Lower Grand River Watershed Progress Report

Kent County Drain Commissioner and Administration

Reporting Period: August 1, 2017– July 31, 2018

Prepared by the:

GVMC

Grand Valley Metropolitan Council

Environmental Programs

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http://www.lgrow.org

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List of Abbreviations/Acronyms

AWRI	Annis Water Resources Institute
BMP	Best Management Practice
CES	Center for Environmental Study
CoC	Certificate of Coverage
DIP	Data, Information, and Procedures
DPW	Department of Public Works
GI	Green Infrastructure
GVMC	Grand Valley Metropolitan Council
HD	Health Department
ICMA	International City/Country Management Association
IDEP	Illicit Discharge Elimination Plan
I&E	Information and Education
KCDC	Kent County Drain Commissioner
KCRC	Kent County Road Commission
KIH	Kent Innovation High School
LGROW	Lower Grand River Organization of Watersheds
LGRW	Lower Grand River Watershed
LID	Low Impact Development
MACC	Macatawa Area Coordinating Council
MDEQ	Michigan Department of Environmental Quality
MGROW	Middle Grand River Organization of Watersheds
MS4	Municipal Separate Storm Sewer System
MSUE	Michigan State University Extension
MWEA	Michigan Water Environment Association
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
O&M	Operation and Maintenance
OCWRC	Ottawa County Water Resources Commissioner
PCC	Post-Construction Controls
PEP	Public Education Plan
POS	Point-of-Sale
SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sedimentation Control
SWPPI	Stormwater Pollution Prevention Initiative
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USEPA	U.S. Environmental Protection Agency
WMEAC	West Michigan Environmental Action Council
WMP	Watershed Management Plan
WMSECN	West Michigan Soil Erosion Control Network
WMSRDC	West Michigan Shoreline Regional Development Commission
WQI	Water Quality Index

Purpose

This Lower Grand River Watershed Progress Report was developed by the Grand Valley Metropolitan Council's (GVMC) Department of Environmental Programs in collaboration with the regulated communities within the Lower Grand River Watershed. This document satisfies the requirement set forth in the Michigan Department of Environmental Quality's (MDEQ) National Pollutant Discharge Elimination System (NPDES) Wastewater Discharge General Permit, Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4s) Subject to Watershed Plan Requirements as outlined in Section B(3).

Part 1 – Contact Information

Contact Information for Michigan Department of Environmental Quality (MDEQ):	
Please provide current contact information for MDEQ to use regarding stormwater issues.	
Permit Application Contact	
Name	Douglas Sporte
Title	Deputy County Drain Commissioner
Address	1500 Scribner Ave NW
City, State, Zip	Grand Rapids, MI 49504
Telephone (with area code)	616-632-7910
Fax (with area code)	616-632-7915
E-mail	doug.sporte@kentcountymi.gov
Stormwater Program Manager	
Name	Douglas Sporte
Title	Deputy County Drain Commissioner
Address	1500 Scribner Ave NW
City, State, Zip	Grand Rapids, MI 49504
Telephone (with area code)	616-632-7910
Fax (with area code)	616-632-7915
E-mail	doug.sporte@kentcountymi.gov
Stormwater Permit Fee Billing Address	
Name	Douglas Sporte
Title	Deputy County Drain Commissioner
Address	1500 Scribner Ave NW
City, State, Zip	Grand Rapids, MI 49504
Telephone (with area code)	616-632-7910
Fax (with area code)	616-632-7915
E-mail	doug.sporte@kentcountymi.gov

Part 2 – Municipal Stormwater Pollution Prevention Initiatives (SWPPI) Commitments

Committees have been working to address different subject areas to make program implementation as efficient as possible. Municipal Separate Storm Sewer System (MS4) permittees participate in the Lower Grand River Organization of Watersheds (LGROW) committees. Committee meetings have also been used to update everyone on the progress of the other committees and the program in general. The committees are as follows:

- Public Engagement Committee
- Stormwater Ordinance Committee (SWOrd)
- Technical Committee
- Sustainability Committee
- Fund Development and Membership Committee
- LGROW Executive Committee

The list of committee members who have served on the committees during this reporting period are indicated in Table 2 below. Members denoted with an asterisk are not MS4 permitted representatives.

Table 1. LGROW Committee Membership List as of July 31, 2018

Community	Representative	Public Engagement	Stormwater Ordinance (SWOrd)	Technical	Sustainability	Fund Development & Membership	LGROW Executive
Cascade Charter Township	Mr. Steve Peterson						
East Grand Rapids, City of	Mr. Brian Donovan					X	X
East Grand Rapids, City of	Mr. Doug LaFave						
Forest Hills Public Schools	Ron Boezwinkle						
Fruitport, Village of	Jeremy Statler						
Georgetown Charter Township	Mr. Rod Weersing	X					
Grand Haven, City of	Ms. Cheryl Davidson	X					
Grand Rapids Charter Township	Bob Versluys						
Grand Rapids, City of	Mr. Mike Lunn			X			

Table 1. LGROW Committee Membership List as of July 31, 2018

Community	Representative	Public Engagement	Stormwater Ordinance (SWOrd)	Technical	Sustainability	Fund Development & Membership	LGROW Executive
Grand Rapids, City of	Ms. Carrie Rivette	X	X		X	X	X
Grand Rapids, City of	Mr. Michael Staal	X	X		X		
Grand Rapids, City of	Mr. Dan Taber		X	X			
Grandville, City of	Mr. Ken Krombeen		X			X	X
Grandville, City of	Mr. Todd Wibright			X			
GVSU*							
Hudsonville, City of	Ms. Jill Frielink	X					
KCDC	Mr. Brad Boomstra		X				
KCRC	Mr. Bruce Schutte	X					
Kent County Health Department*	Mr. Brendan Earl	X					
Kent Resource Recovery*	Ms. Megan Kretz	X					
Kentwood, City of	Mr. Jim Beke		X	X			
Kentwood, City of	Mr. Dan Vanderheide		X				
Kentwood, City of	Ms. Kelsey Sloan	X		X			
MDEQ*	Ms. Amanda St. Amour						
MDEQ*	Ms. Michelle Storey	X				X	
MDEQ*	Ms. Dana Strouse	X		X			
OCWRC	Mr. Dennis Cole	X	X				
OCWRC	Ms. Angela Walachovic	X					
OCRC	Mr. Jerry Olman	X					
Plainfield Charter Township	Mr. Rick Solle		X				
Plainfield Charter Township	Ms. Mary Trapp-Gunst	X					

Table 1. LGROW Committee Membership List as of July 31, 2018

Community	Representative	Public Engagement	Stormwater Ordinance (SWOrd)	Technical	Sustainability	Fund Development & Membership	LGROW Executive
Spring Lake, Village of	Ms. Chris Burns						
Walker, City of	Mr. Scott Conners		X			X	X
Walker, City of	Ms. Rachell Nagorsen	X	X	X	X		X
Wyoming, City of	Mr. Aaron Vis	X		X			X
Wyoming, City of	Mr. Myron Erickson		X				

Public Engagement Committee

The Public Engagement Committee met on September 13, 2017, November 8, 2017, January 10, 2018, February 14, 2018, and May 16, 2018 during the reporting period. Agendas and minutes for the meetings are posted to https://www.lgrow.org/public-engagement. Throughout the reporting period, the group focused on implementation of the updated Public Education Plan (PEP) approved in February of 2013, available here: https://www.lgrow.org/ms4information.

The Public Engagement Committee has been functioning as a joint committee of the Lower Grand River Organization of Watersheds (LGROW) and the permitted Lower Grand MS4 communities since January of 2014. The goals of LGROW, the Lower Grand River Watershed Management Plan, the strategic plan, and the MS4 Public Education Plan align closely, and through this joint committee's combined efforts, the result has been a larger group of involved stakeholders. This group shares the common goals of raising awareness about the Lower Grand River Watershed (LGRW) and improving the stormwater quality within the watershed. The group focuses on messaging and outreach events that address the target messages of: Personal Watershed Stewardship, Ultimate Stormwater Discharge, Public Reporting of Illicit Discharges, Personal Actions that can Impact the Watershed, Waste Management, Management of Riparian Lands. A detailed list of these events and the outreach conducted during this reporting period is provided in Part 3.

SWOrd Committee

The Storm Water Ordinance (SWOrd) Committee met on January 12, 2018, March 9, 2018, March 27, 2018, May 15, 2018 and July 16, 2018 during the reporting period. Meetings were focused on follow up items related to the LGRW alternative approach, the model ordinance, the standards manual, and the stormwater design spreadsheet for MS4 permittees to utilize in their implementation of the new post-construction stormwater control requirements outlined in the 2016 NPDES Permit Application.

The committee finalized templates for the standards manual, model ordinance, the standards manual BMP design criteria appendix, and the LGROW Design Spreadsheet based on feedback from the Michigan Department of Environmental Quality (MDEQ) after the April 2015 submittal of the alternative approach for channel protection. The standards manual follows the steps outlined in the flow chart submitted with the permit applications for the design, review, and permitting of sites with post construction controls. The standards manual was developed in tandem with a LGROW Design Spreadsheet to assist site designers and reviewers to ensure site designs meet all the regulatory criteria outlined in the permit. The development of maintenance agreements per the stormwater post-construction controls is ongoing, and will continue through the next reporting period.

The manual and Design Spreadsheet tools are also designed to ensure that the alternative approach is only utilized as a last resort. The committee finalized the model ordinance for communities to customize for the application of these standards. On March 14, 2018 a meeting was held by GVMC for all MS4's in order to update each community with the progress made regarding their permit application. Since this work began in 2015, much of this reporting period was spent editing and revising permit application documents to accurately reflect how each community implements their MS4 program, accounting for new stormwater regulations under the next MS4 permit.

Technical Committee

The Technical Committee met on August 16, 2017, October 18, 2017, December 20, 2017, February 14, 2018, April 18, 2018, and June 20, 2018 during this reporting period. Agendas and minutes from the meetings are available at the following site: https://www.lgrow.org/technical-committee. During the reporting period, the committee members focused on the development of the LGROW Data Repository, which will serve as a resource for the sharing and viewing of water quality data collected throughout the watershed. The Data Repository can be accesses here: https://www.lgrow.org/data-repository/

The Committee also continued work on the watershed monitoring manual to guide the collection, processing, and storage of data in the Lower Grand River Watershed and the Lower Grand River Total

Maximum Daily Load (TMDL) monitoring, as required by the MS4 permit. The committee is coordinating the TMDL monitoring in the stream reaches identified in the MS4 Permit application letters. The City of Wyoming and the City of Grand Rapids are providing sampling equipment and laboratory space to collect and analyze the samples. This work will continue into the next reporting period. At the October 2017 meeting, the committee enjoyed an engaging presentation from a representative from the United States Geological Survey (USGS). IDEP outfall screening was also a focus of the Technical Committee, since many of the MS4's in the watershed were planning to complete this work during the summer of 2018.

Training

GVMC provides multiple training documents and DVDs for Permittee use. Documents are available at: https://www.lgrow.org/ms4information. Training materials, including newsletter articles for communities to provide to residents, can be found on the LGROW website. In addition, GVMC has hosted or partnered on several training events during the reporting period including:

- 15th Annual Grand River Spring Forum
    - Held on May 11, 2018 at the Cascade Library
- Stormwater General Awareness and IDEP
    - Offered May 22 and 23, 2018 in both Kent and Ottawa Counties
- Lunch and Learn
    - Offered at GVMC on June 29, 2018 hosted by Upstream Technologies

Training Library

A lending library of training materials is housed at GVMC and is available to all watershed partners to assist with the Municipal Employee Training requirements of the discharge permit. The following materials are currently available:

DVD from Excal Visual, LLC

- IDDE – A Grate Concern: Illicit Discharge Detection & Elimination (14¼ Minutes)

DVD from Excal Visual, LLC

- Storm Watch - Municipal Stormwater Pollution Prevention (20 Minutes)

DVD from Excal Visual, LLC

- Stormwater Pollution Prevention - A Drop in the Bucket (16 Minutes)

DVD from Excal Visual, LLC

- Ground Control - Stormwater Pollution Prevention for Construction Sites (14.5 Minutes)

DVD from Excal Visual, LLC

- Spills & Skills - Non-Emergency HazMat Spill Response (18.5 Minutes)

DVD from Southeast Michigan Council of Governments (SEMCOG) and the Road Commission for Oakland County

- Keep An Eye On It! - Environmental Awareness for Gravel Road Maintenance (18.5 Minutes)

DVD from USEPA - Reduce Runoff: Slow It Down, Spread It Out, Soak It In (includes the following videos)

  - Reduce Runoff: Slow It Down, Spread It Out, Soak It In 9 Minutes
  - RiverSmart Homes: Getting Smart about Runoff 12 Minutes
  - Building Green: A Success Story in Philadelphia 11 Minutes
  - After the Storm 22 Minutes

- DVD from North Central Texas Council of Governments Municipal Employee Training Series: Preventing Stormwater Pollution: What We Can Do (includes the following videos)
  - Introduction: What We Can Do
  - Construction Activities and Land Disturbances
  - Fleet Maintenance and Material Handling
  - Streets and Drainage Maintenance
  - Parks and Grounds Maintenance
  - Solid Waste Management

Attendance at the live events and completion of other training is recorded in each MS4's individual training logs (Part 2D).

