35/tmdl/Lower%20LMR\\_TMDL%20Report\\_FINAL\\_FINAL\\_Nov11.pdf](https://www.epa.state.oh.us/portals/35/tmdl/Lower%20LMR_TMDL%20Report_FINAL_FINAL_Nov11.pdf)

<sup>4</sup> <https://epa.ohio.gov/portals/35/documents/GMR2012TSD.pdf>

<sup>5</sup> <https://epa.ohio.gov/dsw/tmdl/LittleMiamiRiver#118205919-tmdl-report>



## Organizational Chart

The following organizational chart provides a visual representation of how the County will accomplish the goals outlined in this Stormwater Management Program. Partnerships with other local stormwater groups will continue to enhance specific components of the stormwater management program, but the County will ultimately be responsible for implementing tasks associated with each of the six MCMs.

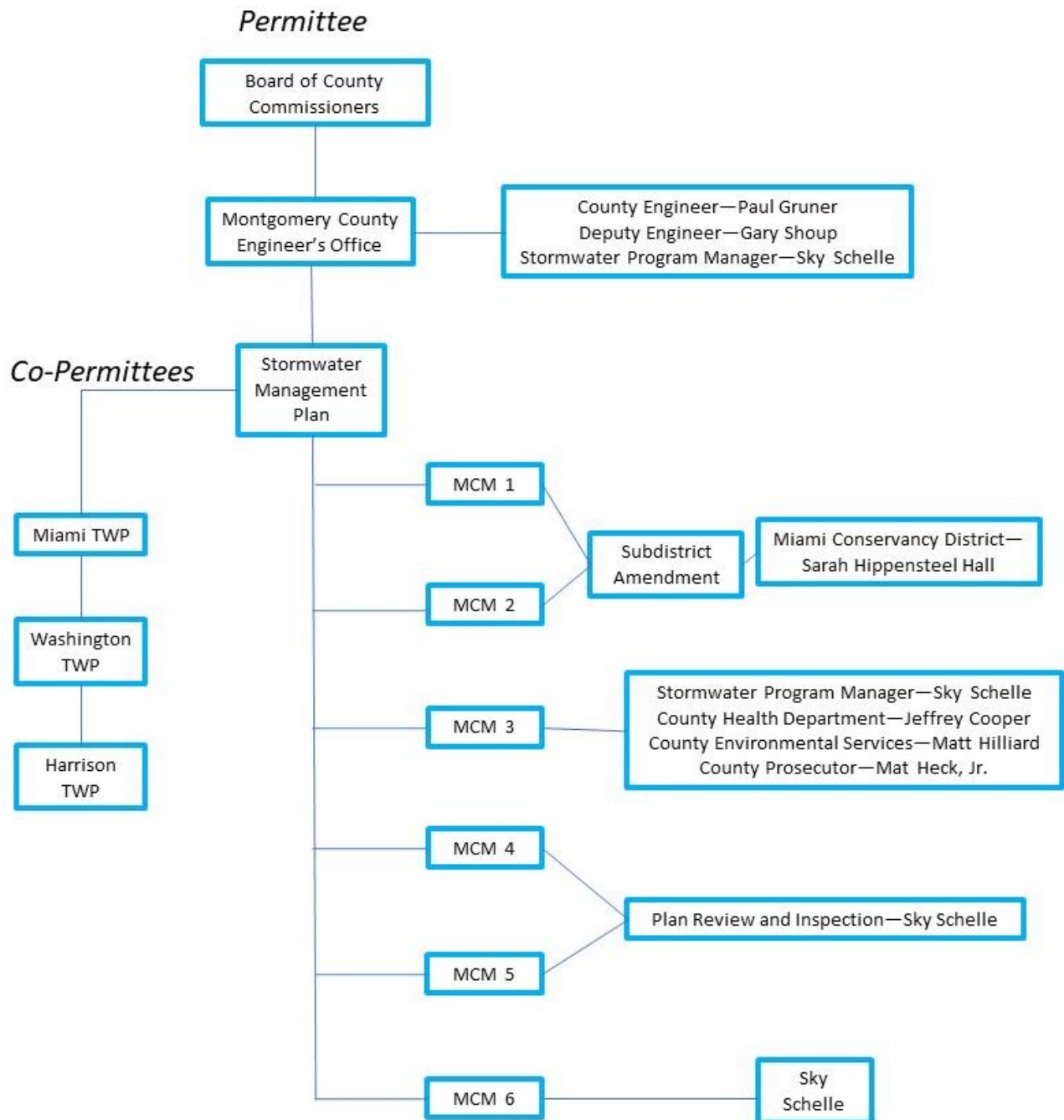


Figure 4





## Minimum Control Measure 1: Public Education and Outreach

**This MS4 permit requires that the Montgomery County Stormwater Management Program implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.**

### 1.1 Introduction

The first minimum control measure (MCM) requires Montgomery County and its township co-permittees to distribute educational materials, or provide equivalent outreach activities, to the community about the impacts of stormwater discharges. An informed and knowledgeable community is important to a successful stormwater program. Benefits to Montgomery County and the township co-permittees include a successful stormwater program, increased pride in the community, and the recognition of Montgomery County and the townships as responsible communities and great places to live.

The County, and the township co-permittees, are in the unique position of being the beneficiaries of several educational outreach activities conducted by the by the Miami Conservancy District's Aquifer Preservation Subdistrict. These activities, along with additional educational outreach activities conducted by the County and the co-permittees, as set forth below, will serve to meet Minimum Control Measure 1.

### 1.2 The Miami Conservancy District's Aquifer Preservation Subdistrict

The County and its township co-permittees are considered "stakeholders" in the Miami Conservancy District's AQUIFER PRESERVATION SUBDISTRICT. The Miami Conservancy District formed the Aquifer Preservation Subdistrict on January 25, 1995, in accords with Ohio Revised Code Chapter 6101. The purpose of Aquifer Preservation Subdistrict is to develop and maintain an ongoing, watershed-wide program in support of comprehensive protection, management, and understanding of the region's water resources; to implement improvements and actions necessary in order to accomplish said purpose; **and to work with existing federal, state, local, and regional agencies toward that purpose.** (Emphasis added.) See "Amendment No. 3 to the Official Plan of the Aquifer Preservation Subdistrict of the Miami Conservancy District, Case No.94-4414", which by its terms replaced all previously adopted official plans of the subdistrict, attached hereto as Attachment A.





The Official Plan of the Aquifer Preservation Subdistrict provides that the subdistrict will do the following:

- 1.) Gather and provide water resource information for a variety of purposes.
- 2.) Perform analyses of groundwater, surface water, related natural resources, and land use conditions to aid planning and preparedness.
- 3.) Study human impacts on water resources to help identify sources of impairment and potential solutions.
- 4.) Provide technical and financial support for local efforts to implement water resource protection and management strategies.
- 5.) **Provide and/or support public education and outreach to support understanding, protection and management of water resources.**
- 6.) Implement practices designed to protect aquifers, rivers, streams, riparian zones, and related habitat.
- 7.) Facilitate, support, and or participate in coalitions and collaborative efforts.
- 8.) Engage in actions, programs, or projects consistent with the defined subdistrict purpose.

As evidenced by the Official Plan, the Subdistrict serves the County, and the co-permittees, as part of their mission, and performs education and outreach to address all issues as part of the hydrologic cycle, including stormwater. The Subdistrict emphasizes its role in providing technical data and expertise to public and private organizations and to interested individuals and cooperates with federal, state, regional, *and local agencies to share information and avoid duplication of effort.*

As stated in the Official plan, the success of the Subdistrict's program depends on stakeholder input. "Needs expressed by stakeholders, including water users, water experts, local administrators and agencies working on water resources projects and programs in the Great Miami River watershed will be prime factors in developing specific goals, projects, and activities." The County, and the township copermittees, have thus regularly communicated and coordinated with the Miami Conservancy District about the public education activities as part of implementing the Stormwater Management Plan.

Operating funds for the Aquifer Preservation Subdistrict, and its water stewardship programs, come from assessments paid by nine counties, including Montgomery County. See Geographic Area Map, attached as Exhibit A to Amendment No. 3 to the Official Plan of the Aquifer Preservation Subdistrict of the Miami Conservancy District, Case No.94-4414".

As part of its mission, the Subdistrict regularly reports its activities and progress to the Board of County Commissioners of Montgomery County, Ohio. See the Miami Conservancy District's (hereinafter referred to as "MCD") Water Stewardship Brochure, attached hereto as Attachment B. Finally, Montgomery County's Annual Public Outreach and Education Report for 2019, demonstrating public outreach activities, is attached hereto as Attachment C.



The County and its township co-permittees are considered “stakeholders” in the Miami Conservancy District’s AQUIFER PRESERVATION SUBDISTRICT. The Miami Conservancy District formed the Aquifer Preservation Subdistrict on January 25, 1995, in accords with Ohio Revised Code Chapter 6101. The purpose of Aquifer Preservation Subdistrict is to develop and maintain an ongoing, watershed-wide program in support of comprehensive protection, management, and understanding of the region’s water resources; to implement improvements and actions necessary in order to accomplish said purpose; and to work with existing federal, state, local, and regional agencies toward that purpose.

A key goal of this organization is to support understanding, protection and management of water resources through provision or support of public education and outreach. In conjunction with Montgomery County and its township co-permittees, the Miami Conservancy District, serving the County and the copermittees as part of their mission, performs education and outreach, provides technical data, and expertise to address all issues of the hydrologic cycle, including stormwater.

### **1.3 Summarized Requirements from Ohio EPA Permit**

- 1) Develop a plan to inform individuals and households about the steps they can take to reduce stormwater pollution including measurable goals, target audiences, target pollutants, and outreach strategy. Five different stormwater themes or messages need to be targeted over the permit term. One of the five messages will be targeted at the development community.
- 2) Develop a rationale for target areas and pollutants that will make the greatest difference for stormwater quality.
- 3) Utilize at least 2 mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) to reach target audiences. At least 50 percent of the population needs to be reached over the permit term.
- 4) Evaluate the success of this minimum measure, including how you selected the measurable goals for each of the BMPs.

### **1.4 MCM 1 Decision Process - Rationale Statement**

Water Quality and TMDL information were reviewed and best management practices identified based on known water quality issues in the county. The Co-Permittees’ “stakeholder” status in the Aquifer Preservation Subdistrict and its longstanding relationship with the Miami Conservancy District, as discussed above and on the attachments hereto, provides several opportunities to provide education and outreach opportunities to the residents of Harrison, Washington and Miami Townships, and to all other Montgomery County residents.



The County and the township co-permittees each own, operate, and maintain MS4 conveyance systems which consist of roads, catch basins, curbs, gutters, ditches, man-made channels, and/or storm drains. An employee designated by each township will be responsible for the overall management and implementation of the stormwater public education and outreach program in their township. It is anticipated that public education and outreach, as outlined below, will be tailored in some instances to fit the individual co-permittees' overall development, systems, and residents.

As to the township co-permittees, the nature of township governance allows for more direct communication with residents: Each co-permittee township has a web site where stormwater information will be published; and each of the co-permittee townships publish a newsletter that is available to a majority of their residents.

Likewise, Montgomery County, via the Montgomery County Engineer's Office, has a website, where stormwater issues will be addressed on a regular basis. The Montgomery County Engineer's Office employees serve as staff members for the Montgomery County Planning Commission, and in this role, are in regular contact with the development community. Additionally, the Engineer's Office regularly attends and participates in the activities Home Builders Association of Dayton, a local association of developers that promotes industry standards, educates its members and the broader community, and advocates responsible development.

## 1.5 Target Audiences

- 1.) **Residents of townships** are targeted for improvements to general urban runoff pollution.
- 2.) **Commercial and industrial businesses** are targeted for improvements in urban runoff pollution and stormwater retention and infiltration.
- 3.) **Landowners** are targeted for implementation of conservation that can improve urban runoff and stormwater. Specific landowner audiences that may receive particular attention include:
  - a.) Stream side landowners
  - b.) Homeowners with home sewage treatments systems (HSTS)
  - c.) Landowners considering improvements to their property
  - d.) Landowners interested in conservation practices
- 4.) **Development community** is targeted to reduce impacts to water quality from developing lands.
- 5.) **Students and Youth** are targeted because they are considered future landowners and decision makers.



6.) **Community groups** are targeted for their ability to reach a larger audience of residents, landowners, and businesses. These include:

- a.) Watershed groups
- b.) Environmental groups
- c.) Homeowner associations
- d.) Civic associations
- e.) Water Quality Partnership areas
- f.) Scout Troops
- g.) Recreational groups

### **1.6 Types of Public Involvement**

Participation by residents and community representatives in stormwater activities and decisions through public meetings and open houses conducted by the Aquifer Preservation Subdistrict and the Miami Conservancy District.

Updates and information provided at township trustee meetings and at the County Engineer's annual township dinner and road report. The County and township co-permittees will also provide information on their respective websites for members of the public to report suspected illegal dumping or contamination of the MS4.

Community projects and events including MCD's river clean-ups, children's educational events, seminars, storm drain stenciling, etc.

Attending and participating association meetings, in regional forums, and events that encourage discussion and shared learning among community leaders, stormwater professionals, and engaged residents.

### **1.7 Responsible Party and Legal Authority**

The Miami Conservancy District, through its Aquifer Preservation Subdistrict, will provide guidance and assistance with educational materials and presentations to assist Montgomery County and its township co-permittees. An employee designated by each township will be responsible for the overall management and implementation of the stormwater public education and outreach program in their township. These activities are well within the authority and ability of the county and townships.



## 1.8 Best Management Practices

The following tables outlines the best management practices (BMPs) selected by Montgomery County to accomplish MCM 1. The five themes the County will focus on include:

- 1) Nutrient Management
- 2) Sediment Pollution / Erosion Control
- 3) Residential Stormwater Management
- 4) Trash and Litter
- 5) Illicit Discharge and Hazardous Waste Disposal

The program is designed to address a variety of stormwater themes which cover many potential pollutant sources, especially residential sources of pollution. Special consideration will be given to the pollutant sources identified in the TMDL documents.

BMP: Website Updates		
<p><b>Description of BMP:</b> The County and its township co-permittees have updated their websites with pertinent stormwater information and will provide links to the MCD website with stormwater educational information,</p>		
Measurable Goal	Implementation Schedule and Frequency	Responsible Party
<p>Maintain County's website with relevant stormwater information focused on 5 themes. Include a link to MCD's educational material on County's website, with copermittee's website linking to County's if possible.</p>	<p>Ongoing</p>	<p>Montgomery County MS4 Coordinator, Miami Conservancy District, Co-permittees</p>
<p><b>Rationale for BMP:</b> Websites are an increasingly popular way to provide current information to the public and can reach a broad audience</p> <p><b>Target Audience:</b> General public, development community</p> <p><b>How BMP addresses TMDL:</b> Content will be based on the five themes and will attempt when feasible to focus on known TMDL pollutants of concern.</p>		





## BMP: Public Education and Outreach

**Description of BMP:** The Miami Conservancy Districts Aquifer Preservation Subdistrict provides a variety of opportunities to promote education and outreach to promote and support the comprehensive protection, management, and understanding of the region's water resources, including stormwater. The Subdistrict will include and feature stormwater issues in their public education meetings.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Number of Great Miami River Watershed Network Meetings hosted by the Miami Conservancy District.	Four meetings to be held during the permit term.	Miami Conservancy District

**Rationale for BMP:** Public meetings offer an excellent opportunity for the public to become educated on the impacts that stormwater runoff has on local waterways

**Target Audience:** General public

**How BMP addresses TMDL:** Content will be based on the five themes and will attempt when feasible to focus on known TMDL pollutants of concern.



## BMP: Publications

**Description of BMP:** MCD publishes educational pamphlets related to stormwater quality for distribution at their events and public meetings.. MCD will publish its newsletter “The Deed” with information related to stormwater quality.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Number of newsletters published annually by MCD and made available to County residents.	3 – 4 publications expected annually	Miami Conservancy District
Number of stormwater educational pamphlets and handouts provided for distribution.	Annually	Miami Conservancy District

**Rationale for BMP:** Public meetings offer an excellent opportunity for the public to become educated on the impacts that stormwater runoff has on local waterways.

**Target Audience:** General public

**How BMP addresses TMDL:** Content will be based on the five themes and will attempt when feasible to focus on known TMDL pollutants of concern.



## **Minimum Control Measure 2: Public Involvement/Participation**

**Montgomery County's MS4 permit requires public involvement/participation efforts to comply with state and local public notice requirements and satisfy this minimum control measure's minimum performance standards when implementing a public involvement/ participation program.**

### **2.1 Introduction**

This minimum control measure requires Montgomery County and its township co-permittees to engage the public for input and involvement in the county stormwater management program (SWMP) and the county illicit discharge detection and elimination (IDDE) plan. Public participation and involvement will further good public education and outreach to ensure compliance with local and state regulations and support for community projects and programs needed for a successful stormwater program.

Benefits to the co-permittees include identification of resources and opportunities outside of existing county operations.

### **2.2 Summarized Requirements from Ohio EPA Permit:**

- 1) Comply with State and Local public notice requirements
- 2) Describe public involvement opportunities in developing and implementing your stormwater management program.
- 3) Describe target audiences for public involvement including residents, businesses, landowners, educational organizations, and community groups.
- 4) Five public involvement activities over the permit term

### **2.3 Decision Process-Target Audiences**

To address this minimum control measure, the County and the township co-permittees will engage in a stormwater management program that allows for and encourages community participation. In order to involve the community effectively, local elected officials' leadership and support will continue to be important. For example, township trustees who often have close ties with residents, need to support the implementation of the stormwater program. For successful program implementation, local elected official engagement and cooperation will be integral to effective public participation.



Montgomery County will submit the first draft of this stormwater management program to the Miami Conservancy District and Public Health - Dayton and Montgomery County, as well as to the township copermittees, for initial review and comment. The co-permittees will notify all identified target audiences, including, but not limited to, township residents, businesses, landowners, homebuilders' associations, conservation groups and government agencies, of this Stormwater Management Plan, and request comment and review. The Plan will be posted on the co-permittees' websites and the comments received will be recorded and addressed. Community input will assist in further development of activities and targets.

The County and township trustee meetings will comply with Ohio public notice and open records laws.

## **2.4 Responsible Party and Legal Authority**

The Miami Conservancy District will provide guidance and assistance with educational materials and presentations to assist the County and the township co-permittees with compliance with Minimum Control Measure 2. An employee designated by each township will be responsible for the overall management and implementation of the stormwater public involvement program in their township. These activities are well within the authority and ability of the county and townships.

## **2.5 Target Audiences of MCM**

Successful implementation of MCM 2 is highly dependent on the general public within the MS4. As such, target audiences for MCM 2 will be identical to that of MCM 1 located in Section 1.5:

- 1) Residents of townships
- 2) Commercial and industrial businesses
- 3) Landowners
- 4) Development community
- 5) Students and Youth
- 6) Community groups

## **2.6 Best Management Practices**

The following tables outlines the best management practices (BMPs) selected by Montgomery County to accomplish MCM 2. There shall be five such activities during the permit term. The County and the township co-permittees have the legal authority to implement identified BMPs. Montgomery County intends to evaluate the effectiveness by tracking and documenting information as described in the tables below.



### BMP Type: Public Input for adoption of Stormwater Management Plan

**Description of BMP:** The County and co-permittees will notify target audiences of the draft Stormwater Management Plan, publish same on its website, and request comment and review before implementation.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Actively seek public input and participation in the formation of this Stormwater Management Plan.	Before adoption and implementation	Montgomery County Stormwater Program Manager, Co-Permittees

**Rationale for BMP:** Engaging the public in the Stormwater Management Plan provides an opportunity for input and awareness to the specifics of the program.

**Target Audience:** Township residents, businesses, landowners, homebuilders' associations, conservative groups and government agencies.

**How BMP addresses TMDL:** Public can review the plan and voice comments on how it addresses the TMDL.

### BMP Type: Stream Clean-Ups

**Description of BMP:** The County and MCD along with many other regional partners organize the Great Miami River Cleanup on an annual basis.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Number of volunteers participating in the Great Miami River stream cleanup	Annually	Montgomery County MS4 Coordinator, Miami Conservancy District, Co-Permittees

**Rationale for BMP:** Engaging the public in stream clean-up activities provides an opportunity for hands-on involvement and participation while also improving water quality through cleaning the streams.

**Target Audience:** General public, citizen/student groups.

**How BMP addresses TMDL:** Participants see the scope of illegal dumping and gain an understanding of how it impacts water quality.

### BMP Type: Rain Barrel Sale

**Description of BMP:** The County along with many other regional partners organize a county-wide sale of residential rain barrels.





Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Number of rain barrels sold	Once during the permit period	Montgomery County MS4 Coordinator and Co-Permittees
<p><b>Rationale for BMP:</b> Rain barrels reduce stormwater runoff, but also provide an opportunity for the County and its partners to provide targeted education to the public</p> <p><b>Target Audience:</b> General public</p> <p><b>How BMP addresses TMDL:</b> Reduced runoff from residential property</p>		





## **Minimum Control Measure 3: Illicit Discharge Detection and Elimination**

### **3.1 Introduction**

This minimum control measure requires Montgomery County and the township co-permittees to implement and enforce a program to detect and eliminate illicit discharges and includes comprehensive mapping of the Municipal Separate Storm Sewer System (MS4). As defined by Environmental Protection Agency (EPA), an MS4 is: the conveyance or system of conveyances (including roads, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by a public body, designed and used for collecting Stormwater, is not a combined sewer, and is not part of a publicly owned treatment works.

**As defined by EPA, an illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.**

The County and the township co-permittees have not identified any of the following non-stormwater discharges as significant contributors of pollutants to the MS4 and as directed by the permit will not address them:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges or flows from firefighting activities

### **3.2 Summarized Requirements from Ohio EPA Permit:**

- 1.) Develop, implement, and enforce a program to detect and eliminate illicit discharges into the small MS4.
- 2.) Develop a comprehensive storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls. The comprehensive storm sewer system map shall also include your MS4 system, including catch basins, pipes, ditches, flood control facilities (retention/detention ponds), postconstruction water quality Best Management Practices (BMPs) and private post construction water quality BMPs. The map must be updated annually and as needed.
- 3.) Effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the stormwater system, and implement appropriate enforcement procedures and actions.



- 4.) Develop and implement a plan to detect and eliminate non-stormwater discharges, including illegal dumping and Household Sewage Treatment Systems (HSTS). At a minimum this includes:
  - a) Working with applicable agencies and/or departments to identify HSTS's that could be connected to central sewers and require connection for any HSTS not operating properly.
  - b) Working with health department of to develop a proactive O&M program.
  - c) Actively investigating contamination sources during dry weather screening.
  - d) Evaluating the planned/possible installation of sewers in areas with high densities of HSTS's.
- 5.) Submit to EPA a list of HSTS's including addresses; a map of HSTS's including type and size of conduits that receive discharges. Mapping must contain a list of all Household Sewage Treatment Systems (HSTSs) connected to discharge to your MS4. This map shall include details on the type and size of conduits/ditches in your MS4 that receive discharges from HSTSs, as well as the water bodies receiving the discharges from your MS4.
- 6.) Inform public employees, businesses and the public of hazards associated with illegal discharges and improper disposal of waste.

### 3.3 Illicit Discharge Detection and Elimination Plan

Unlike cities and charter counties, Montgomery County and the township co-permittees do not have the statutory authority to adopt ordinances to enforce this Illicit Discharge Detection and Elimination Plan. Instead, the County and the co-permittees will abate illicit discharges by using the remedies provided in the Ohio Revised Code. The path to enforcement will depend entirely upon the nature of the illicit discharge and the surrounding circumstances of causation.

**O.R.C. Section 6111.04**, entitled "Acts of pollution prohibited; exceptions" provides that no person, without a validly issued permit, shall cause pollution or place or cause to be placed any sewage, sludge, sludge materials, industrial waste, or other wastes in a location where they cause pollution of any waters of the state and that such an action *is hereby declared to be a public nuisance*. See O.R.C. 6111.04(A).

Additionally, **O.R.C. Section 6137.14** mandates that the county engineer (the Stormwater Program Manager herein), while inspecting drainage channels, "shall note any and all apparent violations of sections 6111.01 to 6111.04 of the Revised Code, as such sections refer to the pollution of drainage channels. Whenever it appears to the county engineer, after investigation, that there has been a violation of section 6111.04 of the Revised Code, the county engineer shall give written notice to the county board of health, setting forth any thing or act done or omitted to be done or claimed to be in violation of such section. The county board of health shall immediately pursue the alleged violation to its legal conclusion."

Public Health-Dayton and Montgomery County ("PHDMC") has the authority to abate public health nuisances via the authority granted under **O.R.C. Section 3707.01**, which provides that it may, by order, compel the owners, agents, assignees, occupants, or tenants of any lot, property, building, or structure



to abate and remove any nuisance therein, and prosecute such persons for neglect or refusal to obey such orders. When an order of the board of health of a city or general health district, made pursuant to O.R.C. Section 3707.01, is not complied with in whole or in part, the board may

petition the court of common pleas for an injunction requiring all persons to whom such order of the board is directed to comply with such order. **O.R.C. Section 3707.021.**

Moreover, PHDMC has the power to regulate home sewage treatment systems ("HSTS") by virtue of **Ohio Administrative Code 3701-29** and **Ohio Revised Code Chapter 3718**. Upon the discovery of an illicit discharge traced to a possible HSTS, the County and/or the township co-permittees shall immediately notify PHDMC for further investigation and enforcement.

PHDMC's program to eliminate illicit discharges includes, but is not limited to, the following activities:

- a. PHDMC staff will investigate and issue Notice of Violation(s) if a nuisance condition(s) is verified by observation and/or water testing of effluent as defined in ORC 3718.011 and OAC 3701-29;
- b. If compliance is not achieved through issuing Notice(s) of Violation, staff will provide recommendations to the Board of Health requesting an Order from the Board of Health declaring the existing condition(s) a nuisance and ordering the owner/responsible party to abate such condition(s), which may include repair or alteration of the existing HSTS or installation of a new HSTS or if applicable, connecting to sanitary sewer;
- c. In addition, this Order will also allow PHDMC staff to refer this matter to the Montgomery County Prosecuting Attorney for further legal action if compliance is not obtained through this Board of Health Order;
- d. A civil action will be filed in Montgomery County Court of Common Pleas to seek injunctive relief and permanent injunction against the owner and/or responsible party and the real property where a violation is occurring;
- e. The court in which such an action is filed has jurisdiction to grant such relief upon showing evidence that the nuisance condition(s) exist on the real property and the defendant(s) named in the complaint is in violation of Revised Code.
- f. PHDMC will pursue any further remedies as same are provided by Ohio Law.

Depending on the type of illicit discharge, the County and the township co-permittees can also seek to eliminate illicit discharges through the provisions of Ohio Revised Code Chapter 3767. These provisions provide the process to abate nuisances in actions before the court of common pleas. Upon the discovery and tracing of an illicit discharge, the County and/or its co-permittees will consult with the Montgomery County Prosecutor's Office about a possible nuisance abatement action filed pursuant to **O.R.C. Chapter 3767**. The Montgomery County Prosecutor's Office is well-versed in nuisance abatement and has the authority to maintain the lawsuit. See O.R.C. 3767.03. The Prosecuting Attorney may immediately seek





a temporary injunction, and thereafter request the court to grant an abatement order, and to charge the violator with costs and penalties as provided in the code. See O.R.C. 3767.01 to 3767.11.

Finally, if the nature of the discharge and the surrounding circumstances dictate, the nuisance can be abated by the co-permittee boards of township trustees through nuisance abatement legislation adopted pursuant to **O.R.C. Section 505.87**. This method of enforcement should be explored if the discharge/pollution is caused by a property owner's maintenance of a nuisance condition on his/her property. O.R.C. Section 505.87 provides that a nuisance condition may be determined to exist if vegetation, garbage, refuse or other debris is kept in such a manner that causes damage, annoyance, inconvenience, blight, and/or effects the health, safety and welfare of adjacent residents or properties.

### **3.3.1 Illicit Discharge Detection – Mapping**

The County is developing a comprehensive mapping database of the existing storm infrastructure system. The County currently manages its storm infrastructure data through an ArcGIS database. Updates to the ArcGIS database are based on field verification efforts, record drawings, and subdivision plan reviews, etc. As new information related to the storm infrastructure within the County is discovered it is entered into the database.

The County has currently mapped all culverts in County-owned road right-of-way indicating the location, size, length, material, abutments, date of the inspection, general comments, and other important pieces of information. These culverts were entered into the GIS database after inspections dating back to 2015. In rural areas of the County, a large portion of the stormwater conveyance system is made up of roadside ditches and streams. Mapping for all blue line streams has been made available but roadside ditches and small drainage channels have not been mapped.

Starting in 2023, Montgomery County will begin field work collecting data necessary for the storm system map. Means and methods shall be refined with the goal of having all County mapping responsibilities completed during the permit period. Mapping of the stormwater conveyance systems within the co-permittee's township is the responsibility of the co-permittee. Miami and Washington townships have mapped storm sewers, manholes, and inlets throughout much of its service area. Storm infrastructure data for Harrison Township is currently not available and has not been provided to the County. The County and its co-permittees will continue to map stormwater conveyance infrastructure within the right-of-way as outlined in the Stormwater Management Plan (SWMP). Keeping the storm system mapping current is an important element of an effective IDDE program. Mapped storm infrastructure for Montgomery County, Miami Township, and Washington Township is shown in Figure 2.