Newsletters

GVMC sent out seasonal MS4 Newsletters to communities to provide information regarding upcoming training, events, regulatory deadlines, committee meetings, and general program information during the reporting period.

www.lgrow.org Fall 2017

MS4 UPDATE

Information for MS4 Permitees in the Lower Grand River Watershed

Fish swimming over the 6th Street Dam in Sept. 2017

Newsletters such as this will periodically be sent to you. Since we are all a part of the Lower Grand River Watershed, it is important that everyone has current information, is up to date with regulatory requirements, and is aware of other activities happening in the watershed. This messaging also serves as a reminder for upcoming meetings and events, and offers MS4 training opportunities.

Leaves have begun to fall! Attached to this electronic newsletter, you will find an informational brochure about seasonal yard waste. Please post and/or distribute to your employees and community as you see fit. GVMC can print and customize this flier for your community, just let us know what changes you would like to make.

ON THE HORIZON

Next summer, many Lower Grand River MS4's will need to complete dry-weather screening of their outfalls. The last time outfall sampling occurred was in 2013 and 2014. GVMC will hire interns to complete IDEP testing. In Spring 2018, GVMC will give IDEP training and provide the materials needed to complete testing. In the coming months, please be thinking about any new outfalls, updates that need to be made to maps, problem or high-priority sites, and the amount of time it will take field personnel to complete your testing. More information will become available as testing time gets closer.

2016-2017 PROGRESS REPORT UPDATE

All MS4 Progress Reports were submitted to MDEQ by their October 1st due date. Please keep track of the trainings that you and your DPW staff complete during this reporting period. Note that the trainings listed in the progress report are examples and recommendations. MS4 training requirements may be met by other means; for example: information covered during staff meetings, fliers handed out, email blasts, or conferences attended throughout the year. Please make a note of these things as they happen in the 2017-2018 reporting period in order to meet training requirements. Thank you for your help and participation with the reporting process!

STORMWATER TRAINING OPPORTUNITIES

13th Annual MiCorps Conference and Training
Nov. 8-9, 2017 in Tustin, MI

Ottawa County Water Quality Forum
Nov. 30, 2017 in West Olive, MI

MWEA Watershed and Stormwater Seminar
Dec. 5, 2017 in East Lansing, MI

More information on these trainings can be found here.
Training DVDs are still available through GVMC. GVMC is looking to acquire more up-to-date training that is applicable to your municipality. If you have any ideas for MS4 materials to train DPW employees, please let us know.

UPCOMING COMMITTEE MEETINGS @ GVMC

Public Engagement Committee
November 8, 2017 3-4 PM
Sustainability Committee
December 4, 2017 1:30-2:30 PM
Technical Committee
December 20, 2017 10:30 AM- 12 PM
2018 Meeting dates and times can be found here.

MS4 COMMUNITIES

If you have any stormwater information or events coming up in your community that you would like to share with other MS4s in the area, please let us know so we can get the word out! (Send an email to cara.decker@gvmc.org)

GVMC

More MS4 information can be found on the **LGROW website**

www.lgrow.org Summer 2018

MS4 UPDATE

Information for MS4 Permitees in the Lower Grand River Watershed

LOWER GRAND RIVER ORGANIZATION of WATERSHEDS

Thank you for attending the 15th Annual LGROW Spring Forum on May 11, 2018!

Attached to this electronic newsletter, you will find an informational brochure about ways to prevent pollution during the summer. There are also newsletter articles that highlight general watershed awareness. Please post and/or distribute to your employees and community as you see fit.

MS4 PERMITS

All communities have received their updated Stormwater Standards Manuals. These manuals outline design standards to comply with new Post Construction Controls under the next MS4 permit. This is one of many documents that will make up the entire MS4 program for your community.

Timely review is necessary. Please work with Cara to get your comments incorporated into these documents. If you need extra explanation or desire further clarification, please do not hesitate to contact GVMC for help.

Once review is complete, the permit application will be submitted to MDEQ. While we are waiting for MDEQ's Permits Section to issue new MS4 permits, the LGROW Design Spreadsheet will be finalized in order to aid developers with compliance to the new permit requirements.

IDEP OUTFALL SCREENING

This summer, GVMC will be completing dry-weather screening of MS4 outfalls in accordance with the Illicit Discharge Elimination Plan (IDEP). The last time outfall screening occurred was in 2013 and 2014. GVMC will let you know when we will be in your community to complete this work. Screening is weather dependent, so we appreciate your willingness to be flexible.

GVMC provided IDEP training in May. Many thanks to those who attended- this will be documented in your annual progress report to MDEQ.

The training is available for you to share with those who were not able to attend. You can find the slides here: **www.lgrow.org/ms4information**
Please record the date and the names of DPW employees who view the training. We will report them to MDEQ in your progress report.

More information can be found on the LGROW website

www.lgrow.org Winter 2018

MS4 UPDATE

Information for MS4 Permitees in the Lower Grand River Watershed

Snowmelt carrying nonpoint source pollution (salt) to storm drain with direct connection to the Grand River

Winter is still here! Attached to this electronic newsletter, you will find an informational brochure about ways to prevent pollution during the winter. There is also a newsletter article that highlights LGROW's illicit discharge reporting website. Please post and/or distribute to your employees and community as you see fit.

MS4 PERMIT MEETING

A full MS4 meeting will be held on Wednesday, March 14, 2018, from 1:30-3:30pm, at the City of Walker's Commission Chambers located at: 4243 Remembrance Rd NW, Walker, MI 49534.

GVMC will give updates to the permit application process and review new stormwater standards that your community will be responsible for implementing once the ordinance is adopted. This is an important meeting to have all municipal employees and elected officials attend in order to review and understand the new permit requirements before they go to MDEQ's permit section and your new permit is issued. Please make every effort to attend and invite engineers, planners, supervisors, and other employees from your community who will have responsibility in implementing these new standards.

2017 PUBLIC EDUCATION PLAN FOCUS GROUP

A focus group was held on December 18, 2017 at GVMC with the purpose to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts since 2009. This focus group ended up being a very educational experience for its participants, while providing valuable feedback on LGROW outreach activities. The mixed demographic of participants and the number of MS4 communities participating provided a fairly diverse view of LGROW's reach into the watershed, and participants shared many ideas to improve LGROW messaging. We plan on using recommendations from this focus group to update the MS4 Public Education Plan, and provide more effective stormwater messaging throughout the watershed. The complete report can be found at: **www.lgrow.org/ms4information**

More information can be found on the LGROW website

Monitoring

The Grand River Water Quality Index (WQI) is used to show the trend of Grand River water quality downstream of Grand Rapids. A WQI of 71-90 indicates good water quality with high diversity of aquatic life and very few limits for recreational use. Grand Rapids has been monitoring the Grand River for forty years and all of the data are available upon request. A record of the WQI for Wealthy Street Bridge is provided as an example of improving water quality in the Grand River. An interactive map and data from sampling events can be viewed as follows: https://grandrapids.maps.arcgis.com/apps/Embed/index.html?webmap=b58bd9f6cda949599b15753b888a7048&extent=-85.8676,42.8116,-85.4244,43.0326&zoom=true&scale=true&search=true&searchextent=false&legend=true&disable_scroll=false&theme=light

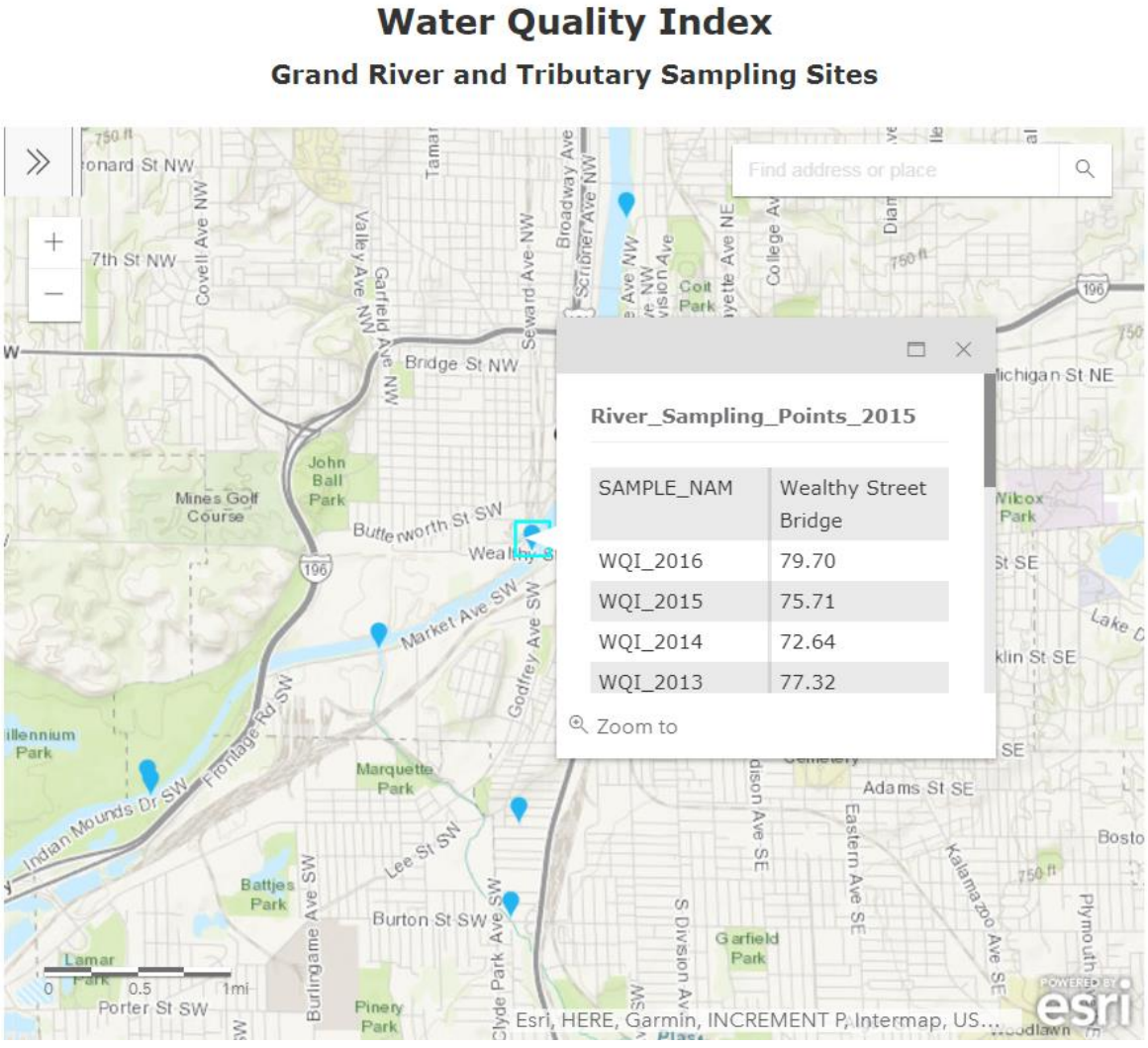


Figure 1 Grand Rapids Water Quality Index Web Interface

Data Repository

The LGROW Technical Committee continued working on the design for a watershed-wide data repository with the help of GVMC's Regional Geographic Information System (REGIS) department. Using data collected by the Friends of Buck Creek as part of their 319 monitoring grant, and Indian Mill Creek, as part of GVSU Graduate Students' research, the committee designed a landing page, which provides access to the collected data via an Arc GIS online interface – a free online GIS software that allows users basic viewing and searching capabilities. The group also designed a tutorial for data repository users. The long-term goal is that the data repository will be a central location to access water quality data from sampling events in the Lower Grand River Watershed. With this goal in mind, the Technical Committee also developed submittal tools to allow users to share collected scientific water quality data. The data will be reviewed and checked by LGROW before it is uploaded into the data repository for public viewing at this site: https://www.lgrow.org/data-repository/. Some students and teachers in local school districts have already begun to use the repository to aid classroom learning.

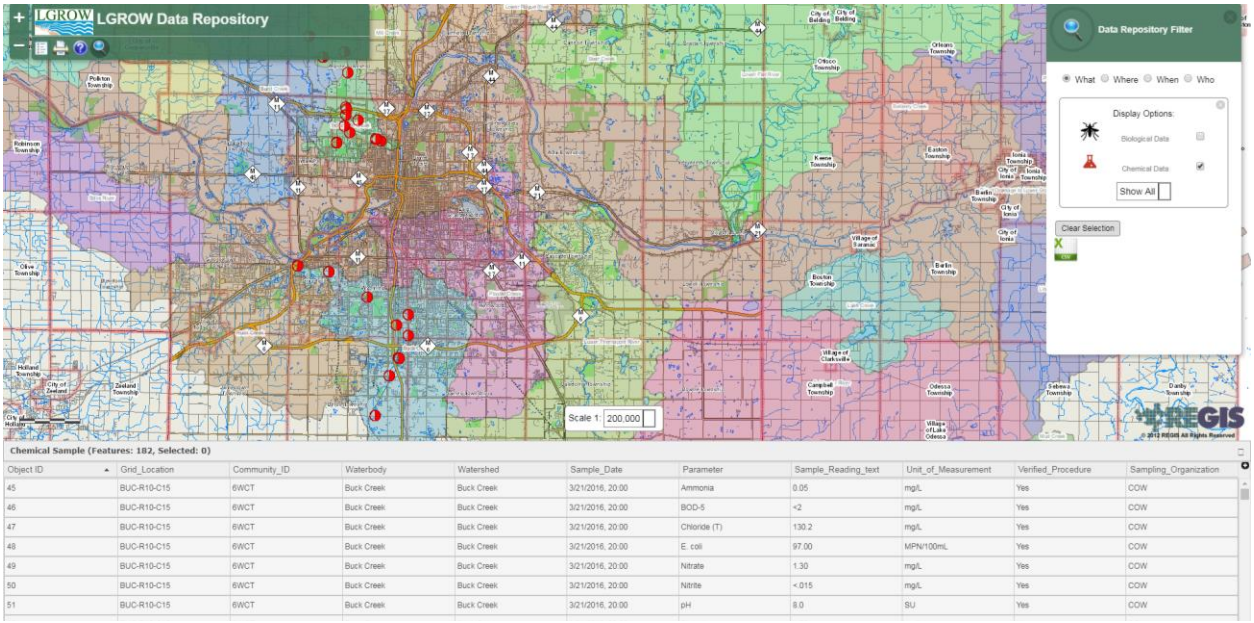


Figure 2 LGROW Data Repository

MDEQ Program Audits

GVMC assists communities in preparing for audits, and in addressing any deficiencies identified by MDEQ. During this reporting period, MDEQ performed audits on site for the following communities in the Lower Grand River Watershed:

City of Wyoming, August 29, 2017

City of Grandville, January 18, 2018

Kent County Road Commission, January 24, 2018

Supplemental documentation for these audits will be included in this report for each of the communities listed above. All communities that were audited during this reporting period were found to be in compliance and are implementing effective MS4 programs.

Part 2A - Lower Grand River Watershed Management Plan Prioritized Objectives

Encouraging proper septic tank maintenance

Each year a portion of the public education materials distributed address proper septic tank maintenance. Detailed information regarding the nature of these materials is included in Part 3 - PEP of this progress report. Additionally, communities in both Kent and Ottawa Counties work collaboratively with their respective Health Departments to report and ensure correction of failing or failed septic systems. Individual communities track this data in Part 4 – IDEP of this progress report.
The US EPA hosts SepticSmart Week once a year, and LGROW uses the materials provided to encourage of proper septic system care. SepticSmart Week 2017 was held on September 18-22, and focused on educating homeowners and communities on the proper care and maintenance of their septic systems.

Encouraging septage ordinance

The Ottawa County Health Department presently has an ordinance in place requiring point of sale inspections. The permitted communities located within Ottawa County collaborate with and rely on the Ottawa County Health Department for ongoing enforcement of the ordinance.

Kent and Muskegon Counties have not passed an ordinance requiring point of sale septic system inspections. The permitted entities within Kent and Muskegon County rely on implementation of the IDEP and reporting/enforcement through their stormwater ordinances and the Health Department to follow up on failing or failed septic systems. In the case of a failed septic system, a connection to sanitary is typically required if a sanitary sewer connection is available within 250 feet.

Implement vegetative buffering practices and restore and protect the stream buffer and canopy

Several communities including the City of East Grand Rapids and the City of Grand Rapids have instituted or evaluated the potential for buffer ordinances. The Cities of Hudsonville and Rockford have included buffer provisions within their zoning ordinances. Many other communities have adopted mowing buffer procedures on the properties they own and maintain. These procedures are identified in Part 2C.

Implement Michigan Department of Natural Resources wildlife population management practices

Three communities are working with the Michigan Department of Natural Resources on supervised programs to control populations of Canada Geese. These programs include Egg Destruction (East Grand Rapids and Kent County Drain Commissioner), Goose Relocation (Kent County Drain Commissioner), Nest Destruction (Kent County Drain Commissioner), and Targeted Goose hunts for population reduction (Plainfield Charter Township). Communities throughout the watershed are utilizing signage to discourage the feeding of waterfowl, actively installing goose deterrents, and/or instituting procedures for a no-mow buffer adjacent to streams and ponds to function as a natural deterrent. The City of Hudsonville has provided a portal on their website for residents to report nuisance wildlife.

Implement sanitary sewer maintenance practices

Sanitary sewer service is provided by several communities to residents in expanded service areas. Through these partnerships, many communities are able to utilize sanitary sewer infrastructure instead of relying on septic fields. The City of Grand Rapids collaborates with Cascade Charter Township, the City of East Grand Rapids, Forest Hills Public Schools, Grand Rapids Charter Township, Kent County, Kentwood, and the City of Walker. The City of Wyoming collaborates with the City of Kentwood and portions of the City of Grandville. The City of Grandville collaborates with the City of Hudsonville and portions of Georgetown Charter Township. The City of Grand Haven collaborates with the City of Ferrysburg and the Village of Spring Lake. The North Kent Sewer Authority collaborates with Plainfield Charter Township and the City of Rockford. All of the MS4 LGROW community members have procedures to inspect and maintain their sanitary sewer systems, which are independent of their MS4 systems. Information related to the maintenance and upgrades of sewer infrastructure is included in Part 2B of the report.

Implement Low Impact Development Practices

Low Impact Development (LID) and Green Infrastructure (GI) are critical components in both the SWPPI and the PEP. Detailed information on the training related to LID practices and implementation is detailed in Part 2D. Tracking of the installation and consideration of LID practices by Permittees is tracked in Part 2E. The PEP incorporates messages on the implementation of LID practices such as rain gardens, buffer strips, and native plantings for their direct benefits to water quality. The PEP focuses on LID practices that are feasible for individual homeowners to implement, rather than large scale development.

Implement watershed focused land-use planning

Throughout the watershed, construction in FEMA mapped floodplains is regulated by the Michigan Building Code to ensure that construction below the base flood elevation does not occur. This is accomplished by providing prescribed release rates for Bank Erosion Control, as well as Flood Control.

Water Quality control is addressed with detention and infiltration, where possible, or delayed and restricted release where it is not.

As the Stormwater Ordinance Committee worked on developing the model stormwater ordinance for the next MS4 permit, many of the design requirements needed to prevent or mitigate flooding in site designs were left intact. Though these were not required as part of the MS4 permit application, permitted communities recognize the need for flood protection for the protection of downstream residences and receiving waters.

Implement proper soil erosion and sedimentation control techniques

Part 91, Soil Erosion and Sedimentation Control (SESC), of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, regulates the activity of earth work and mandates that projects disturbing an area greater than one acre in size or an area less than 500 feet from a lake or stream obtain a soil erosion permit from the regulatory agency with jurisdiction over the area in which they are working. Table 2 details which Permittees work collaboratively with the county enforcing agent (CEA), which Permittees administer their own program as a municipal enforcing agent (MEA), and which Permittees have the authority to oversee their own projects as authorized public agencies (APA). MEA, CEA, and APA programs implement a thorough soil erosion and sediment control plan review and regular site inspections in their programs for permitted sites. Plan review and site inspections are conducted by staff with either a comprehensive or inspector construction site stormwater operator certification respectively.

Training on topics related to construction site stormwater runoff is detailed in Part 2D. Training ensures that even if a community does not oversee their own program, field staff will be informed regarding observations on a construction site and the appropriate entity to report to if there is an offsite discharge or poorly maintained SESC measures. Many LGRW MS4 permitted communities who administer a Part 91 program also work closely with the West Michigan Soil Erosion Control Network, a professional network that provides regular training, panel discussions and field demonstrations on BMPs and new technologies in this field.

Table 2. LGRW Part 91 Administration Authority as of July 31, 2018

Community	Part 91 Contact Info		MEA	Utilizes CEA			APA
	Name	Phone		Kent	Muskegon	Ottawa	
Cascade Charter Township	KCRC	616-242-6914		X			
East Grand Rapids, City of	KCRC	616-242-6914		X			
Ferrysburg, City of	OCWRC	616-994-4530				X	
Forest Hills Public Schools	KCRC	616-242-6914		X			
Fruitport, Village of	Muskegon County DPW	231-724-6411			X		
Georgetown Charter Township	OCWRC	616-994-4530				X	
Grand Haven, City of	OCWRC	616-994-4530				X	
Grand Rapids Charter Township	KCRC	616-242-6914		X			
Grand Rapids, City of	Environmental Services Dept.	616-456-3057	X				X
Grandville, City of	KCRC	616-242-6914		X			
Hudsonville, City of	OCWRC	616-994-4530				X	
Kent County Drain Commissioner & Administration	Deputy Drain Commissioner	616-336-3688					X
Kent County DPW	Kent Co. DPW	616-336-3694					X
Kent County Road Commission (Kent County CEA)	KCRC	616-242-6914		X			X
Kentwood, City of	Engineering Dept.	616-554-0737	X				X
Ottawa County Water Resources Commissioner & Administration (Ottawa County CEA)	OCWRC	616-994-4530				X	X
Ottawa County Road Commission	Engineering Dept.	616-842-5400					X
Plainfield Charter Township	KCRC	616-242-6914		X			
Rockford, City of	Public Services Dept.	616-866-9631	X				
Sparta, Village of	KCRC	616-242-6914		X			
Spring Lake, Village of	OCWRC	616-994-4530				X	
Walker, City of	Engineering Dept.	616-453-6311	X				
Wyoming, City of	KCRC	616-242-6914		X			

Implement channel and stream bank stabilization, bio-engineering and erosion control techniques

The MDEQ requires a joint permit from the state of Michigan for all work performed in channels that are designated as waters of the state. Any work that occurs within 500 feet of a lake or stream requires a soil erosion control permit from the authorized Part 91 agency, as referenced above. These permitting procedures work in tandem to prevent negative impacts during and after construction, as well as to ensure adequate restoration. Permitted communities in the Lower Grand River Watershed have policies in place to ensure protection of drainage systems from construction site runoff as detailed in Part 2C and perform regular training as referenced in Part 2D related to construction site stormwater runoff and water quality protection.

Implement turf management and proper fertilizer application practices

Permitted communities within the Lower Grand River Watershed have developed procedures for managing vegetation and using fertilizers on Permittee owned properties as outlined in Part 2C. These policies and procedures were reviewed as permittees prepared their individual permit applications in Spring 2015. All staff at the communities and their subcontractors adhere to these procedures. Training is also provided in the form of the brochure, "What Every Landscaper Must Know". This brochure is distributed as part of the comprehensive training plan on controls to reduce the discharge of pesticides, herbicides, and fertilizers, as described in Part 2D. The brochure was updated in 2014 to allow for permitted MS4s to customize it for distribution to their staff and contractors as well as local landscaping businesses.

Part 2B - Stormwater Controls Inspection, Maintenance and Effectiveness
August 1, 2017 to July 31, 2018

63RD District Court
1950 East Beltline NE

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Bio Filtration Area	1 year	Sediment removal as needed per inspection	May 2018 Used leaf blower to remove grass clippings.	Performing as intended.
Bio Filtration Sediment Swale	1 year	Sediment removal as needed per inspection	May 2018 used leaf blower to remove grass clippings	Performing as intended.
Cobblestone Check Dam & Downspout	1 year	Restore if necessary as needed per inspection	Inspected May 2018. No maintenance required.	Performing as intended.
Yard Drains w 2 ft sumps.	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Catch Basins w 2 ft sumps	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Pretreatment Basin	3 year	Sediment removal as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.