### **Best Management Practices – Mapping**

The following tables outlines the best management practices (BMPs) selected by Montgomery County to accomplish the mapping required by the Permit. The County has the legal authority to implement all identified BMPs.



## BMP: Update System Mapping

**Description of BMP:** Montgomery County will update storm sewer system GIS mapping as needed to include the information required in the permit. The GIS mapping will at a minimum cover the County- owned MS4 area within the right-of-way and within the urbanized area. The township copermitees will be responsible for mapping the MS4 systems in their service areas.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Maintain and update map of MS4 system	Before the end of the permit term	Montgomery County MS4 Coordinator, Montgomery County Engineer (GIS), and Co-Permittees

**Rationale for BMP:** Updating the storm system mapping to include additional assets will create a more accurate representation of the storm system network.

**How BMP addresses TMDL:** Having a well mapped system can be useful in identifying potential sources of pollution however this may not have a direct link to achieving the goals of the TMDL.

### 3.3.2 Illicit Discharge Detection Plan- On-Site Sewage Disposal Systems or Household Sewage Treatment Systems (HSTs)

Section III.B.3.e. of the MS4 Permit lists four requirements specific to addressing HSTs, which are summarized as follows:

- 1.) Work with other agencies and departments to proactively identify residences with existing HSTs that can be legally, feasibly, and economically connected to central sewers.
- 2.) Work with the local board of health develop a proactive operation and maintenance program that determines whether existing HSTs are operating as designed and intended.
- 3.) Work with the local board of health to determine resolution when non-functioning HSTs are identified as sources of illicit discharge.
- 4.) Work with the local wastewater authorities to evaluate the possible future installation of sewers in areas of dense HSTs.

In response to these requirements, the County will coordinate annually with the department of Public Health–Dayton and Montgomery County (PHDMC) and its co-permittees to maintain updated mapping of HSTs. The County will also coordinate with PHDMC to share information related to known or potential failing HSTs and related issues. It should be noted that the County Engineer's Office does not have the authority or purview to dictate the health departments' actions, and the health department is the governing authority in the State of Ohio to enforce the appropriate laws and regulations related to HSTs. PHDMC performs biannual inspections of all HSTs in its jurisdiction and has a comprehensive list of all permitted HSTs connected to discharge to the MS4, see Attachment C.



Montgomery County Environmental Services (MCES) owns and operates approximately 1,200 miles of sanitary sewer collection system and two Water Reclamation Facilities.

- Eastern Regional Water Reclamation Facility – Permit 1PL00001
- Western Regional Water Reclamation Plant – Permit 1PD00002

The County Engineer's Office will continually discuss the potential for extension of central sewers to unsewered areas as appropriate. Additionally, MCES has completed field investigations and continues to locate and inspect sanitary sewer overflows (SSOs). The County will coordinate with MCES on the location of these known SSOs, identification of new SSO locations, and elimination of SSOs. Any change in the status of these overflows will be conveyed to the County.

### Best Management Practices- HSTS Mapping

The following tables outlines the best management practices (BMPs) selected by Montgomery County to accomplish the HSTS mapping required by the Permit.

<b>BMP: HSTS Mapping and Coordination</b>		
<b>Description of BMP:</b> The County will complete the following measurable goals that are focused on reducing potential illicit discharges from HSTS systems within the County limits.		
<b>Measurable Goal</b>	<b>Implementation Schedule and Frequency</b>	<b>Responsible</b>
Coordinate with PHDMC to maintain a map (and list) of known HSTS's.	Annually	Montgomery County MS4 Coordinator, Montgomery County Engineer (GIS), and PHDMC
Coordinate with PHDMC regarding known issues with failing HSTS's as well as properties that have been connected to centralized sewers.	Annually	Montgomery County Stormwater Program Manager, and PHDMC
Communicate with the relevant sewer agencies to evaluate feasibility to sewer HSTS properties. (This task will require coordination with MCES and other Municipalities.)	Once per permit term	Montgomery County MS4 Coordinator, Montgomery County Environmental Services



**Rationale for BMP:** Focusing on HSTS's is important to control a known potential source of illicit discharges as septic systems continue to age and become prone to failure.

**How BMP addresses TMDL:** HSTS management provides proactive prevention of potential illicit discharges which could contribute pollutants of concern to the County's receiving streams.

### 3.3.3 Illicit Discharge Detection Plan- Dry Weather Screening

#### Outfall Screening

In accordance with the permit requirement, the County completes dry weather screening of its major stormwater outfalls once each permit cycle. The outfall screening is conducted through field inspection to characterize the general condition of the outfalls as well as indicate the potential for illicit discharges. Collecting this information at each outfall enables the County to assess the condition of the stormwater infrastructure and identify potential illicit discharges.

To better assist with the field assessment activities, the following list of equipment is recommended for locating and documenting stormwater outfalls, as well as testing for illicit discharges during dry-weather screening activities:

- 1) Waders
- 2) Measuring Tape
- 3) Watch
- 4) Camera
- 5) Spray Paint
- 6) Gloves
- 7) Sampling Equipment (e.g. bottles, pH test strips, etc.)
- 8) Device with Explorer for ArcGIS (i.e. smartphone)
- 9) First Aid Kit
- 10) Flashlights

The County will use an outfall field inspection sheet to characterize the general condition of the outfalls as well as indicate the potential for illicit discharges. Collecting this information at each outfall enables the County to assess the condition of the stormwater infrastructure and identify potential illicit discharges. The County's field inspection sheet is included as Attachment B to this IDDE Plan.

In general, when an outfall is encountered, and/or dry weather screening is being performed the following steps should be followed:

- 1) When possible, notify the public before the field inspection.
- 2) Wait 72 hours after a rain event to complete inspections.
- 3) Use a current County GIS storm system map highlighting unique structure numbers, outfall locations, other storm infrastructure, streets, streams, and other applicable landmark



features to assist in field locating the outfall. If not already in the GIS database, the spatial location of the outfall must be documented in the field.

- 4) For each outfall screening, a County field inspection form must be completed (Attachment B). The data collected will be entered into an electronic database which contains geographic references that will allow the data to be mapped and integrated in the County's GIS system. At a minimum, the observation will involve the following:
  - a) Outfall Number
  - b) Date, time, crew members' names
  - c) Time and date of last rainfall
  - d) Flow during dry-weather conditions
  - e) Water clarity and color
  - f) Presence of foam, oil sheen, trash, and/or floatable materials\*
  - g) Presence of bacterial sheen or slimes\*
  - h) Straining of banks, outfall structure, and/or vegetation\*
  - i) Excessive vegetative growth\*
  - j) Odor\*
  - k) Verify location of outfall matches the field map data
  - l) A picture of the outfall
  - m) Condition of the outfall/structure

\* The characteristics should be documented even if no flow was present at time of inspection.

A visual inspection along with odors and observations of the area surrounding the outfall can often provide sufficient evidence to determine if illicit discharges are present. If a flow is present, grab samples can be collected and tested for indicator parameters identified in Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (CWP 2004). If a grab sample is collected, a third party or County contracted laboratory will perform any required water quality testing. Other methods such as water quality sampling, CCTV inspection and smoke testing may also be utilized where needed. Additional assistance in sampling and field investigations will be provided by the Health Department and Montgomery County Environmental Services.

### **Best Management Practices- Dry Weather Screening**

The following tables outlines the best management practices (BMPs) selected by Montgomery County to accomplish the HSTS mapping required by the Permit.



### BMP: Dry-Weather Screening of Stormwater Outfalls

**Description of BMP:** Conduct dry-weather screening of stormwater outfalls within the MS4 service area at least once during the permit term. Co-Permittees will complete their own outfall screening. The County will not screen outfalls on property that is not County-owned, as such, some outfall inspection points may be locations where a pipe or ditch crosses the property line.

Measurable Goal	Implementation Schedule and Frequency	Responsible
Track the location and number of outfalls screened for illicit discharges during dry weather.	All outfalls will be screened at least once during the permit term.	Montgomery County MS4 Coordinator and Health Department

**Rationale for BMP:** Screening stormwater outfalls will assist the County in identifying illicit discharges throughout the storm sewer system.

**How BMP addresses TMDL:** Outfall screening provides proactive prevention of potential illicit discharges which could contribute pollutants of concern to the County's receiving streams.

### 3.4 Locating and Eliminating Illicit Discharges

The County and the township co-permittees will implement field assessment activities for the dry-weather screening of major outfalls throughout their respective service areas on an annual basis. The MS4 permit requires dry-weather screening of all outfalls during the permit term. The County plans to screen 20 percent of its outfalls on an annual basis in order to meet this requirement during the 5-year permit cycle. The County will perform dry-weather screening during dry periods within the fall season to capitalize on the reduced foliage cover. All illicit discharge screening activities will be tracked in the County's GIS database. The townships will perform dry-weather screenings at intervals similar to those set forth above. The following outlines the approach for locating and eliminating illicit discharges.

#### **Locating Priority Areas**

Priority areas can generally be considered as locations that have a higher probability of illicit discharges. The following list, taken from *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* (CWP 2004), describes several screening factors that should be considered when determining potential priority areas for illicit discharges:

- 1) History of discharge complaints and reports.
- 2) Poor dry weather water quality.
- 3) Density of generating sites or industrial NPDES stormwater permits.
- 4) Stormwater outfall density.





- 5) Age of sub-watershed development.
- 6) Sewer conversion.
- 7) Historic combined sewer systems.
- 8) Presence of older industrial operations.
- 9) Aging or failing sewer infrastructure.
- 10) Density of aging septic systems.

Based on the above factors, the County will overlay currently available GIS data from the Engineer's Office, MCES, its co-permittees, and other sources to identify locations that are likely more susceptible to illicit discharges. This overlay plus information collected from dry-weather screening can be used throughout the permit term to highlight areas with the highest potential for illicit discharges. This information will be shared with the township co-permittees at regular intervals.

The identification of priority areas is anticipated to be an adaptive or evolving process over the next MS4 permit term as the County collects more data. As the County updates the above GIS data with more current information, it intends to reassess the mapping overlay to highlight potential changes to priority areas for illicit discharges. This effort will inform the future plans for the prioritization of dry-weather screening within the MS4 area.

### ***Tracing the Source***

If the County or its township co-permittees have confirmed the presence of an illicit discharge, attempts will be made to trace the source of the illicit discharge. The magnitude of the efforts to trace the source will be dependent upon the type of connection. The co-permittees may implement a combination of methods to isolate the specific source of the illicit discharge. The following highlights appropriate approaches for tracing a suspected illicit discharge:

- 1) Storm Drain Network
  - a) Follow storm drainage ditch/piping to the first upstream structure
  - b) Remove structure cover and visually determine if discharge is still present.
  - c) If discharge is still present, repeat procedure on next upstream structure. If storm lines split, follow one path and if discharge is not present come back to last structure where discharge was present and trace up the next branch.
  - d) After discharge has been pinpointed to an area, i.e., present in manhole downstream but absent upstream, then investigate the area for possible sources.
  - e) If no obvious sources exist, methods such as sandbagging or damming the trunk, dye testing, smoke testing, and or CCTV, may be used to determine the source.
- 2) Stream Networks
  - a) If the discharge is in the main stem of a stream or creek, follow the discharge upstream.
  - b) If it can be traced back to a pipe, follow the above steps to pinpoint the illicit discharge.



- c) If the discharge is not found to be coming from a pipe, a watershed or drainage area investigation can be performed. This method relies on an analysis of land use or other characteristics of the drainage area that is producing the illicit discharge. The investigation can be as simple as a “windshield” survey of the drainage area or a more complex mapping analysis of the storm drain network and potential generating sites. Drainage area investigations work best when prior indicator monitoring reveals strong clues as to the likely generating site producing the discharge. Example investigations may include land use or zoning investigations, permit reviews, as-built reviews, aerial photography analysis, and or other property ownership certifications.

### 3) Unfound Discharge

- a) In all cases if the discharge is not visible upon arrival screen the surrounding catch basins, ditches, upstream bridges and junctions, etc. to verify they discharge cannot be found and has likely ceased. The investigation will be documented as not found for future reference in the County’s GIS database.

Depending on each situation, the County or its co-permittees may use a combination of the investigation options described above to trace the source of an illicit discharge. The procedure used to trace the source will be documented to allow for future decisions on appropriate procedures for specific types of illicit discharges.

### ***Removing the Source***

Following the procedures described in the section above related to tracing the source of an illicit discharge, the County will take appropriate actions to notify the responsible party and ensure the illicit discharge is removed. If an illicit discharge is identified within the boundary of one of the co-permittees, the co-permittee is responsible for coordinating with the property owner or individual responsible for the illicit discharge to remove it. According to the Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments (CWP 2004), there are four questions that should be answered for each illicit discharge to determine appropriate procedure for corrective action, as follows:

- 1) Who is responsible?
- 2) What methods will be used to fix it?
- 3) How long will it take?
- 4) How will removal be confirmed?

The source of the discharge will be needed to appropriately answer these questions. Typical sources of illicit discharges include internal plumbing connections, service lateral cross-connections, infrastructure failure within the sanitary sewer system or MS4, and indirect discharges resulting from leaks, spills, or overflows.

In all cases after a suspected illicit is found and the responsible party identified the County or co-permittee will use the following steps:

- 1) The County and/or the township co-permittee will notify PHDMC for further investigation and enforcement: or



- 2) The County and/or the township co-permittee will schedule a meeting with the Montgomery County Prosecutor's Office to pursue a nuisance abatement action; or
- 3) The County and/or the township co-permittee will seek a nuisance abatement action before the board of township trustees in the township where the illicit discharge is discovered.

### **3.4 Program Assessment**

The County will reevaluate the success of its illicit discharge program with each permit cycle. Any revisions or updates will be included in the IDDE plan and the SWMP updates. The goal of the County is to continually be responsive and adaptive to changing needs as issues and new information arise.

### **3.5 Public Education Outreach**

In part, the success of the IDDE Program depends on the County's ability to inform the public and benefits from citizens reporting illicit discharges. The goal of the communication and outreach is for the community to understand the IDDE Program, its purpose, who is responsible, and how they can contribute to the solution of stormwater issues. The County's stormwater related communication and outreach efforts are detailed in the County's SWMP under MCM 1 and MCM 2.