Circuit Court
180 Ottawa Ave. NW

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Trench Drains	4 years	Vactor or w/ hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Catch basin	4 years	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.

Vertical drop connection into catch basin	4 years	Vactor or w/ hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended,
Grate inlet	4 years	Vactor or w/ hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Concrete drain	4 years	Vactor or w/ hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Yard drain in lawn	4 years	Vactor or w/ hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
North Kent Landfill & South Kent Landfill 2908 10 Mile Rd. NE; 300 100th St. SW				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Detention Pond	4 year	Remove sediment as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Catch basin	4 years	Vactor as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Underdrains & outfalls	5 year	Jet pipe and collect sediment as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Drainage ditches	5 year	Remove sediment as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Treatment basins	4 year	Remove sediment as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Waste to Energy Facility 950 Market Ave. SW				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Catch basins	4 year	Vactor as needed per inspection	No inspection scheduled this reporting cycle.	Performing as designed.
Cooperative Extension Kent/MSU				

775 Ball Ave. NE

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Rain Garden for roof drainage	2 year	Maintain plantings as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Catch basin w sump	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.

Recycle Center
977 Wealthy St. SW

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Sub-surface detention	5 year	Vactor as needed per inspection	Inspected 5/11/18. Clean.	Functioning as designed.
Sub-surface detention outlet structure	4 year	Vactor as needed per inspection	Inspected 5/11/18 Clean	Functioning as designed.
Rain garden	2 year	Maintain plantings as needed per inspection	Inspected 5/11/18 Removed unwanted plants & trimmed.	Functioning as designed.
Catch basin	4 year	Vactor as needed per inspection	Inspected 5/11/18. Clean	Functioning as designed.

82 Ionia Building
82 Ionia Ave. NW

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Grate Inlet	4 years	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Catch basin	4 years	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.

Correctional Facility
701 Ball Ave. NE

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Catch basins	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
IT Building **320 Ottawa Ave. NW**				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Catch Basin	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Parking lot 2nd level drains.	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Parking Lot **520 Monroe**				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Catch Basin	4 years	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
1000 gallon underground infiltration basin.	Annual	Vactor as needed per inspection,	May 2018.	Performing as intended.
Parks **Millennium Park**				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**

10 ft x 10 ft x 1 ft Sediment Trap	1 year	Remove sediment as needed per inspection	Inspected 5/3/18.	Operating as intended.
Storm inlets w 2 ft sumps	4 year	Vactor as needed per inspection	Inspected 5/3/18	Operating as intended.
Drainage swales	5 year	Remove sediment, maintain vegetation as needed per inspection	Inspected 7/6/18. Removed purple loosestrife.	Operating as intended.
36 inch open bottom catch basin	4 year	Vactor & scour sides and bottom as needed per inspection	No inspection scheduled this reporting cycle.	Operating as intended.
Trench drain	4 year	Vactor or hand tools as needed per inspection	Inspected 5/8/18.	Operating as intended.
Rip-rap check dams	5 year	Restore rip-rap as needed per inspection	Inspected 5/8/18.	Operating as intended.
Drinking fountain drain absorption system	4 year	Sweep Quarterly	Inspected 5/3/18	Operating as intended.
Porous concrete pavement.	1 year	Vacuum sweep Quarterly	Inspected 5/17/18. Maintained by tractor with blower.	Operating as intended.
Detention pond	4 year	Remove sediment as needed per inspection	Inspected 5/3/18.	Operating as intended.
Detention pond wier	4 year	Maintain openings as needed per inspection	Inspection scheduled 2019	Operating as intended.
Human Services Facility **121 Franklin St., Grand Rapids, MI 49507**				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Catch Basins	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Underground Detention System: 5 ft ADS Pipe, 5 laterals, 2 headers.	10 year	Repair as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Baysaver	6 month	Per manufacture guidance as needed per inspection	June 2018. No maintenance necessary.	Performing as intended.

Trench Drain	2 year	Vactor or w hand tools as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Porous Asphalt Pavement	1 year	Vacuum sweep quarterly	Sani-Sweep cleans 3 times a year.	Performing as intended.
Perforated storm sewer from roof drain	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Open bottom drainage structures	4 year	Vacuum & jet bottom as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Stormwater runoff release area	4 year	Replace stone & fabric if clogged as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Storm manhole with high-low weir.	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Juvenile Detention Center 1501 Cedar St.				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Stormwater Detention Pond	4 year	Remove sediment as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Catch Basin	4 year	Vactor as needed per inspection	No inspections scheduled this reporting cycle.	Performing as intended.
Parks Douglas Walker, Myers Lake, Dwight Lydell, Wahlfield, Wabasis Campground, Rogue River, LE Kaufman Golf Course, Pickerel Lake, Johnson Park, Brewer				
Structural Storm Water Control	**Inspection Frequency**	**Maintenance Schedule**	**Inspection and Maintenance Conducted and Location of Log (if applicable)**	**Effectiveness of Control and Support Documentation**
Catch Basins w sumps	4 year	Vactor as needed per inspection	No inspection this reporting cycle.	Performing as intended.
Yard drains w sumps	4 year	Vactor as needed per inspection	No inspection this reporting cycle.	Performing as intended.
4" pop-up drain emitter	4 year	Repair as needed per inspection	No inspection this reporting cycle.	Performing as intended.
4" perforated underdrain	4 year	Jet out pipe as needed per	No inspection this reporting cycle.	Performing as intended.

		inspection		
Wetland areas	4 year	Protect from sediment as needed per inspection	No inspection this reporting cycle.	Performing as intended.
Johnson Park storm water lift station.	1 year	Jet and vacuum.	Inspected 4/30/18. Jetted and vacuumed.	Functioning as designed.
Pervious concrete pavement.	1 year	Vacuum sweep Quarterly	Myers Lake. Inspected & vacuumed 5/23/18.	Functioning as designed.
Storm sewer	4 year	Jet out pipe as needed per inspection	No inspection this reporting cycle.	Performing as intended.
Leaching basins	2 year	Vacuum & jet sides & bottom as needed per inspection	No inspection this reporting cycle.	Performing as intended.
Drainage swale	5 year	Remove sediment & maintain vegetation as needed per inspection	No inspection this reporting cycle.	Performing as intended.
Detention pond	4 year	Remove sediment as needed per inspection	Brewer Park. Inspected 7/5/18.	Functioning as designed.

COUNTY OWNED STORMWATER DETENTION PONDS
See list for locations

Structural Storm Water Control	Inspection Frequency	Maintenance Schedule	Inspection and Maintenance Conducted and Location of Log (if applicable)	Effectiveness of Control and Support Documentation
Detention pond	4 year	As needed per inspection	No inspection this reporting cycle	Functioning as designed.

Locations of County Owned Stormwater Detention Ponds

Municipality	Parcel No.	Address	Drain Name
Ada	41-15-31-402-017	5224 East Woodmeade Ct.	Martin & Beak 2
Alpine	41-09-23-228-003	5823 Rhino	Vitality
Alpine	41-09-23-251-002	1078 7 Mile Rd	Vitality
Alpine	41-09-35-452-003	3850 Cordes Ave	Alpine-Walker
Alpine	41-09-35-453-013	1099 4 Mile Rd	Alpine-Walker
Alpine	41-09-35-490-024	915 4 Mile Rd	Alpine-Walker
Cascade	41-19-08-326-028	2431 Tallgrass	Arbor Shores
Cascade	41-19-08-427-006	6380 Burton	Foremost
Cascade	41-19-08-451-010	6145 28th St. SE	Foremost
Cascade	41-19-15-402-011	7610 Candlewood	Apple Hills
Grand Rapids Twp	41-14-04-202-010	2102 4 Mile Rd NE	4 Mile
Plainfield	41-10-21-226-047	5865 Jupiter Ave NE	Jupiter
Plainfield	41-10-27-254-010	4850 Paramount Dr NE	Paramount Estates
Plainfield	41-10-28-476-018	2356 Airway St. NE	Sub-Plain North
Plainfield	41-10-33-102-027	4210 Woodbury Ave. NE	Huntington
Sparta	41-05-23-351-056	549 S. Union St. NW	Carpenter
Grand Rapids City	41-18-04-126-070	1945 Kreiser St. SE	Silver Creek - Kreiser
Grand Rapids City	41-18-05-251-008	1440 Fuller Ave. SE	Silver Creek - Calvin
Grand Rapids City	41-18-06-153-004	1516 Division Ave. S	Silver Creek - Otsego
Kentwood	41-18-24-351-002	4240 East Paris Ave SE	Esbaugh
Kentwood	41-18-33-178-007	1900 Waterbury Dr. SE	Crippen
Kentwood	41-18-33-428-007	2255 60th St. SE	Crippen
Walker	41-13-02-230-003	3531 Alpine Ave. NW	Alpine-Walker

Part 2C - Procedures Status
August 1, 2017 to July 31, 2018

The following Pollution Prevention and Good Housekeeping procedures were adopted by various departments of the County of Kent. Dates of revised procedures are listed and revisions attached.

Procedure	**Date Adopted**	**Date Revised (if needed)**
Procedure to Ensure Protection of Drainage Systems from Construction-Site Runoff	February 27, 2012	
Procedure to Dispose of Storm Sewer System Operation and Maintenance Waste	February 27, 2012	
Procedures to Construct, Operate, and Maintain Streets, Roads, Highways, and Parking Lots	February 27, 2012	
Procedure to Reduce Runoff of Total Suspended Solids (TSS)	February 27, 2012	
Procedure to Prevent Salt and Sand from Entering Receiving Streams	February 27, 2012	
Procedure to Control Dust and TSS in Runoff	February 27, 2012	
Procedure for Managing Vegetation on Permittee Owned Properties	February 27, 2012	
Procedure for Using Fertilizers on Permittee Owned Properties	February 27, 2012	

Part 2D - Staff and Contractors Training on Pollution Prevention and Good Housekeeping

Training Topic Area	Employee Group to Receive Training	Training Frequency	Training Type
SWPPI Requirements			
Maintenance activities, maintenance schedules, and inspection procedures	Parks, Facilities, DPW, Drain Comm.	4 years	**Written O&M Procedures** **Storm Watch - Municipal Storm Water Pollution Prevention - DVD from Excal Visual, LLC**
Training completed:			**Watched DVD March 2015**
Controls on streets, parking lots, maintenance garages, and storage yards	Parks, Facilities, DPW,	DVD: 4 years Brochure: Annual	**Storm Watch - Municipal Storm Water Pollution Prevention - DVD from Excal Visual, LLC** **Kent County Brochure: What Every Contractor & Employee Must Know About Storm Water**
Training completed:			**Watched DVD March 2015** **Distributed brochure to departments' employees.**
Disposal of O&M waste	Parks, Facilities, DPW, Drain Comm.	4 years	**Written O&M Procedures**
Training completed:			**Reviewed O&M procedures March 2015.**
Water quality protection in flood control projects (detention basins, dams)	Drain Commissioner	Annually	**Presentations at State & District drain commissioner conferences.**
Training completed:			Drain Commissioner & staff attended 2 State and 3 District Michigan Association of County Drain Commissioners conferences.

Training Topic Area	**Employee Group to Receive Training**	**Training Frequency**	**Training Type**
Controls to reduce discharge of pesticides, herbicides, and fertilizers	Parks, Facilities, DPW, Drain Comm.	DVD: 4 Years Brochure: Annual	**Kent County Brochure: What Every Landscaper Must Know About Storm Water.** **Preventing Stormwater Pollution: What We Can Do. – DVD from GVMC**
Training completed:			**Watched DVD March 2015.** **Distributed brochures to departments' employees.**
Other Topics			
Construction site stormwater runoff	Parks, Facilities, DPW, Drain Comm.	DVD: 4 Years Brochure: Annual	**Storm Watch - Municipal Storm Water Pollution Prevention - DVD from Excal Visual, LLC** **Kent County Brochure: What Every Contractor & Employee Must Know About Storm Water**
Training completed:			**Watched DVD March 2015** **Distributed brochures to departments' employees.**
IDEP	Parks, Facilities, DPW, Drain Comm.	DVD: 4 Years Brochure: Annual	**WaterPollutionReportForm.doc** **Storm Watch - Municipal Storm Water Pollution Prevention - DVD from Excal Visual, LLC** **Kent County Brochure: What Every Contractor & Employee Must Know About Storm Water**
Training completed:			**Watched DVD March 2015** **Distributed brochures to departments' employees.**

Part 2E - Post Construction Controls Activities

August 1, 2017 to July 31, 2018

All new plat developments reviewed by the Kent County Drain Commissioner within Kent County are required to be equipped with detention facilities for stormwater. This requirement may be waived if it can be demonstrated to the Drain Commissioner's satisfaction that the off-site drainage facilities exist and are adequate. This is provided that easements and water quality issues have been addressed.