### **3.6 Responsible Party**

The Montgomery County Engineer's Office, specifically the Stormwater Program Manager, is primarily responsible for the management and implementation of the IDDE Plan. While the Stormwater Program Manager is ultimately responsible, the IDDE plan is highly collaborative and requires coordination with a variety of individuals and entities. Specifically, the County relies on a number of positions and staff to assist with the IDDE program as follows:

- 1) Stormwater Program Manager—oversees the MS4 permit and annual reporting needs. Responds to reports of illicit discharges and leads the County's efforts to follow up and resolve issues. Oversees the dry weather screening process and organizes collaboration with other agencies and departments.
- 2) Co-permittee Stormwater Program Manager—oversees the MS4 permit and annual reporting needs for its entity and corresponds with County Stormwater Program Manager. Responds to reports of illicit discharges and leads the township's efforts to follow up and resolve issues. Oversees the dry weather screening process within township.
- 3) County Field Crews—lead the field assessments, inspections, and investigations related to tracking down potential sources of illicit discharges.
- 4) First Responders, Police and Fire—respond to calls through its departments, respond to emergency spills and crashes to provide initial containment.
- 5) PHDMC—responsible for the inspection and enforcement related to HSTs in the county.



This illicit discharge program will continue to adapt and evolve over the next 5-year MS4 permit term. As the County evaluates its system and updates its GIS database over the next 5 years, additional information about the physical components of the MS4 system may also result in the identification of priority areas that could be more prone to illicit discharges. Additionally, as the County continues to conduct dry-weather screening on an annual basis, the County's database of information related to the screening and illicit discharges will continue to grow, offering a larger dataset that can be evaluated over time to allow the County to make adjustments and prioritize screening efforts moving forward.



## **Minimum Control Measure 4: Construction Site Stormwater Runoff Control**

### **4.1 Introduction**

The fourth minimum control measure (MCM) requires Montgomery County and its township copermittees address management of stormwater runoff from construction activity that results in a land disturbance of once acre or greater, or activity that is part of a larger common development. Stormwater runoff management address both how water is retained and released during and after stormwater events and how erosion is minimized through the use of site design techniques, the management of construction activity, and the use of erosion control practices until a site is stabilized with permanent vegetation. Sediment is one of the TMDLs for Montgomery County. During a short period of time, uncontrolled construction sites can contribute more sediment to streams than would be deposited naturally over prolonged periods.

During construction, the design and installation of long-term stormwater management controls are also reviewed and inspected along with temporary erosion and sediment controls. These controls may use overlapping or separate Best Management Practices (BMPs).

Benefits to Montgomery County and townships include reduced erosion and sedimentation along waterways and ditches, improved quality of streams for recreation and fishing, and continued availability of a quality drinking water supply.

### **4.2 Summarized Requirements from Ohio EPA Permit:**

Montgomery County had developed a program to reduce pollutants in stormwater runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre including projects less than one acre that are part of a larger common plan of development. At a minimum this includes:

- 1.) Ordinance or other requirements for construction site operators to require erosion and sediment controls as well as sanctions to ensure compliance.
- 2.) Requirements for construction site operators to implement appropriate erosion and sediment control BMPs.
- 3.) Requirements for construction site operators to control waste at the construction site that may cause adverse impacts to water quality.
- 4.) Procedures for stormwater pollution prevention plan review which incorporates consideration of potential water quality impacts.
- 5.) Procedures for the receipt and consideration of information submitted by the public.
- 6.) Procedures for site inspection and enforcement of control measures.

The following table outlines the best management practices (BMPs) selected by Montgomery County to accomplish MCM 4. The County has the legal authority to implement all identified BMPs.



### BMP: Maintain Ordinance and Regulations

**Description of BMP:** The County will maintain Article 11 of the Montgomery County Subdivision Regulations regarding sediment and erosion control, and site development.

Measurable Goal	Implementation Schedule and Frequency	Responsible
Maintain existing Subdivision Regulations Article 11, and document the type and frequency of any enforcement activities.	Ongoing	Montgomery County Stormwater Program Manager Montgomery County Engineer

**Rationale for BMP:** Maintaining Article 11, of the regulations, will provide the County with the means to regulate and enforce stormwater management on construction sites.

**How BMP addresses TMDL:** This BMP will target construction site runoff and sediment pollution.

### BMP: Construction Site Runoff Control Implementation

**Description of BMP:** The County will complete plan reviews and on-site inspections to address and correct issues and that contractors are asked to address violations and correct as needed. The County will follow the requirements of the OEPA construction general permit and the guidelines of the Ohio Rainwater and Land Development Manual. The target audience for this BMP is for developers, constructors and designers.

Measurable Goal	Implementation Schedule and Frequency	Responsible
Review all submitted development plans for compliance with the current OEPA construction general permit.	Ongoing	Montgomery County Stormwater Program Manager Montgomery County Engineer
Inspect all sites initially and at a minimum monthly, or bi-weekly thereafter for compliance with proper sediment and erosion control practices. Document the number of construction site inspections completed.	Ongoing	Montgomery County Stormwater Program Manager
Receive and respond to complaints from the public related to construction sites.	Ongoing	Montgomery County Stormwater Program Manager



**Rationale for BMP:** Implementation of construction site runoff inspection activities are critical for a successful construction site runoff control program to manage potential sediment pollution.

**How BMP addresses TMDL:** This BMP will target construction site runoff and sediment pollution.





## **Minimum Control Measure 5: Post-Construction Stormwater Management in New and Redevelopment**

### **5.1 Introduction**

This minimum control measure requires Montgomery County and the township co-permittees to provide continuous oversight of existing best management practices to minimize water quality impacts. The County and township co-permittees will act as the regulatory, advisory, and enforcement agents in the long-term viability, maintenance, and operation of these water quality controls.

### **5.2 Summarized Requirements from Ohio EPA Permit**

- 1.) Develop, implement and enforce a program 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 or sale, that discharge into the small MS4. This program shall ensure that controls are in place that will prevent or minimize water quality impacts.
- 2.) Develop and implement strategies which include a combination of structural and/or nonstructural best management practices (BMP's) appropriate for the community.
- 3.) Address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local laws utilizing ordinance or other regulatory mechanism. At a minimum, these be equivalent with the technical requirements set forth in the Ohio EPA NPDES General Stormwater Permit(s) for Construction Activities.
- 4.) Ensure adequate long-term operation and maintenance of BMP's.

### **5.3 Decision Process**

Montgomery County and its township co-permittees will require, by Subdivision Regulations, all new and redevelopment projects disturbing an area equal or greater than one acre to implement post-construction stormwater management controls to address water quality, per the requirements of the MS4 and Construction General Permits.

The County and co-permittees will follow the requirements in the MS4 permit and the Construction General Permit and mimic the guidelines in the Ohio Rainwater and Land Development Manual. These are considered a best fit for the local community, minimizing water quality impacts and maintaining predevelopment runoff.

To meet permit requirements, the County and co-permittees will primarily rely on structural BMP's to meet or exceed quantity and quality requirements. Non-structural BMP's, such as Conservation Development, Wetland Setback, and Low Impact Development may also be included in new construction and redevelopment; however, these are highly dependent of site location and applicability of such methods. Structural BMP's will consist of:



- a) Infiltration Basins
- b) Water Quality Ponds
- c) Bioretention Areas
- d) Infiltration Trenches
- e) Grassed Swales
- f) Extended-Detention Outlets Structures

Success of these BMP's will be heavily reliant on upkeep and maintenance by property owners, or when applicable, Homeowner's Associations. Operation and Maintenance (O&M) responsibilities and requirements of such BMP's will be incorporated into a maintenance agreement which shall be submitted with the development plans.

The County and its co-permittees will be tasked with monitoring these BMP's to assure continued effectiveness and proper maintenance procedures are being followed. In the event of non-compliance with the O&M agreement, the County and/or co-permittees will take appropriate actions to notify the responsible party and ensure proper maintenance procedures are enacted.

Should the responsible party further fail to comply with its O&M agreement, the County and/or the township co-permittees will use similar steps as those outlined in MCM 3:

- 1) The County and/or the township co-permittee will notify PHDMC for further investigation and enforcement: or
- 2) The County and/or the township co-permittee will schedule a meeting with the Montgomery County Prosecutor's Office to pursue a nuisance abatement action; or
- 3) The County and/or the township co-permittee will seek a nuisance abatement action before the board of township trustees in the township where breach of the O&M agreement is discovered.

These goals selected have been deemed specific, measurable, achievable, and realistic. Montgomery County intends to evaluate the effectiveness of the post-construction BMP's by tracking and documenting information as described in the tables below. Any future changes will be a direct result of this data.

#### **5.4 Performance Standards**

The post-construction Stormwater Management Plan shall include a pre-construction Stormwater Pollution Prevention Plan review of all projects which disturb 1 or more acre, or are part of a larger common development. The site shall be inspected to ensure controls are installed per requirements. Program shall ensure long-term O&M plans are developed and agreements are in place.



## 5.5 Best Management Practices

### BMP: Maintain Regulations

**Description of BMP:** The county will maintain regulations (Article 11 of the Montgomery County Subdivision Regulations) requiring post construction stormwater management for sites equal to or larger than one acre, or part of a larger common development, in accordance with the Ohio EPA Construction permit.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
The County will update its regulations to meet the permit requirements as needed.	Once per Permit Term	Montgomery County Stormwater Program Manager
<p><b>Rationale for BMP:</b> Maintaining Subdivision Regulations will provide the County with the means to regulate and enforce post construction stormwater management.</p> <p><b>How BMP addresses TMDL:</b> This BMP will require post construction stormwater controls be implemented on all development sites larger than 1acre, and these BMP's will reduce pollutants of concern addressed in the TMDL.</p>		

### BMP: Post-Construction Runoff Control Implementation

**Description of BMP:** The County will provide plan review and post-construction inspections. The County will follow the requirements of the Ohio EPA Construction General Permit and the guidelines of the Ohio Rainwater and Land Development Manual.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Number of completed plan reviews for compliance with the Ohio EPA Construction General Permit.	Ongoing	Montgomery County Engineer, Montgomery County Stormwater Program Manager
Number of signed O&M Agreements between postconstruction BMP owner or owners.	Ongoing	Montgomery County Stormwater Program Manager
<p><b>Rationale for BMP:</b> Implementation of the post-construction program including O&amp;M Agreements and site inspections are important for long-term success in program implementation.</p> <p><b>How BMP addresses TMDL:</b> Post-construction BMP's help reduce pollutants of concern addressed in the TMDL.</p>		



## BMP: MS4 Permit Task

**Description of BMP:** The County will Perform one of the following items during the permit term for locations within a TMDL watershed;

- A. Provide an educational opportunity to contractors, SWP3 designers, and/or employees on OHC000005 Table 4b practices and/or other green infrastructure practices during the permit term.

In addition, your program shall include, at a minimum, one of the following performance standards during the permit term:

- B. Retrofit one (1) existing stormwater practice that solely provides a peak discharge function to meet the performance standard for an extended detention post-construction practice in accordance with OHC000005 Table 4a or 4b; or
- C. Perform restoration of at least three hundred linear feet of channelized stream where natural channel stability and floodplain restoration will reduce stream erosion; or
- D. Update your ordinance or other regulatory mechanism to require OHC000005 Table 4b practices and/or other green infrastructure practices where feasible; or
- E. Install one (1) or more OHC000005 Table 4b practices to treat a minimum of 1 acre of existing impervious area developed prior to 2003.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Meet with applicable groups in regards to site development within TMDL watershed.	Ongoing	Montgomery County Engineer, Montgomery County Stormwater Program Manager
Perform additional task	Once	Montgomery County Stormwater Program Manager

**Rationale for BMP:** To increase the effectiveness of installed BMP's and assist with retrofitting nonBMP stormwater features.

**How BMP addresses TMDL:** Post-construction BMP's help reduce pollutants of concern addressed in the TMDL.



## **Minimum Control Measure 6: Pollution Prevention/Good Housekeeping for Municipal Operations**

### **6.1 Introduction**

The sixth and final minimum control measure (MCM) requires Montgomery County and its co-permittee townships to provide information on plans to address pollutant runoff at each of their owned and operated industrial sites. These plans will detail how the County and co-permittees intend to address issues through employee education and training as well as regular site inspections, ensuring that permit holders are leading their respective communities by example in the fight against pollution.

### **6.2 Summarized Requirements from the Ohio EPA Permit:**

1. Develop and implement an operation and maintenance program, including a training component, with the primary goal of preventing or reducing pollutant runoff from municipal sites.
2. Utilize training materials from the Ohio EPA or other organizations to aid in employee education to prevent and reduce stormwater pollution from activities such as park or open space maintenance, fleet and building maintenance, new construction and land disturbances and stormwater system maintenance.
3. Create a list of municipal industrial sites owned and operated by the County or copermitees. SWP3 plans shall be developed and implemented accordingly.

### **6.3 MCM 6 Decision Process – Rationale Statement**

The County and the township co-permittees each own and operate independent industrial sites for fleet maintenance and material storage. In coordination with co-permittees, a list of applicable sites was established. As each permittee is operating in a semi-autonomous role, each are expected to perform the necessary tasks to remain in compliance with this permit.

The County is committed to providing the highest quality training for its employees, as it believes these goals can only be achieved when everyone is equally informed. Thus, in effort to provide the best





information in an efficient and consistent manner, information and publications provided through the Ohio EPA will be utilized. To further maintain consistency, these trainings will be provided by the Montgomery County Stormwater Program Manager and be conducted on a regular basis. This program will be coordinated with Illicit Discharge and Public Outreach programs to the extent that the information provided will be consistent and cross-referenced appropriately.

In order to fix problems, one must first be aware of them. Thus, Montgomery County and its copermittee townships will regularly conduct inspections of their respective municipal operations sites and update facility SWP3's as necessary. These inspections shall include documentation of waste removal, facility repairs, road salt and brine usage, miles logged by street sweepers, and flood management projects.

Success of this minimum control measure will be highly subjective, as these best management practices (BMP) have no total maximum daily limits (TMDL) associated. As such, Montgomery County and co-permittees are committed to monitoring the effectiveness of these good housekeeping measures and provide adjustments when deemed necessary to prevent or reduce pollution from municipal operations sites.

#### **6.4 Best Management Practices**

The following municipal facilities require SWP3s:

- Montgomery County owned facilities
  - Environmental Services Maintenance – 18520 Spaulding Road
  - Little Richmond Operation Facility – 5625 Little Richmond Road
  - Diamond Mill Operations Yard – 2769 South Diamond Mill Road
  - Environmental Services Transfer Station – 1001 Encrete Ln
- Co-Permittee Facilities
  - Miami Township – 10891 Wood Road  
Miamisburg, Ohio 45342
  - Washington Township – 8200 McEwen Road  
Dayton, Ohio 45458
  - Harrison Township – 2409 Rector Ave  
Dayton, Ohio 45414

The following Tables outline the best management practices (BMPs) selected by Montgomery County to accomplish MCM 6:



### BMP: Employee Training

**Description of BMP:** The County will utilize available stormwater training materials to train County staff on stormwater related issues, good housekeeping and pollution prevention, and SWP3s.