The stormwater detention facility shall be designed in accordance with criteria established by the County Drain Commissioner. The Commissioner may determine the need to incorporate more stringent design requirements into the stormwater drainage system for either water quantity control or water quality control in response to local need.

The purpose of stormwater management is to prevent flooding, minimize property damage, prevent erosion, eliminate nuisance conditions, lower overall costs, and improve overall water quality. Stormwater management is required to provide protection from flooding by limiting the post-developed peak rate of discharge (volume, velocity, & concentration shall also be considered); recharge groundwater where possible by allowing for retention of runoff where soils are compatible; and pollution abatement by retention with percolation or detention without infiltration (wet detention).

The design storm serves as the basis for design. The selection of the storm duration and distribution affects the resulting runoff volume and peak discharge rate.

The basin discharge controls shall be based on the peak release rate of 0.13 cfs/acre or at times 0.05 cfs/acre and the first 0.5" of runoff shall be held for not less than 12 hours or more than 24 hours.

If deemed necessary to insure adequate maintenance of the proposed stormwater facilities, the Commissioner may require the Proprietor to establish, in whole or in part, the proposed storm water facilities as a county drain upon their completion.

The county does not have planning and zoning authority and therefore relies upon the local unit of government to direct growth to identified areas, to protect sensitive areas such as wetlands and riparian areas, to maintain and/or increase open spaces, and to encourage infill development in higher density urban areas and areas with existing infrastructure.

The Kent County DEVELOPMENT DRAINAGE RULES are available at
http://www.accesskent.com/YourGovernment/DrainCommisioner/pdfs/DrainageRules.pdf

The Kent County STORM WATER DESIGN CRITERIA are available at
http://www.accesskent.com/YourGovernment/DrainCommisioner/pdfs/appB.pdf

Explain the enforcement activities of your comprehensive storm water management program for post-construction controls completed during this reporting period:

Reviewed ____34_____ development plan submissions for post construction controls.
Reviewed ____41_____ applications for permit to connect to County drains.

How many developments were approved with storm water controls according to PCC?

___18____ developments were granted final approval.
___39_____ permit applications were approved

Have any long-term operation and maintenance agreements been signed?
N/A - The Drain Office does not enforce private systems. In the past there was a number entered because we interpreted it as establishing 433-agreements which are county drains.

How many inspections or enforcement/compliance of O&M agreements were conducted?
N/A – see above comment.

Explain how the Post Construction Controls have addressed other issues, such as protecting sensitive areas, directing growth to identified areas, encouraging infill development in higher density urban areas and areas with existing infrastructure, and/or maintaining or increasing open spaces:

Post construction controls have been protecting the integrity of streams, wetlands, lakes and other bodies of water.

Part 3 - PEP

Regional PEP

The updated Public Education Plan (PEP) was approved by MDEQ in February 2013. The purpose of the PEP is to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. This section provides a report of public education activities implemented between August 1, 2017, and July 31, 2018.

Public Engagement Committee

LGRW Public Engagement Committee was formed in 1999 to begin development and implementation of the PEP. Since that time the committee has met on a regular basis to discuss and plan activities scheduled for implementation in the PEP and the LGR Watershed Management Plan. In addition to MS4 communities, the 2017-2018 Public Engagement Committee consisted of the following community partners:

Table 3. Non-MS4 Partner Organizations

Agency	Representative
MDEQ	Amanda St. Amour
GVMC – West Michigan Clean Air Coalition	Andrea Faber
Ottawa Co. Conservation District	Benjamin Jordan
Boy Scouts of America	Bridget Knight
GVMC	Eileen Boekestein
Trout Unlimited	Jamie Vaughan
Groundswell, GVSU	Joanna Allerhand
Groundswell, GVSU	Kymberly Pawelka
Kent County Resource Recovery	Megan Kretz
MDEQ	Michelle Storey
WMEAC	Jessica VanderArk
WMEAC	Kyle Hart
GVMC/GVSU	Carlos Calderon
The Right Place	Rick Chapla
GVMC	Rachel Frantz
Grand Rapids Public Museum	Stephanie Ogren
Grand Rapids Public Museum	Erin Koren
GVMC	Wendy Ogilvie
Kent County Health Department	Brendan Earl
Kent Conservation District	Jessie Schulte
Citizen Labs	Allen Clark
GVMC	Cara Decker

During this reporting period, the Committee reorganized to set priority topics and create a functional meeting schedule. Instead of holding meetings once every two months, the committee meets in January, February and May. During the summer months, meetings are not held because communities are busy attending and hosting outreach events. The group reconvenes in September to review their summer activities, and begin to plan for the next year. Meetings are then held in October and November. Goals for each meeting are as follows:

January: Distribute PEP materials and discuss distribution

February: Pick up orders, Plan for the year's events

May: Ongoing business, Committee updates

September: Review event year, Ongoing business

October: Ongoing business, Discuss changes for next year

November: Finalize orders for next year

During the October Committee meeting, the group chooses which PEP topics to focus on for the next year. Information regarding all topics covered in the PEP may be discussed and promoted by communities throughout the year, as described in detail in the remainder of this section of the report. The committee decided that if more energy is focused on a few key topics each year, then education regarding those specific topics can be thoroughly explored. Educational materials and give-aways are then designed around the key topics. While each year focuses on a particular set of topics, all six education categories will still be addressed in detail at least once during each reporting period.

Additional information regarding the Public Education Committee is available at: https://www.lgrow.org/ms4information. Materials, training opportunities, and other resources are available via this webpage.

PEP Implementation

This section describes the public education activities implemented by the Permittees from August 1, 2017 through July 31, 2018. The following report describes activities which meet the requirements of the 2013 approved PEP. Target audiences, messages, and delivery mechanisms are described for each Public Education Topic.

Public Education Topic 1 - Personal Watershed Stewardship

PEP Objective 1: Educate the public about their responsibility and stewardship in their watershed.

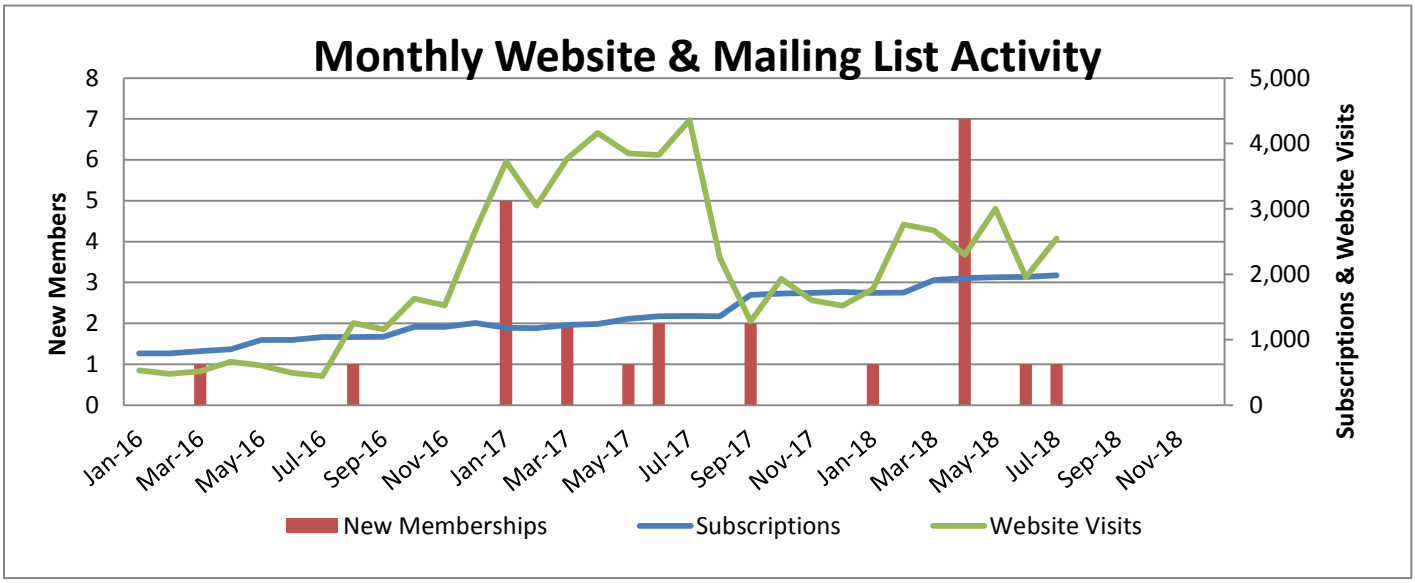
Target Audience: Residents, visitors, and public employees

Content of Message: 1) A watershed is an area of land draining to a common point. You live in the LGRW, you impact the watershed. 2) Learn more about the LGROW by visiting LGROW.org. 3) Reasons for protecting the watershed. 4) Ways individual can affect the watershed through their activities.

Delivery Method:

- Permittees' websites link to LGROW's website, www.lgrow.org. The watershed website provides information on non-point source (NPS) pollution, local watershed issues, water science education, and watershed management. A major website update was launched at the beginning of the 2017-2018 reporting period and was accessed by an average of 758 unique visitors each month. The website logged 9,090 unique visitors over the entire reporting period.
- LGROW also sends out a seasonal email newsletter with information about the watershed, upcoming educational events, and stormwater educational articles. Newsletter subscriptions and website traffic by month are displayed in Figure 3.

Figure 3. Page Visits to LGROW.org by Month



- LGROW worked to promote participation through its Facebook page with a regular posting schedule including watershed project highlights, upcoming events, and volunteer opportunities. Throughout the reporting period, LGROW Facebook posts have reached 107,622 people. As of the end of the reporting period, the Facebook page reached 935 Likes (this number has increased from the last reporting period). Facebook user engagement has shown consistent growth over the reporting period with the average number of Likes, Shares, and Comments. LGROW promoted its Facebook page three times during the reporting period using paid promotions, which increased its audience significantly. Facebook activity is displayed by month in Figure 4.

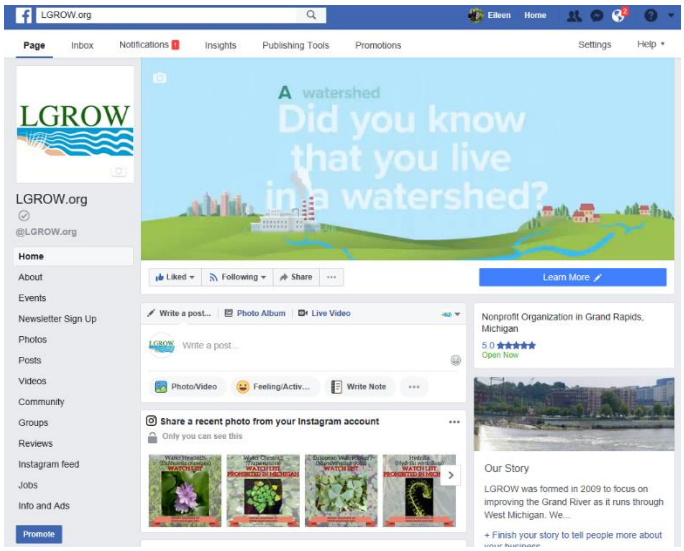
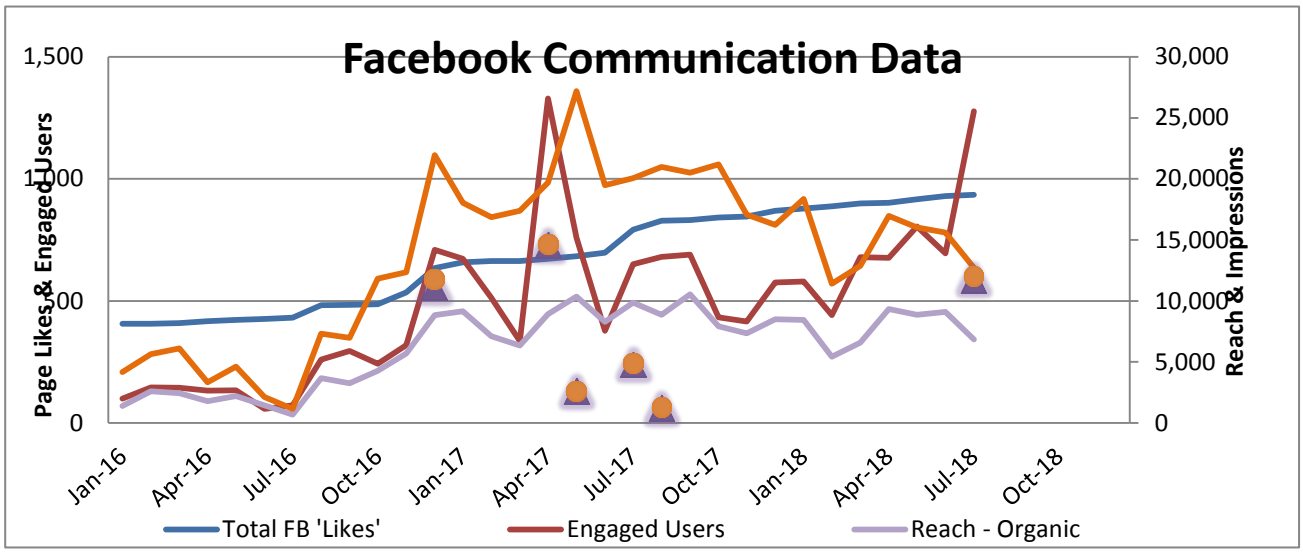


Figure 4 Facebook Communication Data by Month



- Permittees distributed LGROW, stormwater, and watershed education materials listed below to residents in the LGRW at multiple events, and venues. Materials were distributed according to

the type of event and the target audiences in attendance. Listed below are the number and type of educational materials ordered by permittees to distribute throughout the reporting period:

- 2000 LGROW Lip Balms
- 1500 "Report Illicit Discharge" fridge magnets
- 1000 Rainbow Trout "Only rain in the drain" stress balls
- 1500 "Keep your Lakes Great and your River Grand" dry bags
- 700 "Keep your Lakes Great and your River Grand" magic scarves
- 1200 "Report Illicit Discharge" coasters
- 500 Car Wash pledges and shammies
- 500 Pet Waste pledges and dispensers
- 1000 Paint by number Watershed Maps

Other public education materials ordered during previous permit cycles were also distributed by permittees, including:

- Keep Your Lakes Great and Your Rivers Grand Magnets
- Keep Your Lakes Great and Your Rivers Grand vinyl stickers
- Watershed Temporary Tattoos
- Troutie Coloring Books
- Reusable Water Bottles
- Reusable Tote Bags
- LGROW Brochures
- Landscaping for Water Quality booklets
- LGROW Gardening Gloves
- LGROW Pens
- LGROW Custom Baseballs

- Many Permittees displayed lamppost banners when first purchased in 2012 to advertise the presence of the Grand River, Rogue River, and Plaster Creek Watersheds. The banners featured the LGROW logo and the message "Yours to Protect." In early 2018, 4 communities ordered additional banners for display, including new banners for Buck Creek and the Thornapple River.

Banners on display in Spring Lake

- Through cooperation of staff in permitted MS4 communities, Public Engagement Committee participants, GVMC staff, and other members of LGROW, about 50 events around the watershed had representation from the Lower Grand River. Event participation by community is detailed in Table 4. Community-specific event activities are detailed in each Permittees' PEP questionnaire. Events attended by more than one MS4, or that were coordinated through LGROW, are discussed in the section following Table 4, and in the Delivery Method section of corresponding objectives.

Table 4 LGROW and MS4 Participant Events

MS4 Community	Event/ Activity	Date
Cascade Charter Township	LGROW Spring Forum Host	5/11/2018
Ferrysburg, City of	LGROW Focus Group	12/18/2017
Forest Hills Public Schools	Classroom Programming through Groundswell	Ongoing
Georgetown Charter Township	Jenison Public Schools Collaboration	Ongoing
	Ottawa County Water Quality Forum	11/30/2017
Grand Haven, City of	Earth Day Festival	4/21/2018
	LGROW Focus Group	12/18/2017
	Robinson Elementary	3/21/2018
	Coast Guard Festival	7/28 - 8/5/2017
	Salmon Festival	9/16/2017
Grand Rapids, City of	Home Show	3/1-4/2018
	Mayors Grand River Cleanup	9/9/2017
	Ottawa County Water Quality Forum	11/30/2017
	Grand River Water Festival	6/23/2018
	Dia del Nino	4/28/2018
	Canoemobile	5/7-5/11/2018
	Presentation to Museum School	10/11/2017
	Water Resource Recovery Facility Tours	Ongoing
	Rainbarrel Workshop	7/29/2018
	WhiteCaps Game	7/26/2018
	Grand River Spring Forum	5/11/2018
Grand Rapids Charter Township	Partner with FHPS	Ongoing
Grandville, City of	Buck Creek Cleanup	8/5/2017
	Mayors Grand River Cleanup	9/9/2017
	Michigan Week Community Event	5/16/2018
Hudsonville, City of	Ottawa County Water Quality Forum	11/30/2017
Kent County Drain Commissioner	Grand River Spring Forum	5/11/2018
Kent County Road Commission	Facility Tours	Ongoing
Kentwood, City of	Touch A Truck/DPW Behind the Scenes (with Kent Co DPW)	5/16/2018
	Buck Creek Cleanup	8/5/2017
	LGROW Focus Group	12/18/2017
	Grand River Spring Forum	5/11/2018

Table 4 LGROW and MS4 Participant Events

MS4 Community	Event/ Activity	Date
Ottawa County Administration and Water Resources Commissioner	Ottawa County Water Quality Forum	11/30/2017
	Grand River Spring Forum	5/11/2018
Ottawa County Road Commission	Partner with Georgetown Township & Jenison Public Schools	Ongoing
Plainfield Charter Township	Grand River Spring Forum	5/11/2018
Sparta, Village of	Nash Creek Cleanup-Planting	4/18//2018
	Village Hazardous Waste Collection	4/19/2018
	Partnership with Sparta Schools	Ongoing
Spring Lake, Village of	Mill Point Park River Cleanup	5/12/2018
	LGROW Focus Group	12/18/2017
Walker, City of	Grand River Spring Forum	5/11/2018
	Indian Mill Creek Cleanup	6/2/2018
	KDL Reading Carnival	6/12/2018
Wyoming, City of	Buck Creek Cleanup	8/5/2017
	Partnership with Godwin and Wyoming Schools	Ongoing
	City Cleanup	4/21/2018
	Facility Tours	Ongoing
	Grand River Spring Forum	5/11/2018

- The Quiet Water Symposium promotes non-motorized outdoor recreation and a shared concern for our Great Lakes environment. The 23rd Annual Symposium was held on March 3rd, 2018. LGROW hosted a booth with several watershed displays and distributed information and giveaways focused on watershed awareness and the development of a Water Trail throughout the Grand River. Although this event takes place outside the LGRW, many of the attendees travel through the Lower Grand during their excursions. The Symposium also presents a valuable opportunity to partner with our upstream watershed, the Middle Grand River

Organization of Watersheds (MGROW), who is actively involved in public outreach through their own MS4 program.

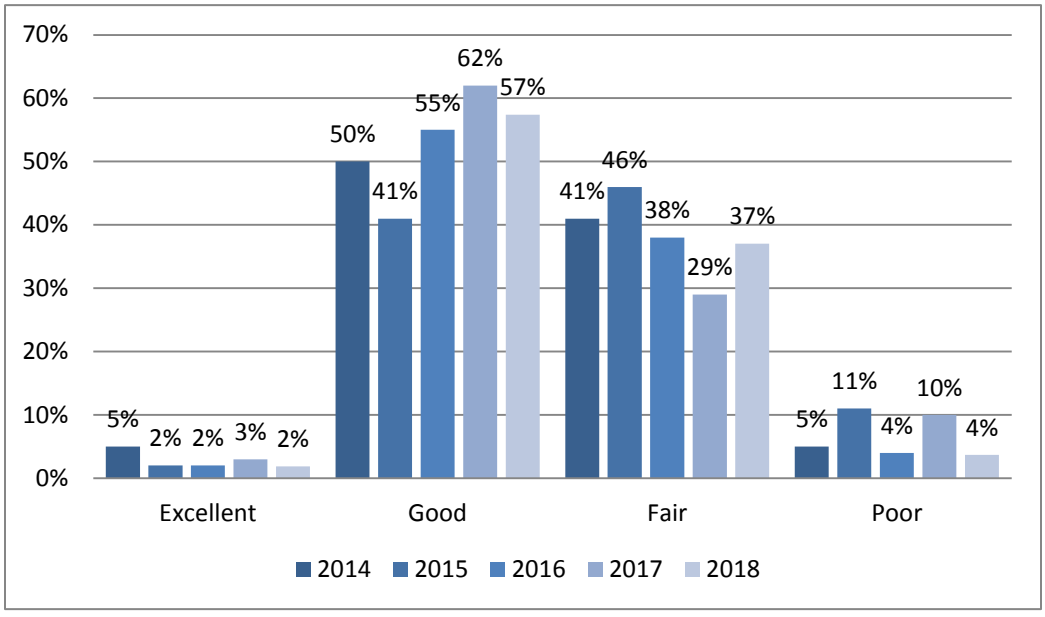
- LGROW hosted a table at the Blandford Nature Center Earth Day event on April 21, 2018. This was a public event designed to connect residents of the Grand Rapids metro area with their local community conservation resources, information on new and upcoming projects, and highlight volunteer opportunities to get involved. LGROW hosted a table with information on the watershed, the LGROW Rainscaping program pilot in Indian Mill Creek Watershed, and stormwater educational materials focusing on pet waste and car wash pledges.

- The 15th Annual Grand River Forum on May 11, 2018, was put on by LGROW at the Wisner Center in Cascade Township. The event offered 111 attendees a regional perspective on emerging issues and accomplishments from around the Watershed. This year's keynote speaker, Al Steinman, from GVSU's Annis Water Resources Institute, spoke about Integrated Water Management. Next, Scott Conners (City of Walker Engineer and LGROW Board Chair) moderated a Panel Discussion that focused on the new post-construction control stormwater requirements. Panelists included Carrie Rivette, Wastewater/Stormwater Superintendent of the City of Grand Rapids, Teresa Siedel, Director of the Water Resources Division of MDEQ, and Jeff Gritter, Project Manager at Vriesman and Korhorn Civil Engineers. The LGROW Chair, who was previously Scott Conners from the City of Walker, changed hands to Carrie Rivette from the City of Grand Rapids. This change was commemorated with a 'Passing of the Paddle' ceremony.

The remainder of the forum focused on emerging watershed issues. Presentations were given by Jessie Schulte (Kent County Conservation District) and Rob Petit (ECT) on the Regional Conservation Partnership Program; Brenda Perry (Facilitator, Kent Innovation High School), Joe Phillips (Design Lab Instructor, Kent Career Tech Center) and their students on place-based environmental education curriculum they used in their classrooms; Wes Landon (Native Edge, LLC.) and Julie Parks (Executive Director of Workforce Training, Grand Rapids Community College) on the Rainscaping Program; Natalie Henley (West Michigan Environmental Action Council) on the Grand River Water Trail; LGROW Committee Chairs gave updates for each committee; and LGROW Staff discussed the pre-forum survey results.

Each forum participant completed surveys after both registering and attending the event. A selection of the questions from each survey is asked annually to determine if there is a measurable change in people's attitudes toward and perception of the river. Figure 5 shows an increase in respondents identifying water quality in the Grand River as "Fair" rather than "Poor" from 2017 to 2018.

Figure 4. 2017 Survey Results: How would you rate the water quality in the Grand River?



- LGROW sponsored the Grand River Water Festival on June 23, 2018, at Riverside Park, which was attended by approximately 3,000 people. The festival is a free-of-charge, day-long, music driven, environmental festival featuring traditional folk, country, bluegrass, Cajun, blues, and world beat music performed by Michigan musicians. Visitors to the LGROW booth identified their location in the watershed by referencing maps, and Major Runoff, the Stormwater Mascot, engaged with children and adults. Volunteers at the LGROW booth helped children of all ages create paintings of nature scenes using native soils to the watershed, similar to artists who create field drawings using natural materials they find in the environment. The LGROW booth's educational materials focused on how homeowners can reduce stormwater runoff from their properties by installing green infrastructure practices through the LGROW Rainscaping program.