Measurable Goal	Implementation Schedule and Frequency	Responsible Party
Provide one stormwater and good housekeeping training for County staff.	Annually	Montgomery County Stormwater Program Manager

**Rationale for BMP:** Training County staff is a very important aspect of reducing pollution from municipal facilities. Using materials and training already available results in efficiencies and consistent messaging.

**How BMP addresses TMDL:** While not directly linked to the TMDL, Municipal good housekeeping will reduce pollution to receiving streams.

### BMP: Municipal Facility SWP3's

**Description of BMP:** The County and township co-permittees will maintain and update SWP3s for all required municipal facilities.

Measurable Goals	Implementation Schedule and Frequency	Responsible Party
Maintain and update SWP3's or No Exposure Certification as needed for applicable municipal facilities.	Once per permit term	Montgomery County Engineer's Office, Co-Permittees
Conduct site inspections for each facility.	Quarterly as required by OHR000007	Montgomery County Engineer's Office, Co-Permittees

**Rationale for BMP:** SWP3's where applicable provide a plan for management of pollution from municipal facilities. Quarterly site inspection ensures the SWP3s are being followed.

**How BMP addresses TMDL:** While not directly linked to the TMDL, Municipal good housekeeping will reduce pollution to receiving streams.



## BMP: MS4 Operation and Maintenance Program

**Description of BMP:** The County will continue implementation of County's Operation and Maintenance Program for Municipal facilities.

Measurable Goal	Implementation Schedule and Frequency	Responsible
Document inspection, repair and replacement of storm sewer structures.	Annually	Montgomery County Engineers Office, Co-Permittees
Document amounts of waste properly disposed.	Annually	Montgomery County Engineers Office, Co-Permittees
Document the amount of road salt and brine applied to roads and herbicide/pesticide use.	Seasonal / Annually	Montgomery County Engineers Office, Co-Permittees
Document the number of miles logged in street sweepers.	Annually	Montgomery County Engineers Office, Co-Permittees
Flood Management Projects assessed for water quality.	As Needed	Montgomery County Engineers Office, Co-Permittees

**Rationale for BMP:** Implementing the SWPPP and practicing good housekeeping is important for reducing pollution from municipal facilities.

**How BMP addresses TMDL:** While not directly linked to the TMDL, Municipal good housekeeping will reduce pollution to receiving streams.



# Appendices

## Table of Contents

Appendix A	.....	List of Permitted HSTS
Appendix B	.....	Official Plan of the Aquifer Preservation Subdistrict
Appendix C	.....	Water Stewardship Brochure (MCD)
Appendix D	.....	Annual Public Outreach and Education Report – 2019 (MCD)
Appendix E	.....	MS4 Outfall Reconnaissance Inventory – Field Data Sheet

## Appendix A – List of Permitted HSTS

### HSTS Connected To Discharge To MS4

#### Montgomery County, Ohio

#### Compiled By:

#### Public Health - Dayton & Montgomery County

Updated 5/2017

#### MUNICIPALITY

#### STREET ADDRESS

Butler Twp	10633 Kley Road
Butler Twp	10797 Kley Road
Butler Twp	256 Armitage Street
Butler Twp	2925 Little York Road
Butler Twp	728 Martindale Road
Butler Twp	2275 Sleepy Hollow Lane
Butler Twp	4428 Poplar Creek
Clay Twp	11064 Wengerlawn Road
Clay Twp	11507 Preble County Line Road
Clayton	145 S. Kimmel Road
Clayton	21 Clinton Street
Clayton	30/32 E. Salem Street
Clayton	4 W. Salem Street
Clayton	42/44 E. Salem Street
Clayton	47 Talmadge Road
Clayton	48 Talmadge Road
Clayton	50 E. Salem Street
Clayton	363 E. Salem Street
Clayton	5361 Westbrook Road
Clayton	55 W. Salem Street
Clayton	6179 Southway Drive
Clayton	6880 Taywood Road
Clayton	79 W. Salem Street
Clayton	8200 Crestway Drive
Clayton	87 Talmadge Road
Clayton	87 W. Salem Street
German Twp	10065 Little Forest Drive
German Twp	6823 S. Diamond Mill Road
Harrison Twp	1920 Bartley Road
Harrison Twp	3271 Benchwood Road
Harrison Twp	3291 Benchwood Road
Harrison Twp	3261 Benchwood Road
Harrison Twp	201 Rosewood Drive
Jefferson Twp	80 S. Diamond Mill Road
Miami Twp	6909 Manning Road
Miami Twp	8940 Jamaica Road

Miami Twp		9658 Cook Lane	
Miami Twp		4535 Crains Run Road	
Perry Twp		4652 Sulphur Springs Road	
Perry Twp		1494 Johnsville-Brookville Road	
Perry Twp	Proposed	531 N. Clayton Road	
Phillipsburg		64 E. Main Street	
Trotwood		6118 Hoover Avenue	
Trotwood		6362 Howie Street	
Trotwood		7600 Little Richmond Road	Richmond Road
Trotwood		9160 Post Town Road	
Union		421 St Rt 48	
Washington Twp		1050 Rahn Road	



## **Appendix B – Official Plan of the Aquifer Preservation Subdistrict**

### **Amendment No. 3 to the Official Plan of The Aquifer Preservation Subdistrict of The Miami Conservancy District Case No. 94-4414**

#### **INTRODUCTION**

THE AQUIFER PRESERVATION SUBDISTRICT of The Miami Conservancy District was formed on January 25, 1995. The petition to form THE AQUIFER PRESERVATION SUBDISTRICT stated its purpose was to develop and maintain an ongoing, basin-wide, technical program in support of comprehensive protection and management of the Greater Miami Valley's groundwater resources, to construct the improvements necessary in order to accomplish said purpose and to work with existing state, local, and regional agencies toward that purpose.

The Official Plan for THE AQUIFER PRESERVATION SUBDISTRICT was approved by the Conservancy Court on January 26, 1996. It was subsequently amended on August 27, 2004 and on May 31, 2007.

To better define THE AQUIFER PRESERVATION SUBDISTRICT, to adapt to a changing environment and advanced technologies, and to allow for an effective program that can evolve in response to stakeholder requests, this Amendment No. 3 to the Official Plan of THE AQUIFER PRESERVATION SUBDISTRICT of The Miami Conservancy District was created.

Section 6101.13 Ohio Revised Code states in part:

*The board of directors of a conservancy district shall have full power and authority to devise, prepare for, execute, maintain, and operate all works or improvements necessary or desirable to complete, maintain, operate, and protect the official plan. It may secure and use workers and equipment under the supervision of the chief engineer or other agents, or it may enter into contracts for the works, either as a whole or in parts.*

Section 6101.71 Ohio Revised Code states in part:

*Whenever it is desired to construct improvements wholly within, or partly within and partly without, any conservancy district, which improvements will affect only a part of the district, for the purposes of accomplishing such work, subdistricts may be formed.*

## **PURPOSE**

The purpose of THE AQUIFER PRESERVATION SUBDISTRICT is to develop and maintain an ongoing, watershed-wide program in support of comprehensive protection, management, and understanding of the region's water resources; to implement improvements and actions necessary in order to accomplish said purpose; and to work with existing federal, state, local, and regional agencies toward that purpose.

The income, assets, costs, and obligations of THE AQUIFER PRESERVATION SUBDISTRICT will be kept legally separate from those of the main district's flood protection system and other subdistricts.

## **STATEMENT OF THE PLAN**

THE AQUIFER PRESERVATION SUBDISTRICT will

- Gather and provide water resource information for a variety of purposes.
- Perform analyses of groundwater, surface water, related natural resources, and land use conditions to aid planning and preparedness.
- Study human impacts on water resources to help identify sources of impairment and potential solutions.
- Provide technical and financial support for local efforts to implement water resource protection and management strategies.
- Provide and/or support public education and outreach to support understanding, protection and management of water resources.
- Implement practices designed to protect aquifers, rivers, streams, riparian zones, and related habitat.
- Facilitate, support, and or participate in coalitions and collaborative efforts.
- Engage in actions, programs, or projects consistent with the defined subdistrict purpose.

THE AQUIFER PRESERVATION SUBDISTRICT activities may not adversely affect access to, operation of, or maintenance of dams, levees, maintained channels, floodwalls, revetment, floodgates, or other infrastructure related to the MCD flood protection system.

THE AQUIFER PRESERVATION SUBDISTRICT will continue to play a non-regulatory role, with the emphasis on providing technical data and expertise to public and private organizations and to interested individuals.

THE AQUIFER PRESERVATION SUBDISTRICT will cooperate with federal, state, regional, and local agencies to share information and avoid duplication of effort.

THE AQUIFER PRESERVATION SUBDISTRICT will not take private property using the power of eminent domain, nor enter upon private property for subdistrict activities without prior permission from the property owner.

Success of THE AQUIFER PRESERVATION SUBDISTRICT program depends on stakeholder input. In order to gain this input, THE AQUIFER PRESERVATION SUBDISTRICT will make every effort to ensure that this input is continuous. Needs expressed by stakeholders, including water users, water experts, local administrators and agencies working on water resources projects and programs in the Great Miami River watershed will be prime factors in developing specific goals, projects, and activities.

THE AQUIFER PRESERVATION SUBDISTRICT will publish a summary report of program accomplishments each year.

In addition, a comprehensive summary of all work performed will be presented to the elected body of each participating County every eight years. A revised budget and assessment schedule will also be provided if there are proposed changes. At that time the Board of Directors and Conservancy Court will be asked to consider input received from each participating County. The Board and Court will use the input provided and make a determination regarding the continuation of the program.

Any proposed future modifications to the Official Plan will be presented to the County Commission of each participating County for review. The Board of Directors and Conservancy Court will consider any comments received from the Counties before approving modifications to the Official Plan.

The work of THE AQUIFER PRESERVATION SUBDISTRICT is subject to the limitations of geography and funding as described below.

## **GEOGRAPHIC AREA**

The geographic boundaries of THE AQUIFER PRESERVATION SUBDISTRICT are meant to accommodate, simultaneously and as reasonable as possible, the aquifer systems within the Great Miami River watershed, the realities of political boundaries, the logistics of administering the program, and preferences expressed by individual county governments at the time THE AQUIFER PRESERVATION SUBDISTRICT was formed. THE AQUIFER PRESERVATION SUBDISTRICT includes all of Clark, Miami, Montgomery, Preble, and Shelby counties and parts of Butler, Greene, Hamilton, and Warren counties, all in the State of Ohio, as shown in Exhibit A.

## **BENEFITS**

The availability of clean, safe, water is critical to the success and prosperity of any region.

Individuals, property owners, corporations, political entities, and other organizations will benefit from THE AQUIFER PRESERVATION SUBDISTRICT program activities. Advantages realized because of THE AQUIFER PRESERVATION SUBDISTRICT activities may include:

- Improved public health and safety
- Elevated quality of life
- Increased ecosystem benefits
- Enhanced property values
- Improved economic activity

- Enhanced recreation opportunities

The Miami Conservancy District Board of Appraisers shall establish the value of the benefits the participating counties receive through the existence of THE AQUIFER PRESERVATION SUBDISTRICT programs.

6101.34 Ohio Revised Code states in part:

*If it appears to the satisfaction of the court after having heard and determined all the exceptions filed pursuant to section 6101.33 of the Revised Code that the estimated cost of constructing the improvement contemplated in the official plan is less than the benefits appraised, then the court shall approve and confirm the report of the board of appraisers of a conservancy district as modified and amended, and, except as otherwise provided in sections 6101.43, 6101.54, 6101.60, and 6101.78 of the Revised Code, such findings and appraisals are final and incontestable.*

## **FUNDING**

The entire area within THE AQUIFER PRESERVATION SUBDISTRICT boundaries benefits from the availability of clean, safe water resources. Therefore, each of the nine counties within THE AQUIFER PRESERVATION SUBDISTRICT boundaries shall share the subdistrict costs.

The benefits for each county shall be determined on an equitable basis by the Board of Appraisers and presented to the Conservancy Court for approval. The Board of Directors shall determine an appropriate rate to be applied to the approved benefits for levying assessments in accordance with Section 6101.53 of the Ohio Revised Code.

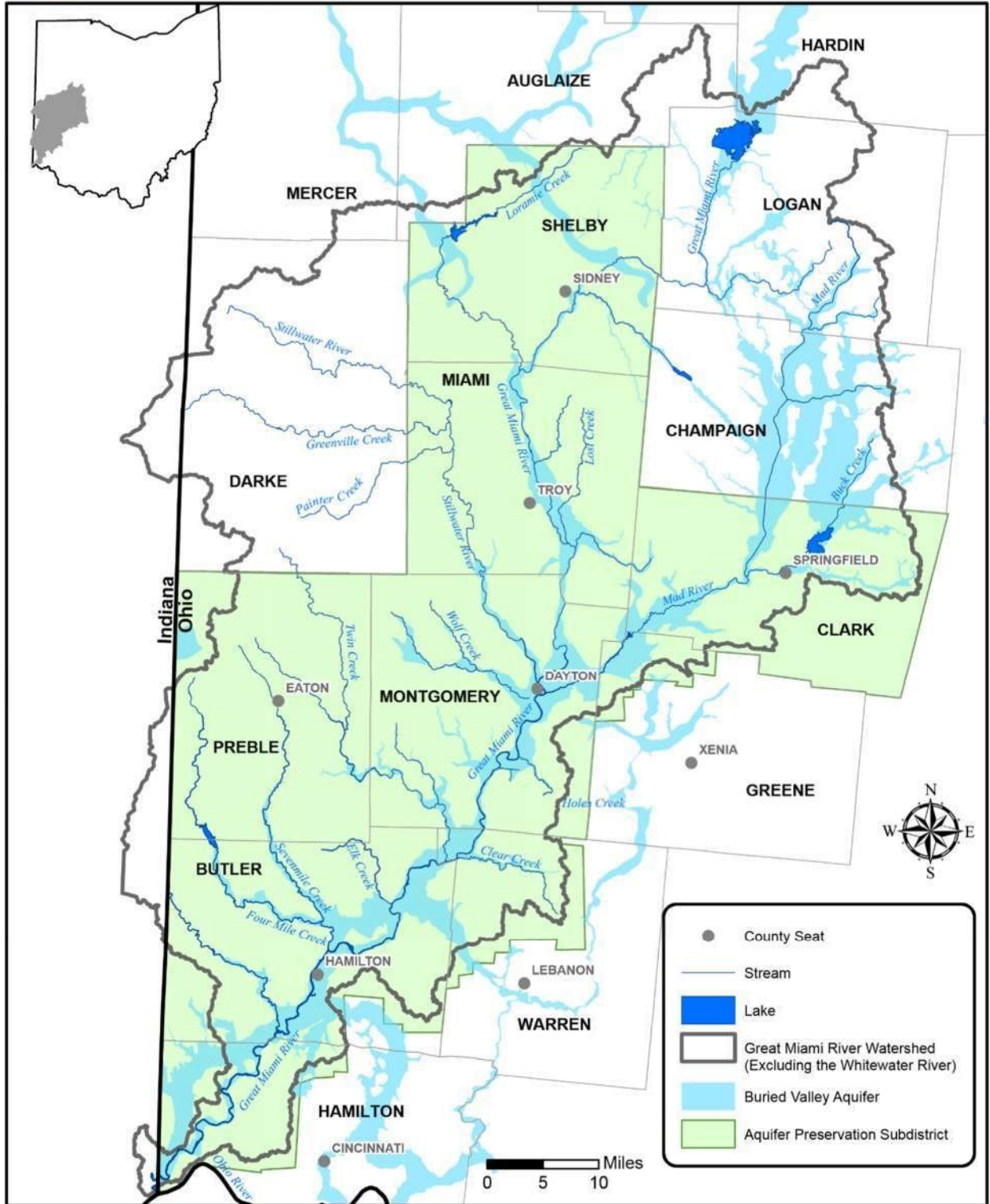
THE AQUIFER PRESERVATION SUBDISTRICT activities and programs may also be conducted using contributed funds from private or public contributions or grants.