- LGROW hosted a concourse table at a WhiteCaps game on Thursday, June 26, 2018. GVMC staff and volunteers from the City of Grand Rapids (a MS4 permitted community) helped run a booth. Volunteers handed out LGROW baseballs, LGROW brochures, Pet Waste Pledges with pet waste bag dispensers, and Car Wash Pledges with shammies. Volunteers discussed the importance of watershed protection with attendees of the game.

- LGROW worked with students from schools throughout the watershed to educate about the connections between land use and water quality. LGROW led activities for 465 students from the City of Grand Rapids and Plainfield Township focused on macroinvertebrate sampling and runoff vs. infiltration at the annual Canoemobile event at Riverside Park in Grand Rapids. LGROW also worked directly with Jenison Public Schools and Forest Hills Public Schools to teach 99 students at Bauerwood

Elementary and 90 at Northern Trails 5/6 about the Grand River Watershed and the ultimate discharge location of stormwater systems, as well as personal actions that can protect water quality. These activities resulted in students marking 50 catch basins on Northern Trails' campus and 100 catch basins in the neighborhood surrounding Bauerwood. LGROW also assisted schools with their existing educational activities surrounding watersheds and nonpoint source pollution. LGROW led an activity connecting land use and habitat with macroinvertebrates and water quality at a Water Field Day for 525 students in Godfrey Lee schools in Wyoming, helped 25 students stencil 9 catch basins and complete rain garden/riparian maintenance near Buck Creek in Grandville, and assisted a teacher at Pinewood Elementary in Kentwood Public Schools with her annual Buck Creek education day for 120 students. Additionally, 40 students from Kenowa Hills High School participated in the spring Indian Mill Creek Cleanup. LGROW also participates as a member of the Groundswell advisory council, which supports schools in the Lower Grand River Watershed as they implement place-based education and stewardship projects in the watershed. Groundswell reaches approximately 500 students annually through its programs focused on the Lower Grand River Watershed, including supporting projects at 3 schools in the nested jurisdiction of Kentwood Public Schools and at 5 schools in the permitted district of Forest Hills Public Schools.

Students marking catch basins at Northern Trails 5/6 in Forest Hills

- The 'Find My Watershed Tool' was improved during this reporting period and can be accessed via LGROW's homepage, or at: https://www.google.com/maps/d/u/0/viewer?mid=1WuQZRA612p4X1t_9i4qNYlP_830_ZIi-&ll=42.99923233465322%2C-85.46882900000003&z=9 . An advertisement was created through National CineMedia, LLC regarding this tool. The 30-second advertisement is also available for viewing on LGROW's website. The advertisement ran for 8 weeks as a digital media campaign, targeted online to people who were in the Lower Grand River Watershed. About 79% of people that the advertisement was delivered to watched the entire commercial. Industry average is around 60%. The commercial was shown 120,419 times.

- Seasonal Watershed 'Tip' fliers were distributed to communities. These fliers focused on positive actions that Department of Public Works employees and citizens alike could take to improve the water quality in the watershed. Tips focused on different actions that were relevant to that respective season.

Fall Seasonal Tips Flier

<u>Public Education Topic 2 - Ultimate Stormwater Discharge Location and Potential Impacts</u>

PEP Objective 2: Education on the location of residential stormwater system catch basins, where the system discharges, and impacts from pollutants.

Target Audience: Landscapers/lawn care companies, auto repair shops, commercial power washers, carpet/floor cleaning companies, commercial operations, industries, residents, and local businesses

Storm drain markers

Content of Message: 1) Storm drains connect to your local lakes and streams, not a water treatment plant. 2) Prevent pollution from entering your storm drains and protect the health of your family, your community, and the Grand River. 3) Education on the impacts of stormwater pollutants. 4) Education on the stormwater system and receiving water bodies in a person's or company's neighborhood.

This topic was chosen as one of two key topics by the Public Education Committee to focus on during this reporting period.

Delivery Method:

- Permittees installed the plastic storm drain markers designed by the Public Engagement Committee. The drain markers carry the messages "Keep your Lakes Great and your Rivers Grand." Some Permittees also engaged with community partners to do storm drain stenciling events which are detailed in the PEP Questionnaire. This image was also used on several giveaways including vinyl stickers and magnets. In total, 150 drain markers were installed and 9 storm drains stenciled with the message "No Dumping: Drains to Waterway" in the watershed.

- Permittees utilized a variety of stormwater displays including the drop toss game, the watershed pushpin map, the LGROW banners on non-point source pollution, Car Wash and Pet Waste Pledge posters, and the "Grand River Yours To Protect" informational poster board at a variety of events and locations throughout the Watershed. The PEP Questionnaire included in this report details when and where these displays were used by individual Permittees.

- An advertisement explaining that storm drains lead directly to rivers, lakes and streams was printed on the back of all household hazardous waste collection flyers printed for Kent County MS4 communities.

- Troutie Stress Balls were provided for communities to distribute. The fish shaped stress balls had the message: 'Only rain in the drain, it leads directly to my home!' This give-away allowed people to easily make the connection between storm drains and water quality as it relates to aquatic habitat.

Household Hazardous Waste flyer advertisement

Public Education Topic 3 - Public Reporting of Illicit Discharges

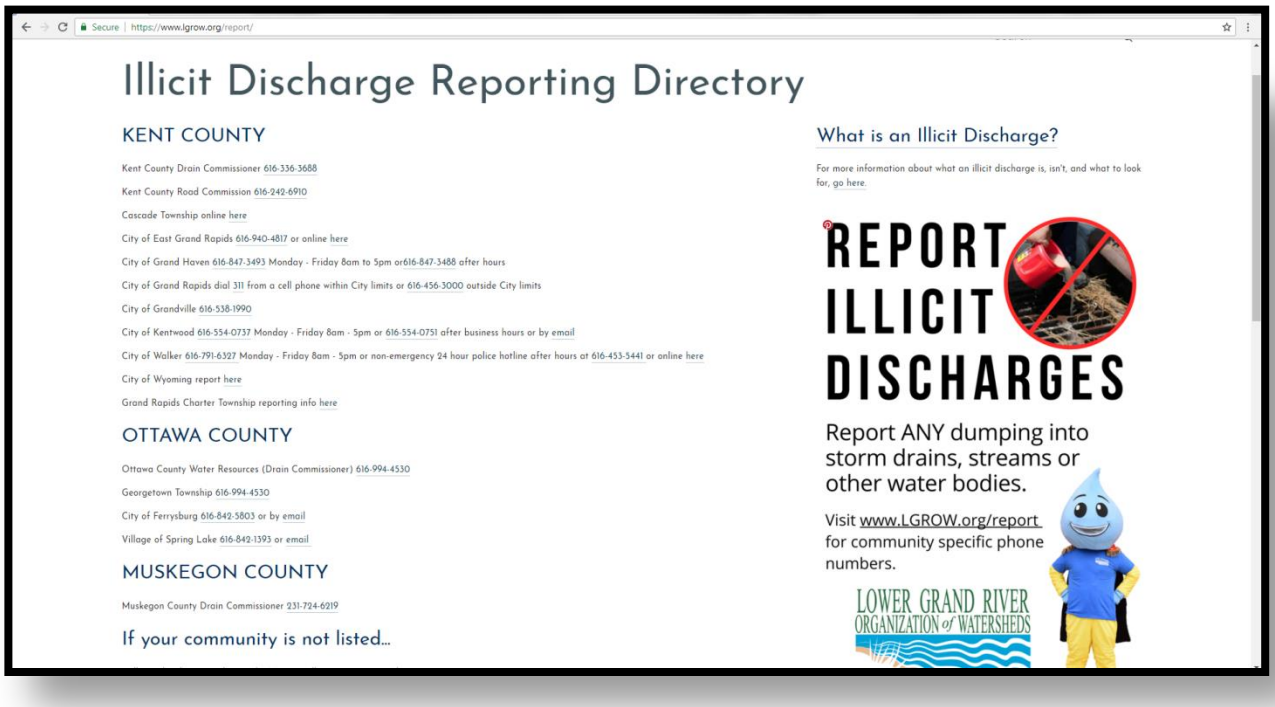
PEP Objective 3: Encourage public reporting of the presence of illicit discharges or improper disposal into the stormwater system.

Target Audience: Residents, public employees, businesses, construction activities, industries, and septic system owners/haulers.

Content of Message: 1) How to identify illicit discharges. 2) How to report illicit discharges. 3) Water quality impacts from illicit discharges. 4) Consequences/penalties associated with illicit discharges and improper waste disposal. 5) Proper septic system care and maintenance. 6) How to recognize system failure. 7) Impacts failing systems have on water quality. 8) Where to go for assistance.

The Public Reporting of Illicit Discharges was selected by the Public Education Committee as one of two key topics to focus on for this reporting period. It was important that communities focused on this topic because IDEP outfall screening occurred for many municipalities in the watershed during the summer of 2018.

Delivery Method:



- A reporting website for MS4 communities across the Lower Grand River Watershed was created in order to offer a Reporting Directory for DPW employees or citizens seeking information about how to report illicit discharges. This website can be found at: https://www.lgrow.org/report/. Communities were encouraged to share this information on their municipal webpages, and on social media.

Information was also added to the LGROW website to inform the public about what an illicit discharge is.

- Illicit discharge magnets and coasters were created in conjunction with the reporting website to promote use of the website and to raise awareness for DPW employees and citizens, encouraging them to report illicit discharges.

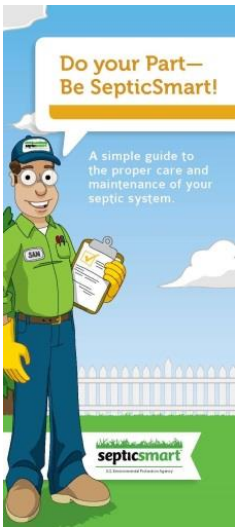
Coasters

- A newsletter article titled, 'Reduce and Report Pollution Entering the Grand River' was published for all MS4s to distribute to their employees or citizens. This article highlighted the reporting webpage, and gave advice on how to reduce stormwater pollution.

- Permittees made information about how to report illicit discharges available to residents and staff through a variety of channels. Some communities promote the Citizens Reporting form developed previously by LGROW, while others use an online reporting form. The method each community used to distribute this information is detailed in PEP Questionnaires.

- Permittees distributed the article *"How you as an Employee Can Help Reduce Pollution Entering the Grand River"* to their employees. This article encourages employees to report stormwater discharges to their community's stormwater coordinator.

- Permittees distributed copies of USEPA's *"Do your Part- Be Septic Smart!"* brochure to their residents. This brochure describes what a septic system is, how it works, and how to maintain it. LGROW participated in SepticSmart week September 18-22, 2017 by publishing a blog post and daily social media posts about proper septic maintenance.



<u>Public Education Topic 4 - Personal Actions that can Impact the Watershed</u>

PEP Objective 4: Education on the need to minimize the amount of residential or non-commercial wastes washed into the storm sewer system.

Target Audience: Residents, schools, non-profit groups conducting carwash fundraisers, public employees, visitors, recreational users, riparian landowners

Content of Message: 1) BMPs for car, pavement, power washing. 2) Preferred cleaning materials and practices, "phosphate free as important as biodegradable". 3) BMPs for pesticide use, fertilizer use and their disposal. 4) BMPs for proper management of grass clippings, leaf litter, and animal wastes. 5) BMPs for residential deicer use. 6) BMPs for native vegetation on residential properties as an alternative to turf grass. 7) Effects of residential wastes on our waterbodies. 8) Education on low impact development techniques.

Delivery Method:

- Permittees distributed the brochure "*Make your Household the Solution to Water Pollution*". The Public Engagement Committee contracted with the Hispanic Center of West Michigan to produce a Spanish translation of this brochure for communities as well.

- Several communities hosted rain barrel events or rain garden work days as detailed in their PEP Questionnaires.

- Permittees collected pet waste pledges from dog owners in exchange for a free pet waste bag dispenser to hook to the pet's leash. The pledges also provide information on dog parks in the Watershed and discuss the connection between picking up pet waste and protecting stormwater. This brochure was adapted, with permission, from a similar program in Portland, Oregon. In this reporting period, 127 new pet waste pledges were collected from around the watershed.

- Permittees collected car wash pledges from residents in exchange for a free shammy to use for home car washes. The pledge provides the following information about car washes: *There's no problem with washing your car, it just matters how and where you choose to wash it. The average homeowner uses 116 gallons of water to wash a car. If you wash your car in your driveway, all that water, along with the soap, grease, brake dust, oil, and dirt that you wash off your car flows directly into the nearest storm drain. From there, it's just a short trip to the Grand River and eventually Lake Michigan*. In addition, residents keep a portion of the pledge that provides other environmental friendly car care tips. In this reporting period, 52 new car wash pledges were collected from around the watershed.