## **TERMINATION OF PRIOR PLANS**

All prior Official Plans for THE AQUIFER PRESERVATION SUBDISTRICT approved by the Conservancy Court are hereby amended and replaced with this Amendment No. 3 to the Official Plan of THE AQUIFER PRESERVATION SUBDISTRICT of The Miami Conservancy District. All existing contracts, agreements, permits, and commitments by THE AQUIFER PRESERVATION SUBDISTRICT shall remain in force and not be affected by this Amendment No. 3 to the Official Plan of THE AQUIFER PRESERVATION SUBDISTRICT of The Miami Conservancy District.



# EXHIBIT A Aquifer Preservation Subdistrict Geographic Area



## Appendix C – Water Stewardship Brochure (MCD)



# Water Stewardship

Summary Report 2012 - 2019

### Value of water

## Region's great asset serves as economic driver

**We all know we can't live without water. But have you ever considered how critical water is to your community in terms of jobs, tourism and economic vitality?**

This region boasts many clean rivers and abundant groundwater.

The Great Miami, Stillwater, and Mad rivers along with their tributaries are wonderful for paddling and recreation. Equally important, they allow communities to develop riverfronts with shopping, attractions, and housing—all of which further enhance recreation and tourism.

Rivers are about jobs, too.

"Today's jobseekers, when deciding where to put down roots, are looking for fun and active experiences," says Chris

Kershner, executive vice president, Dayton Area Chamber of Commerce. "So, all of these new riverfront developments play not only into increasing tourism but into workforce attraction and retention."

It's not just our rivers that provide economic vitality. The buried valley aquifer provides a safe and plentiful supply of water that can be treated for drinking fairly inexpensively.

The buried valley aquifer supplies agriculture and industry with a reliable supply of water for irrigation and manufacturing. The aquifer provides continuous seepage to the Great Miami River even during dry periods, helping to sustain river flow for fish habitat and making the Great Miami attractive for paddling and rowing. And it provides geothermal heating and cooling opportunities.



MCD's work to monitor and protect the water in the aquifer from pollution makes this region more resilient.

Our region's abundant water allows us to better cope with drought conditions. Seasonal water shortages are less common, and communities don't have to pay for more expensive treatment to make groundwater safe for drinking.

## MCD and Water Stewardship

MCD works to help protect and improve water for people living and working within the Great Miami River Watershed—a 3,946-square-mile area in southwest Ohio. Using data collected by our staff and partners, we work collaboratively with elected officials and community leaders, providing them with valued research and insight. This helps support the overall health and growth of our region. This work is funded through MCD's Aquifer Preservation Subdistrict.

Protecting | Preserving | Promoting



Protecting | Preserving | Promoting

# Water challenges

*Actions big and small will be necessary*

This region boasts abundant, high-quality water when compared to other parts of the country and the world. Yet, our water supply is vulnerable and could be threatened.

Here are several water challenges that community leaders may have to face for the foreseeable future.

### Challenge No. 1 More frequent and intense rain events

Precipitation and runoff are trending upward.

The average annual precipitation has increased about 5 inches over the last 30 years. Runoff, the part of precipitation that flows downhill into streams and rivers, shows a similar trend.

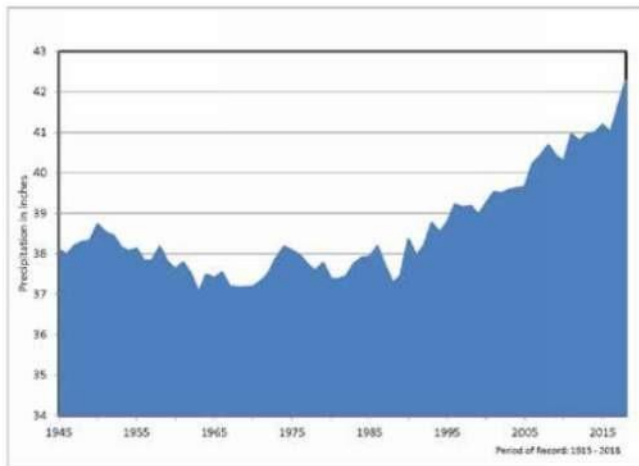
The good news is more rain means the region is unlikely to be susceptible to long-term water shortages. The bad news is our region could experience more fre-



*Precipitation is on the rise in the region, increasing about 5 inches over the past 30 years.*

quent flooding in areas not protected by MCD dams and levees.

Overcoming this challenge requires rethinking the way we currently manage stormwater. Green engineering uses techniques that filter pollution, slow rainwater, and allow water to drain to the aquifer instead of running off into rivers and streams. These techniques include pervious surfaces in parking lots, rain gardens, and green roofs.



*The 30-year average annual precipitation for the Great Miami River Watershed, 1945-2018*

### Challenge No. 2 Water use is trending downward

Water is used for drinking, manufacturing, and irrigation. But the amount of water used has declined as much as 50 percent over the last 20 years or so, according to the Ohio Department of Natural Resources. Water-efficient plumbing fixtures, increased efficiencies in industry, and a regional decline in manufacturing have led to the downward trend.

Unfortunately, declining water use also results in lower revenues for water utilities at a time when they are faced with rising costs to maintain infrastructure. It is possible that some water utilities will need to restructure rates to ensure adequate revenue.



*High levels of nutrients lead to excessive algae growth that can be unsafe for human contact.*

### Challenge No. 3 Nutrient pollution in rivers and streams

Nitrogen and phosphorus levels in local rivers and streams are too high. This can lead to excessive algae growth and deadly conditions for fish and aquatic insects. Certain kinds of algae can also create toxic water that is unsafe for human contact.

To reduce nutrient pollution, incentives can be created for farmers so they can afford to reduce nutrient runoff and keep fertilizer on the land where it helps crops grow. We also need to reduce the amount of nutrients discharged into rivers from water reclamation facilities, home sewage treatment systems, and lawn application.





*Better ways of applying road salt need to be found to protect our drinking water sources. Photo: Butler County Engineer's Office*

#### Challenge No. 4 Road salt and nutrients impact groundwater

High levels of chloride from road salt can affect the taste of drinking water and make it more corrosive to lead and copper in pipes. High levels of nitrogen (nitrate) in drinking water pulled from private wells can be deadly for infants.

Better methods of applying fertilizers and road salt should be embraced so they don't pollute drinking water sources. In addition, owners of septic systems should maintain them properly so they don't fail and contaminate well water.

#### Challenge No. 5 Destruction of natural stream habitats

The day when the factory was the big polluter is history. According to Ohio EPA, changes to the shape of stream channels are perhaps the most widespread cause of stream destruction. Projects that straighten a stream's channel, remove trees and bushes from streambanks, and increase impervious surface area are today's threats to clean rivers and streams.

Overcoming these threats involves a combination of actions, including protecting stream channels and banks, and limiting development in natural floodplains.

#### Challenge No. 6 Micropollutants threaten clean water

Only trace amounts of human-made compounds are being found in rivers, streams and aquifers. But no one knows how much is too much when it comes to personal care products (such as shampoos and deodorants), firefighting foams, and prescription drugs. Many of these micropollutants are flushed down the toilet or washed down the drains of kitchen and bathroom sinks. Traditional water treatment technology can't remove all micropollutants and they find their way into rivers and streams when the water leaves the treatment plant.

Ultimately, it may be necessary to eliminate certain chemicals found to be highly toxic to human and/or aquatic life. Keeping them out of consumer markets may be the only way to keep them out of our drinking water, and river and streams. Advanced water treatment technology is costly but may be necessary.

**Together, we will need to commit to actions, big and small, to protect our region's water.**

## Take action

MCD can help your community address these water challenges. Most of these challenges are the direct or indirect result of how we live our lives—the neighborhoods we build, the services we demand, and the value we place on having clean water.

### We can help you...

- Fully implement your community's source water protection plan.
- Encourage land developers to use green alternatives to manage stormwater and filter runoff.
- Support voluntary incentives for farmers to reduce nutrient runoff.
- Include water management in short- and long-range community planning.
- Keep water protection at the top of your community's priorities.
- Write local land-use policies that protect water.
- Advocate for federal investment in water infrastructure upgrades.
- Build awareness of the importance of protecting our region's water.



*MCD gathers input to help communities protect water.*



Protecting | Preserving | Promoting

# Building resiliency

*Communities taking steps now to prepare for future*

**Many communities have taken steps to build resiliency and address water challenges. Here are a few examples.**

## Reducing water pollution by improving land development

Using an inclusive approach to improving development, the City of Springfield invited everyone with a stake in land use, economic development, and water resources to the table. Together, they crafted small changes to codes and ordinances that encourage developers to use green stormwater controls (rain gardens, pervious pavers, etc.) to comply with stormwater requirements.

The city tapped into MCD's knowledge of water management, community planning, and consensus building to create a plan that will save millions of dollars compared to building expensive underground stormwater storage.

## Keeping groundwater safe through prairie plantings

Tipp City permanently protected land over the aquifer by using conservation easements and deed restrictions. The city planted a prairie on the land to filter pollutants. With MCD's help and matching funds, Tipp City leveraged Clean Ohio Green Space Conservation grants to secure its source water protection.

## Protecting source water areas through planning

Every community that owns, and/or operates wells for drinking water should spend time researching, writing, and implementing a plan to protect its water and well field. MCD has resources to help communities tackle the planning process. Recently, MCD helped the Village of Cleves research and create its source water protection plan.

A plan should include sections on:

- Investigating potential contaminant sources.
- Reducing threats.
- Emergency response for spills.
- Contingency for alternate sources.
- Water monitoring.

## Increasing groundwater recharge through progressive stormwater techniques

With assistance from MCD, communities across the watershed have built projects that utilize natural landscapes to reduce runoff and improve recharge back to the aquifer. These practices can be more effective and cheaper than traditional alternatives such as curb and pipe systems.

A few examples include an underground stormwater retention and rainwater reuse system at the Milton-Union Exempted School District; and rain gardens at Montgomery Soil and Water Conservation District office, St. Christopher's Church in Vandalia, and Madden Hills Park in Dayton.



*Rain gardens (above) and prairies (right) are helping communities build resilience to our region's water challenges.*





## MCD helps communities protect water

### Need help protecting your water? MCD is here for you.

Our staff can collaborate with you to develop source water protection plans, protect sensitive lands along rivers and over the aquifer, and conduct investigations. Here is a sampling of recent projects:

- Partnered with universities and agencies to study important groundwater issues such as PFAS, nutrient pollution, and naturally occurring contaminants.
- Installed native plants and prairies to filter pollutants and help wildlife.
- Investigated pollution threats to groundwater, including arsenic, micropollutants, road salt, and nutrients.
- Studied the impact of low dam removal on the Great Miami River.
- Developed a model to inform paddlers of river bacteria levels.
- Sealed abandoned wells that otherwise could serve as a conduit for pollution to the aquifer.
- Permanently conserved land over sensitive aquifers and along rivers and floodplains.

- Partnered with a utility and a university to develop a groundwater observatory. Knowledge scientists gain at the observatory enhance community efforts to protect groundwater that is used for drinking water.

- Educated septic system owners on the importance of proper maintenance.

- Helped private well owners test their water to make sure it's healthy for their families.

- Represented the region at the state and federal levels.

Have a project you need help with? Call Sarah Hippensteel Hall at (937) 223-1271.



*MCD Hydro-technician Alex Hackney measures bacteria levels in the Great Miami River.*

## Lacy named 2019 Technician of the Year

Krystal Lacy, lead worker for the MCD hydrology team, has been named 2019 Technician of the Year by the Water Management Association of Ohio (WMAO).

As the lead worker, Krystal manages a team that is responsible for the operation and maintenance of 24 stream gages, 42 precipitation observer stations, 96 observation wells, 12 groundwater monitoring wells, and four nutrient monitoring stations.



*Krystal Lacy*



*Arsenic poisoning can lead to a number of health-related illnesses, including cancer.*

### Arsenic Testing key for private well owners

A silent killer lurks in private wells used for drinking water. An MCD groundwater study shows that drinking water in up to 20 percent of private wells in our region contains high levels of naturally occurring arsenic. Long-term exposure to arsenic through drinking water is associated with multiple serious and chronic health problems, including cancer.

#### Elevated arsenic levels not uncommon

Arsenic is present in local aquifers but private well owners may not realize it. Under the right conditions, groundwater dissolves arsenic in the aquifer and carries it into wells. Public water systems must test for arsenic. If levels are high, they must remove it. Private well owners usually are not required to test for arsenic so they may be unaware.

#### Test your well

Everyone with a private well should have their water tested for arsenic. Private well owners can learn more about testing at [bit.ly/PrivateWells1](https://bit.ly/PrivateWells1) or scan this QR code.



#### Arsenic removal systems

If tests reveal a high level of arsenic, there are options for removing it. MCD studies have shown the higher the level of arsenic, the less effective arsenic removal systems tend to be. Levels in this region, however, are often low enough for the removal system to be effective.

## Nutrient Pollution

### No “silver bullet” to improving Great Miami River water quality

Although water quality in our rivers and streams has seen great improvements over the past few decades, there’s still more work to do.

#### What’s the problem?

MCD’s water experts track nutrient loads in our waterways. Total amounts of phosphorus and nitrogen are very high. Nutrients come from many sources, including agriculture, lawn fertilizers, wastewater treatment plants, sewer overflows, leaking septic systems, and precipitation.

Nutrients fuel excessive algae growth, which can lead to toxic water conditions. Nutrients harm fish and insect communities in rivers and streams. Those same nutrients negatively impact water that flows downstream to the Ohio River all the way to the Gulf of Mexico. High levels of nutrients in groundwater could poison drinking water wells.

#### What can be done?

It’s a challenge. That’s what a recent study showed. Even with drastic nutrient reductions from wastewater treatment plants, algal levels in the river would remain too high.

The solution to excessive nutrients in this region likely lies in some combination of nutrient reductions at both the farm and wastewater treatment plants.

#### Market-based solution works to improve water quality

A market-based pilot project showed promise.

MCD partnered with federal, state, and local groups to create the Great Miami River Watershed Water Quality Credit Trading Program.



Farmers can plant cover crops to reduce nutrient (fertilizer) runoff.

Farmers were paid to plant cover crops, and manage fertilizer application and manure storage to keep nitrogen and phosphorus on their land. During the pilot, 467 agricultural projects were installed.

More than \$3 million in funding for the pilot program came from local communities and federal agencies.

The pilot trading program reduced an estimated 626 tons of nutrients and proved that innovative, market-based solutions can be successfully implemented.

*MCD facilitated the trading program, the modeling study, and provided technical support and water quality data. A partnership including: the cities of Dayton, Englewood, Union; Tri-Cities Wastewater Authority on behalf of the cities of Huber Heights, Vandalia, and Tipp City; and Butler County provided funds.*

## Water data pays off

Reports, case studies, and water data may not seem glitzy, but they can provide a big return on investment for communities.

In one instance, several community partners saved hundreds of thousands of dollars when the contractor was able to use research from MCD’s water library.

MCD’s studies and reports, themselves are useful. But together they offer a depth of knowledge to communities, providing great value and better protecting water for the future.

Among MCD’s studies and reports are:

- Investigation of nitrate sources (2019).
- E. coli (bacteria) monitoring report that lead to a model that informs paddlers of river bacteria levels (2018).
- Groundwater quality survey and contaminant trends study/report (2018).
- Study of historic groundwater level trends in in the Great Miami River Watershed (2017).
- Summary of nutrient loads, yields, and mean concentrations in the watershed (2006-2016).
- Investigation of the effectiveness of arsenic removal methods from drinking water (2015).
- Survey of pharmaceuticals and personal care products in the streams and aquifers in the watershed (2011).



Access these reports at [bit.ly/WaterStudies](https://bit.ly/WaterStudies) or scan this QR code.

#### MCD water data—see for yourself

Want to learn more about precipitation in the region? Groundwater levels? The health of our streams and aquifers?

MCD has a new cloud-based water information management system. A web portal allows you to research everything from recent rainfall to long-term groundwater levels to water quality sampling results.

To access the data, go to [waterdata.mcdwater.org](https://waterdata.mcdwater.org).

*MCD Hydro-technician Elli Sigmond works to prepare information for the new water data web portal.*







### Toledo's water crisis

## Could it happen here?

In 2015, pollution in Lake Erie halted Toledo's delivery of its drinking water to 400,000 people for several days. It happened when water Toledo pulls from the lake was found to have dangerously high levels of microcystin, a toxin that is produced by algae.

Microcystin is highly toxic to the livers of humans and animals.

### Could algal toxins shut down our water, too?

A similar scenario is less likely here because this region draws nearly all of its drinking water from the aquifer rather than a river or lake. However, an overabundance of nutrients in our watershed (the land area that drains to the Great Miami River) can lead to the growth of algae in our rivers, streams, and lakes.

### How do we know what's in our waterways?

For 15 years, MCD has collected nutrient data regularly from our rivers. The data show that levels of both nitrogen and phosphorus are too high at certain times of the year. The levels change with rainfall and other seasonal conditions.

So far, MCD has not detected a toxic algal bloom. But because algae can grow in area rivers, MCD will continue to monitor as needed for algal blooms that could impact public health.

## Great Miami River Watershed



## About the Great Miami River Watershed

- The Great Miami River Watershed is all of the land that drains to the Great Miami River.
- There are 3,946 square miles in the Great Miami River Watershed.
- 68 percent of the land in the watershed is used for agriculture while 18 percent is developed (urban areas). The remainder of land is forested, open water, wetlands and other uses.
- 6,600 miles of rivers and streams flow within the watershed.
- 1.5 trillion gallons of good quality water are stored in the watershed's buried valley aquifer.
- 2.3 million people get their water from the buried valley aquifer.
- Land uses can impact the quality and quantity of our water.



MCD Hydro-technician Maya Canaztj discusses groundwater with a well owner at a Test Your Well event.

2012-2019

## Water stewardship by the numbers

Through sponsorships and leadership, MCD helps protect rivers and streams, helps homeowners test their water, and raises awareness of the value of water.

### Sponsorship

**1.2 million** visitors to the SPLASH! exhibit at the Boonshoft Museum of Discovery.

**20,000** visitors to the University of Dayton Rivermobile, a traveling exhibit about water.

**1,601** Test Your Well private water samples. Residents received free and confidential screenings for nitrates and other pollutants in their private well water.

**124.8** tons of trash and debris, including 3,218 tires, collected by 7,200 volunteers as part of the Clean Sweep of the Great Miami River.

**53,400** visitors to the Warren County water education trailer.

**20,774** students learned about water during the University of Dayton and Butler County children's water festivals.

**1,000** students learned about water resources through hands-on activities with the Trout in the Classroom program.

**15** breweries and coffee shops throughout the watershed spread the "value of water" message through drink coasters and coffee sleeves provided by MCD. The campaign was part of a national effort.

### Leadership

**60** people participated in the Greater Dayton Environmental Leaders program. MCD staff helped create the program that trains early-career community members to become leaders in advocating for the environment.

**20** years' recognition of MCD by the Groundwater Foundation for management practices that protect groundwater.

## MCD Aquifer Preservation Subdistrict

The purpose of The Aquifer Preservation Subdistrict is to develop and maintain an ongoing, watershed-wide program in support of comprehensive protection, management, and understanding of the

region's water resources; to implement improvements and actions necessary; and to work with existing federal, state, and local agencies.

### General Manager



Janet M. Bly

## The Team

The Water Stewardship team is led by managers Mike Ekberg and Sarah Hippensteel Hall.

Mike Ekberg is MCD's manager of water resources monitoring and analysis. A hydrogeologist, Mike is responsible for all MCD operations concerning collection of water quantity and quality data.

Sarah Hippensteel Hall, Ph.D., is MCD's manager of watershed partnerships. She builds diverse partnerships throughout the Great Miami River Watershed. In 2012, Sarah received the Distinguished Service Award from the Water Management Association of Ohio.

Team members are lead worker of the monitoring team Krystal Lacy; and hydro-technicians Alex Hackney, Elli Sigmond, and Maya Canaztj.



Mike Ekberg



Sarah Hippensteel Hall



38 E. Monument Avenue  
Dayton, Ohio 45402-1265

[MCDWATER.ORG](http://MCDWATER.ORG)

Contact us at (937) 223-1271 or [bgibson@mcdwater.org](mailto:bgibson@mcdwater.org)

Subscribe to our blog at [MCDWater.blog](http://MCDWater.blog)



@MCDwater



@MCDwater





## Appendix D – Annual Public Outreach and Education Report 2019 (MCD)

### *Presentations*

Throughout the year, MCD staff members provide dozens of presentations to professional organizations; stakeholder groups; university classes; and local, state, and federal entities. MCD staff presented:

- "Solving Water Challenges Using a Regional Approach" at the University of Dayton.
- "Great Miami Riverway" to the Dayton Chamber of Commerce Board of Directors.
- "Tait Station Low Dam on the Great Miami River" at the Stormwater Seminar XVIII 2019 in Piqua.
- "The Miami Conservancy District" to the Riverdale Optimist Club.
- "MCD-USGS Cooperative Study on the Occurrence of Per- and Polyfluorinatedalkyl Substances (PFAS) in Groundwater," and "MCD Updates" to the Great Miami River Watershed Network.
- "Groundwater Level Trends in the Great Miami River Basin" to the Workgroup for Water Resources Monitoring, Ohio Department of Natural Resources in Columbus.
- "Solving Water Challenges Using a Regional Approach" and "MCD and Water" to the University of Dayton's OSHER Lifelong Learning Institute.
- "MCD: Yesterday, Today, and Tomorrow" to the Downtown Dayton Priority Board.
- "Groundwater—The Miami Valley's #1 Source of Drinking Water" and "Preserving Water Resources in the Great Miami River Watershed" to students at the University of Dayton.
- "Water, MCD, and Community Development" to the Dayton Women's Literary Club Guest Tea in Kettering.
- "Why Water?" to the City of Dayton Water Career Conference at the University of Dayton Arena.
- "Flood Protection—A Priority Yesterday, Today, and Tomorrow" to the Lions Club of Vandalia.
- "Huffman Dam" to the Webelos of Pack 329 in Riverside.
- "Removing Tait Station Low Dam on the Great Miami River" at Michigan State University in East Lansing, Michigan.
- "Urban Flooding and Resilience" at the Urban Flooding and Resilience Seminar in Dayton.
- "Preserving Water Resources in the Great Miami River Watershed" to the Rolling Hills Garden Club.
- "Preserving Natural Water Resources in the Great Miami River Watershed" at Wright State University.
- "Working Together for the Environment" to the Partners for the Environment.
- "The Miami Conservancy District and the History of Lockington Dam," and "Great Miami Riverway" at the Shelby County Bicentennial at the Village of Lockington.
- "Monitoring Water Using Your Senses" to students at the Butler County Water Festival.
- "Rivers of Opportunity" to the Ohio Water Environment Association at Ohio State University.
- "Flood Protection and Water Measurements" to a class from Antioch College.
- "Water Stewardship in the Great Miami River Watershed" to Fairborn High School's Advanced Placement Environmental Science class.
- "Preserving Water Resources in the Great Miami River Watershed" at the Miami University Middletown campus.
- "Removing Tait Station Low Dam on the Great Miami River" at the 2019 Water Management Association of Ohio (WMAO) conference in Columbus.

- "It Should Be Normal by Now—Using Systems Thinking to Protect Rivers" at the 2019 WMAO conference in Columbus.
- "Water and You" at the Boonshoft Science Festival.
- "Mad River Today and Tomorrow" at the Mad Men chapter of Trout Unlimited annual meeting in Springfield.
- "More Water is Coming: Is Your Community Plan Ready for the Future?" at the Miami Valley Planning and Zoning Workshop at Sinclair College.

### *Great Miami River Watershed Network*

MCD and the Miami Valley Regional Planning Commission (MVRPC) co-sponsor and facilitate the Great Miami River Watershed Network.

MCD and MVRPC staff jointly coordinated a meeting of the Great Miami River Watershed Network on March 14. The meeting focused on water contamination, testing, and mitigation from detection of per- and polyfluoroalkyl substances or PFAS. Speakers included representatives from Ohio Environmental Protection Agency and MCD.

On June 21, 80 people attended the Urban Flooding and Resilience Seminar hosted by MCD and MVRPC. The seminar featured Chad Berginnis, the executive director of the Association of State Floodplain Managers (ASFPM). Berginnis discussed the recently released report, "Framing the Challenge of Urban Flooding in the United States," by the National Academies of Science, Engineering and Medicine. He also discussed ASFPM programs and research, and developing issues such as flood insurance reform.

A panel of experts discussed urban flooding issues in local communities. The panel included: Kurt Rinehart, MCD Chief Engineer; Paul Gruner, Montgomery County Engineer; Jim Logan, City of Hamilton Executive Director of Infrastructure; and Anil Tangirala, ms consultants, inc., Water Resources Group Leader.

On September 11, 65 people attended a Nutrient Impairment Seminar hosted by MCD and MVRPC in Dayton. The seminar featured Dr. Elizabeth Dayton, soil scientist in the School of Environment and Natural Resources at The Ohio State University; Dr. Silvia E. Newell, associate professor of Earth and Environmental Sciences at Wright State University; Derek Schlea, PE, LimnoTech; and Mike Ekberg, MCD manager of water resources monitoring and analysis. Topics covered included the latest research, trends, and solutions to the persistent problem of nutrients in our rivers, streams, and lakes in the Great Miami River Watershed.

On December 12, 35 people attended a Network meeting, focused on agency updates, at the Wegerzyn Center inside Wegerzyn Gardens MetroPark. Sarah Hippensteel Hall and Mike Ekberg shared an eight-year review of accomplishments and future goals of MCD's water stewardship work. Matt Lindsay provided an overview of the MVRPC's new *Sustainable Miami Valley Tool Kit* resource guide for local government.

### *Water Bog*

MCD published a monthly blog to an average of nearly 800 subscribers via a free email marketing service. Staff promoted the blog on Twitter, Facebook, and the MCD website homepage. Among the topics in 2019, were precipitation, environmental impact of the Tait Station Dam removal, boating safety, and protecting

drinking water. The blogposts were compiled into a report at year-end (Report No. 2019-57). [Festivals and Events](#)

### Water Festivals

MCD provided a monetary donation using Aquifer Preservation Subdistrict (APS) funds to assist the City of Dayton with its 23<sup>rd</sup> annual Children's Water Festival. More than 1,500 fourth-grade students attended the 2019 event, which was held on the UD campus. The water festival provided students with a wide range of educational topics pertaining to water.

MCD staff presented at the Butler County Water Festival. The water festival was held at the Miami University Hamilton campus for nearly 1,000 students.

### River Cleanup

The Clean Sweep of the Great Miami River is an annual event with 15 coordinated sections and more than 80 sponsors, including MCD. These organizations work together to clean up the entire Great Miami River from Indian Lake to the Ohio River. MCD supported the Clean Sweep of the Great Miami River with a monetary donation using APS funds.

On July 19, nearly 30 MCD staff members participated in the Clean Sweep, collecting 2,470 pounds of trash and a few tires. Pieces of insulation, possible drywall and bedding were among the potential signs of May 27 tornado debris found. Given the Memorial Day tornadoes, MCD chose to walk the woods near Action Sports Center on Gateway Drive in Dayton and canoed from the Dayton Fire Training Center on the Mad River to the right bank of the Great Miami River behind Temple Israel. [Printed Annual Newsletter](#)

Each year, MCD produces *The Deed*, a publication highlighting the organization's major projects and accomplishments (Report No. 2019-15).

MCD published *The Deed* in July, and printed more than 37,000 copies. Property owners who pay a flood protection assessment received a copy of *The Deed* in the mail. MCD emailed *The Deed* to another 1,300 stakeholders, retirees, and friends; and posted it on the MCD website.

### MCD Website

From January through December, the MCD website recorded 20,757 users and 33,116 sessions, according to Google Analytics. The most popular pages for the website in 2019 were the home page, river conditions and river trails. (Report No. 2019-60)

### Social Media

MCD continued to work to develop greater brand exposure through social media. MCD calculated that it averaged 14 new followers and 22,442 impressions per month on Twitter in 2019. The top post on Facebook in

2019 was about the Mad River Trail closure following the Dayton tornadoes in May. It reached 7,889 people. (Report No. 2019-60)

The Aquifer Preservation Subdistrict (APS) of The Miami Conservancy District (MCD) develops and maintains an ongoing, watershedwide program in support of comprehensive protection, management, and understanding of the region's water resources. MCD staff performs work on behalf of APS. Projects, programs, and activities are paid for using APS funds. **Figure X** shows the APS boundaries, Great Miami River Watershed, and buried valley aquifer.

### ***APS Eight-Year Summary Report***

Staff drafted a comprehensive summary of all APS activities, programs, and accomplishments from 2012-2019 (Report No. 2019-55). The summary will be shared with the commissioners of the nine counties that fund APS. An eight-year summary is required by the APS Official Plan.

### ***Test Your Well***

Test Your Well helps private well owners understand their drinking water source through confidential well water screening.

Test Your Well events in 2019 were held in Greene, Montgomery and Warren counties and at a combined Butler-Preble county event. MCD supported these events with APS funding for laboratory supplies, test strips, and laboratory analyses, plus staff support. In all, 136 water samples were tested at the 2019 events.

### ***Value of Water Campaign***

Nearly 100 people entered MCD's "Value Water" contest during the last two weeks of October. The contest was held in conjunction with the national "Imagine a Day Without Water" campaign.

MCD again partnered with breweries and added coffee shops to the 2019 campaign. Each of the 11 breweries (increased from seven in 2018) and the four coffee shops distributed coasters or coffee sleeves. Patrons were invited to either take a selfie with the coaster or coffee sleeve and tweet it to #GreatWaterGreatDrinks or take a three-question water quiz on MCD's website to register to win a \$100 gift card. The overwhelming majority of people took the quiz. All names were entered for the drawing. The winning entry received a gift card to the participating brewery/coffee shop of her choice.

### ***UD Rivers Institute—River Stewards Senior Projects***

MCD provided \$5,000 of APS funds for the 2019 UD River Stewards program senior project. The funds were used to build a rain garden and interpretive signage at Madden Hills Park in Dayton. The rain garden is designed to filter stormwater runoff and improve infiltration to the aquifer.

In late 2019, MCD committed \$2,500 of APS funds for the 2020 UD River Stewards program capstone senior project. The funds will be used to print a children's book written by the students. The book will be an original story about the city, the watershed, the community, and its rivers.

### ***Modeling Bacteria Levels in Rivers for Safe Recreation***

MCD accepted a proposal from the UD School of Engineering to develop a bacteria model feature for the Great Miami Riverway website. The bacteria model uses regression equations to estimate E. coli levels at two locations—one on the Great Miami River in Dayton and one on the Mad River just downstream of Huffman Dam. The model is intended to be a source of information for paddlers on the Great Miami and Mad rivers who may be concerned about potential health risks associated with elevated levels of fecal bacteria. UD completed the web application in May, and the application was tested on a development server.

# Appendix E – MS4 Outfall Reconnaissance Inventory-Field Data Sheet

MS4 Outfall Reconnaissance Inventory  
Field Data Sheet

<b>SECTION 1</b>	Watershed/Stream:		Outfall ID:		
	Date:		Time:		
	Field Crew:				
	Conditions (circle): Sunny Partly Cloudy Overcast Windy Calm			Form Completed By:	
	Camera (model):		Photo Numbers:	GPS Unit (model):	
Land Use in Drainage Area (Check all that apply - This information may be collected in the office or the field, whichever is most convenient):					
<input type="checkbox"/> Industrial <input type="checkbox"/> Suburban Residential <input type="checkbox"/> Open Space <input type="checkbox"/> Urban-Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional      Other: _____					
<b>SECTION 2</b>	<b>LOCATION</b>	<b>MATERIAL</b>	<b>SHAPE</b>	<b>DIMENSIONS</b>	<b>SUBMERGED</b>
	<input type="checkbox"/> CLOSED PIPE	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER: _____	<input type="checkbox"/> CIRCULAR <input type="checkbox"/> ELLIPTICAL <input type="checkbox"/> BOX <input type="checkbox"/> OTHER: _____	DIAMETER/DIMENSIONS: _____ _____	In Water: <input type="checkbox"/> NO <input type="checkbox"/> PARTIALLY <input type="checkbox"/> FULLY
	<input type="checkbox"/> OPEN DRAINAGE	<input type="checkbox"/> CONCRETE <input type="checkbox"/> EARTHEN <input type="checkbox"/> RIP-RAP <input type="checkbox"/> OTHER: _____	<input type="checkbox"/> TRAPEZOID <input type="checkbox"/> PARABOLIC <input type="checkbox"/> OTHER: _____	DEPTH: _____ TOP WIDTH: _____ BOTTOM WIDTH: _____	With Sediment: <input type="checkbox"/> NO <input type="checkbox"/> PARTIALLY <input type="checkbox"/> FULLY
	FLOW PRESENT		<input type="checkbox"/> YES <input type="checkbox"/> NO <i>(If No, skip to section 4)</i>		
	FLOW DESCRIPTION (IF PRESENT)		<input type="checkbox"/> TRICKLE <input type="checkbox"/> MODERATE <input type="checkbox"/> SUBSTANTIAL		
<b>SECTION 3</b>	Are Any Physical Indicators Present in the Flow? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If No, skip to section 4)</i>				
	<b>INDICATOR</b>	<b>CHECK IF PRESENT</b>	<b>DESCRIPTION</b>	<b>RELATIVE SEVERITY INDEX (1-3)</b>	
	ODOR	<input type="checkbox"/>	<input type="checkbox"/> SEWAGE <input type="checkbox"/> PETROLEUM/GAS <input type="checkbox"/> RANCID/SOUR <input type="checkbox"/> SULFIDE <input type="checkbox"/> CHLORINE <input type="checkbox"/> OTHER	<input type="checkbox"/> 1-FAINT <input type="checkbox"/> 2-EASILY DETECTED <input type="checkbox"/> 3-NOTICABLE FROM A DISTANCE	
	COLOR	<input type="checkbox"/>	<input type="checkbox"/> CLEAR <input type="checkbox"/> GREEN <input type="checkbox"/> BROWN <input type="checkbox"/> GRAY <input type="checkbox"/> YELLOW <input type="checkbox"/> RED <input type="checkbox"/> ORANGE <input type="checkbox"/> OTHER	<input type="checkbox"/> 1-FAINT COLORS IN SAMPLE BOTTLE <input type="checkbox"/> 2-CLEARLY VISIBLE IN SAMPLE BOTTLE <input type="checkbox"/> 3-CLEARLY VISIBLE IN OUTFALL FLOW	
	TURBIDITY	<input type="checkbox"/>	SEE SEVERITY	<input type="checkbox"/> 1-SLIGHT CLOUDINESS <input type="checkbox"/> 2-CLOUDY <input type="checkbox"/> 3-OPAQUE	
FLOATABLES	<input type="checkbox"/>	<input type="checkbox"/> SEWAGE (TOILET PAPER, ETC.) <input type="checkbox"/> PETROLEUM (OIL SHEEN) <input type="checkbox"/> SUDS <input type="checkbox"/> OTHER: _____	<input type="checkbox"/> 1-FEW/SLIGHT; ORIGIN NOT OBVIOUS <input type="checkbox"/> 2-SOME; INDICATIONS OF ORIGIN (E.G. POSSIBLE SUDS) <input type="checkbox"/> 3-SOME; ORIGIN CLEAR (E.G. FLOATING SANITARY MATERIAL)		
<b>SECTION 4</b>	Are any Physical Indicators that are not related to flow present? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If No, skip to section 5)</i>				
	<b>INDICATOR</b>	<b>CHECK IF PRESENT</b>	<b>DESCRIPTION</b>	<b>COMMENTS</b>	
	OUTFALL DAMAGE	<input type="checkbox"/>	<input type="checkbox"/> SPALLING, CRACKING, OR CHIPPING <input type="checkbox"/> PEELING PAINT <input type="checkbox"/> CORROSION <input type="checkbox"/> DEFORMATION (INDICATE TYPE AND SEVERITY OF DEFORMATION)		
	DEPOSITS / STAINS	<input type="checkbox"/>	<input type="checkbox"/> OILY <input type="checkbox"/> FLOW LINE <input type="checkbox"/> PAINT <input type="checkbox"/> OTHER <input type="checkbox"/> SILTATION OF PIPE OUTFALL    % BLOCKAGE _____		
	ABNORMAL VEGETATION	<input type="checkbox"/>	<input type="checkbox"/> EXCESSIVE <input type="checkbox"/> INHIBITED		
	POOR POOL QUALITY	<input type="checkbox"/>	<input type="checkbox"/> ODORS <input type="checkbox"/> SUDS <input type="checkbox"/> EXCESSIVE ALGAE <input type="checkbox"/> COLORS <input type="checkbox"/> FLOATABLES <input type="checkbox"/> OIL SHEEN <input type="checkbox"/> OTHER		
	PIPE BENTHIC GROWTH	<input type="checkbox"/>	<input type="checkbox"/> BROWN <input type="checkbox"/> GREEN <input type="checkbox"/> ORANGE <input type="checkbox"/> OTHER		
EROSION UNDER OUTFALL	<input type="checkbox"/>	<input type="checkbox"/> MINIMAL <input type="checkbox"/> EXCESSIVE <input type="checkbox"/> MODERATE			
<b>SECT. 5</b>	<b>RECOMMENDED ACTIONS / ACTIONS TAKEN</b>				
	<input type="checkbox"/> DEBRIS REMOVED <input type="checkbox"/> PIPE IN NEED OF REPAIR <input type="checkbox"/> PIPE NEEDS TO BE REPLACED <input type="checkbox"/> SEDIMENT NEEDS TO BE REMOVED <input type="checkbox"/> NO ACTION NECESSARY <input type="checkbox"/> OTHER (DESCRIBE) →				
<b>SECT. 6</b>	<b>OVERALL OUTFALL CHARACTERIZATION</b>				
	<input type="checkbox"/> NO EVIDENCE <input type="checkbox"/> SUSPECT (ONE OR MORE INDICATORS WITH A SEVERITY OF 3) <input type="checkbox"/> POTENTIAL (PRESENCE OF 2 OR MORE INDICATORS) <input type="checkbox"/> OBVIOUS				

NOTES:

**Certificate Of Completion**

Envelope Id: BB432B1D763742319285D9F3C5D26BF3	Status: Completed
Subject: Complete with DocuSign: 2022-10-11 - SWMP 2022 Approved.pdf	
Source Envelope:	
Document Pages: 72	Signatures: 1
Certificate Pages: 4	Initials: 0
AutoNav: Enabled	Envelope Originator: Tracy Howell howellt@mcohoio.org
Envelopeld Stamping: Enabled	IP Address: 144.121.183.134
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	

**Record Tracking**

Status: Original 10/13/2022   12:05 PM	Holder: Tracy Howell howellt@mcohoio.org	Location: DocuSign
---	---	--------------------

**Signer Events**

Paul Gruner  
grunerp@mcohoio.org  
County Engineer  
Montgomery County  
Security Level: Email, Account Authentication (None)

**Signature**

DocuSigned by:  
  
93A66D4B086B4F5...  
Signature Adoption: Pre-selected Style  
Using IP Address: 12.197.122.3

**Timestamp**

Sent: 10/13/2022 | 12:08 PM  
Viewed: 10/13/2022 | 04:47 PM  
Signed: 10/13/2022 | 04:47 PM

**Electronic Record and Signature Disclosure:**  
Accepted: 3/16/2022 | 04:00 PM  
ID: 7932720d-a0c8-4ac3-b990-294238ba1336

**In Person Signer Events**

**Signature**

**Timestamp**

**Editor Delivery Events**

**Status**

**Timestamp**

**Agent Delivery Events**

**Status**

**Timestamp**

**Intermediary Delivery Events**

**Status**

**Timestamp**

**Certified Delivery Events**

**Status**

**Timestamp**

**Carbon Copy Events**

**Status**

**Timestamp**

Sky Schelle  
schelles@mcohoio.org  
Security Level: Email, Account Authentication (None)

**COPIED**

Sent: 10/13/2022 | 04:47 PM  
Viewed: 10/14/2022 | 07:26 AM

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

**Witness Events**

**Signature**

**Timestamp**

**Notary Events**

**Signature**

**Timestamp**

**Envelope Summary Events**

**Status**

**Timestamps**

Envelope Sent	Hashed/Encrypted	10/13/2022   12:08 PM
Certified Delivered	Security Checked	10/13/2022   04:47 PM
Signing Complete	Security Checked	10/13/2022   04:47 PM
Completed	Security Checked	10/13/2022   04:47 PM

**Payment Events**

**Status**

**Timestamps**

**Electronic Record and Signature Disclosure**



## **ELECTRONIC RECORD AND SIGNATURE DISCLOSURE**

From time to time, Montgomery County Internal (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

### **Getting paper copies**

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after the signing session and, if you elect to create a DocuSign account, you may access the documents for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

### **Withdrawing your consent**

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

### **Consequences of changing your mind**

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

### **All notices and disclosures will be sent to you electronically**

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

### **How to contact Montgomery County Internal:**

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: [bradforde@mcoho.org](mailto:bradforde@mcoho.org)

### **To advise Montgomery County Internal of your new email address**

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at [bradforde@mcoho.org](mailto:bradforde@mcoho.org) and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

If you created a DocuSign account, you may update it with your new email address through your account preferences.

### **To request paper copies from Montgomery County Internal**

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to [bradforde@mcoho.org](mailto:bradforde@mcoho.org) and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

### **To withdraw your consent with Montgomery County Internal**

To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your signing session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an email to [bradforde@mcoho.org](mailto:bradforde@mcoho.org) and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

### **Required hardware and software**

The minimum system requirements for using the DocuSign system may change over time. The current system requirements are found here: <https://support.docusign.com/guides/signer-guide-signing-system-requirements>.

### **Acknowledging your access and consent to receive and sign documents electronically**

To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please confirm that you have read this ERSD, and (i) that you are able to print on paper or electronically save this ERSD for your future reference and access; or (ii) that you are able to email this ERSD to an email address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format as described herein, then select the check-box next to ‘I agree to use electronic records and signatures’ before clicking ‘CONTINUE’ within the DocuSign system.

By selecting the check-box next to ‘I agree to use electronic records and signatures’, you confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- You can print on paper this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Montgomery County Internal as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Montgomery County Internal during the course of your relationship with Montgomery County Internal.