- LGROW developed a flyer describing proper procedure for draining residential swimming pools in the fall. This was distributed publicly online via www.lgrow.org and made available for customization by MS4 communities. The flyer can be downloaded at https://www.lgrow.org/ms4information.

Public Education Topic 5 - Waste Management Assistance

PEP Objective 5: Education on proper disposal of household hazard waste (HHW), travel trailer/boating sanitary wastes, chemicals, motor vehicle fluids, and unused medications.

Target Audience: Residents, visitors, and public employees

Content of Message: 1) Protect your family's health: dispose of unwanted paints, solvents, and cleaners at your county collection center. 2) Recycle used oil and automotive fluids. Just one gallon of used motor oil dumped down a catch basin can contaminate one million gallons of your drinking water. 3) Education on types of HHW and available alternatives. 4) Education on disposal locations of HHW, travel trailer/boating sanitary wasters, chemicals, motor vehicle fluids and unused medications.

Delivery Method:

- Permittees and LGROW.org shared the newsletter articles *"How You Can Help Reduce Pollution Entering the Grand River"* and *"What Can You Do to Help Protect Your Watershed?"* These articles explain the watershed concept and encourage residents to dispose of pet waste, paints, motor oil, etc., in the appropriate locations, not in the storm drains.

- Permittees distributed the flyer "*Make Your Household the Solution to Stormwater Pollution"* in both English and Spanish, which also details the importance of proper disposal of household hazardous waste.

- Both Kent and Ottawa County communities distributed household hazardous waste flyers at events and provided information on recycling household hazardous waste via the phone and websites. Many permittees also opted to distribute these materials at their respective community events. Kent County's expanded household hazardous waste collection hours to allowed more Kent County residents to take advantage of this service.

- Many communities hosted clean up days to encourage proper disposal of unwanted materials. Details of these events, as applicable, are provided in individual PEP Questionnaires and Part 7.

Public Education Topics 6 - Management of Riparian Lands

PEP Objective 6: Education concerning management of riparian lands to protect water quality.

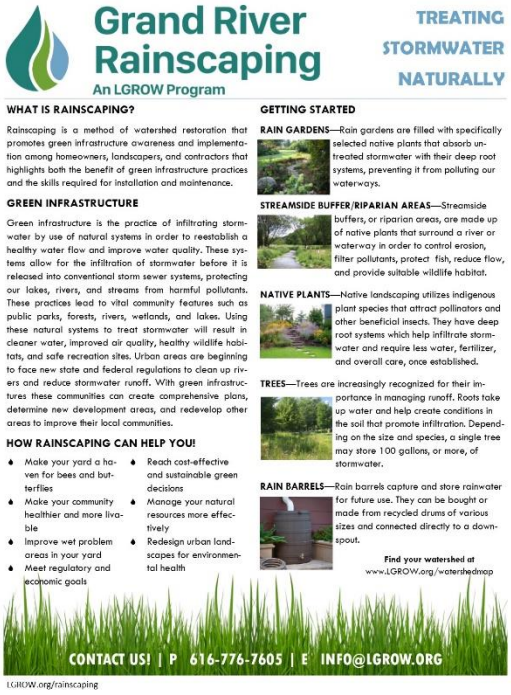
Target Audience: Riparian landowners, construction activities, landscapers

Content of Message: 1) Importance of riparian corridors/stream buffers. 2) How to landscape for better water quality. 3) Education on shoreline stabilization techniques, stream buggers, filter strips, conservation easements, and bioengineering techniques.

Delivery Method:

- Permittees distributed the brochure "*What Every Landscaper Should Know*, to their subcontractors and facilities staff. These brochures detail BMPs for fertilizer and pesticide application, lawn care, and native plantings.

- LGROW launched and promoted its Grand River Rainscaping: Treating Stormwater Naturally program. This program aims to promote installation of green infrastructure and native landscaping practices to reduce stormwater runoff from residential properties and improve water quality. Residential site assessments were performed on 28 properties, 19 of which were in MS4 communities, and a 600 square foot demonstration rain garden was installed at West Catholic High School. Residents who have a site assessment completed receive a customized report of what green infrastructure practices are best suited to their site as well as resources for implementing those practices. The Rainscaping program is aimed at both shoreline and non-shoreline properties.

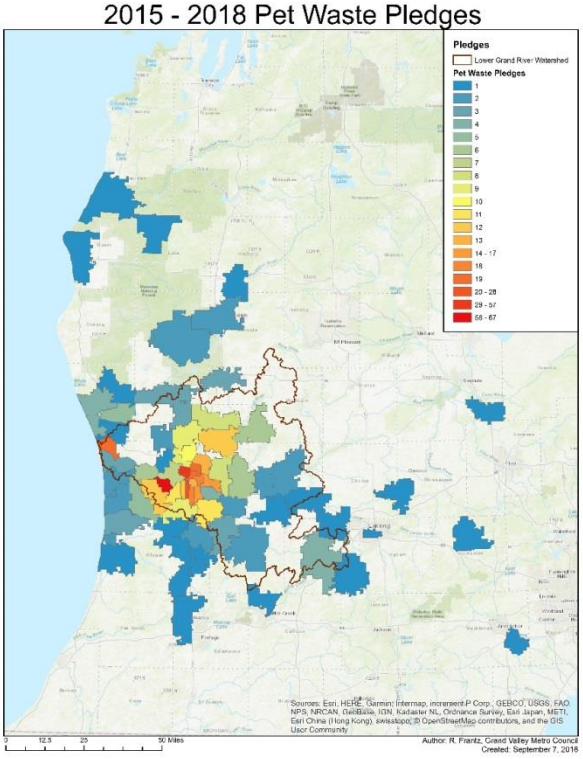


Evaluation Measures

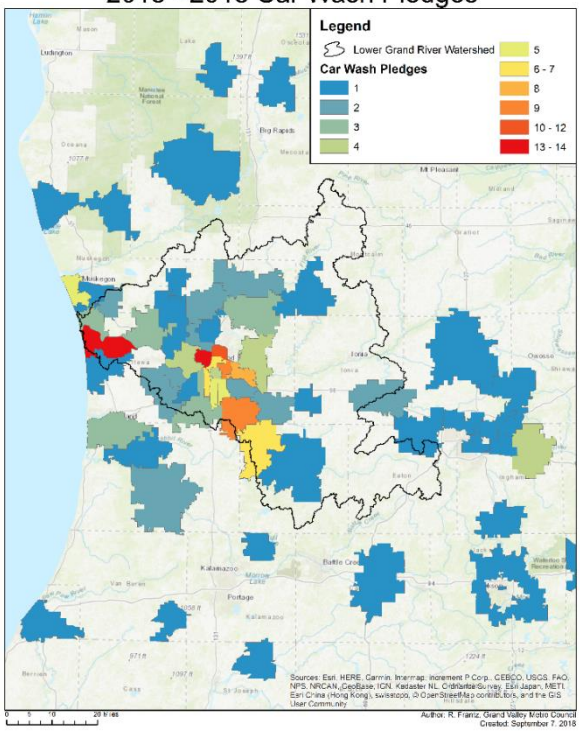
This section includes a description of the quantitative and qualitative evaluation measures of PEP effectiveness implemented between August 1, 2017, and July 31, 2018. During this reporting period, LGROW also contracted with Petersen Research Consultants, LLC to create updated robust evaluation measures for the PEP. An updated evaluation plan will be completed during the next permit cycle as part of LGROW's ongoing PEP update process.

During this permit cycle, permittees completed PEP Questionnaires to provide a quantitative and qualitative evaluation of their individual stormwater education efforts. In total, materials were distributed at over 50 events (Table 4) and at various locations throughout the watershed. The car wash and pet waste pledges represent more than an educational outreach effort; these are a commitment to a behavioral change which has an important impact on water quality. The majority of responses for both pledges were from residents within the watershed. This program was very popular, with a total of 551 pet waste and 211 car wash pledges collected since the start of the 2015-16 reporting period to the end of the 2017-2018 reporting period. Of those totals, 127 pet waste and 52 car wash pledges were collected during the 2017-2018 reporting period from across the watershed.

2015 - 2018 Pet Waste Pledges



2015 - 2018 Car Wash Pledges



2017 Public Education Focus Group

A focus group was held on December 18, 2017 at the offices of GVMC with the purpose to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts. The last focus group held to evaluate the PEP was in 2009 at Fishbeck, Thompson, Carr & Huber (FTC&H) in Grand Rapids to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts in 2008 and 2009.

The 2017 focus group was held with the purpose to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts since 2009. Using the information provided from the focus group, the PEP for the LGRW communities can be edited in the future to better serve the public. The challenges, successes, and recommendations communicated in this report will be evaluated to modify the PEP as needed. The updated PEP will result in a more effective public outreach campaign to reduce stormwater pollution and raise MS4 awareness during the next permit cycle.

Focus group participants were nominated by local units of government that maintain MS4 permits. Each participating local unit of government was asked to submit two potential participants that meet the following criteria:

1. The nominees must live in Kent or Ottawa Counties, specifically in the Lower Grand River Watershed, preferably in the community they are representing
2. The individuals do not manage or have direct involvement with your community's MS4 Permit
3. The nominees have had the potential to encounter LGROW deliverables (examples: events, educational outreach, brochures or fliers, LGROW website or Facebook page)

GVMC staff administered the 1.5 hour long focus group session on December 18, 2017. Twelve invited individuals were present, representing Kent and Ottawa Counties. Eleven of the 23 municipalities that

GVMC works with regarding MS4 permits were represented. There was a diverse demographic represented among the group.

Discussion began with introductions of everyone present and an ice breaker question. The conversation followed six dialogue questions led by GVMC. The dialogue questions were as follows:

2017 LGROW Focus Group Dialogue Questions
1. What do you know about LGROW?
2. What LGROW information have you seen, heard, or read?
3. Did the message (that you have seen, heard, or read) influence you? If so, how?
4. Have you seen any stormwater or pollution prevention messaging at your workplace? Who was the message from? (LGROW, employer, other org.)
5. How could LGROW project deliverables be improved?
6. Where and how do you get information on community activities?

This focus group ended up being a very educational experience for its participants while providing valuable feedback on LGROW outreach activities. The mixed demographic of participants and the number of MS4 communities participating provided a fairly diverse view of LGROW's reach into the watershed, and participants shared many ideas to improve LGROW messaging.

Key take-aways for LGROW from the focus group are summarized in the following table:

How LGROW messages can be improved	
New Target Audiences	• *Municipal employees* • *Adults through schoolchildren* • *People living in apartment complexes* • *LEED certified building owners* • *Farmers*
Reworking Messages	• *Translating materials in to the language of the neighborhood* • *Address 'why' citizens need to know the message presented* • *Simplify messages*
Delivery Mechanisms	• *Placement of watershed information (placement of 'Entering the Watershed' signs, more signs for GI)* • *Tours of municipalities and events at breweries* • *Word of mouth*

	• *Presence at festivals* • *Advertising in churches in the watershed*

The full 2017 Focus Group Report is attached to this Progress Report. Please reference it for further details.

2018 Stormwater Public Education Plan (PEP) Questionnaire

Reporting period of August 1, 2017 to July 31, 2018

Please complete this questionnaire to provide an evaluation of the stormwater education activities you have implemented between **August 1, 2017 and July 31, 2018**. GVMC will include this information, along with watershed-wide measures of effectiveness, in your 2017 Progress Report to MDEQ. **Please return this form to GVMC by September 7, 2018.**

Community Name: Kent County Drain Commissioner

Brochures, Flyers, and Giveaways:

1. Which of the following general stormwater awareness/LGROW materials (brochure, flyers, giveaways) did you order/distribute from GVMC this year:

☐ LGROW Brochures
☐ Grand River Infographic
☐ "Make your home the Solution to Stormwater Pollution" brochure
☒ "Do your part – be SepticSmart! brochure
☐ Household hazardous waste disposal guidelines from Kent County DPW
☐ Seasonal Tip Sheets (Fall, Winter, Spring, Summer)
☐ LGROW Water Bottles
☐ LGROW Chapstick
☐ "Keep your Lakes Great and your River Grand" dry bags
☐ LGROW "magic scarf"
☐ LGROW Totebags
☐ "Keep your lakes Great and your River Grand" sticker
☒ Troutie coloring book
☐ Paint by number watershed map
☐ Watershed hand stamp
☐ "Report Illicit Discharges" magnet
☐ Trout stress ball with "Only rain in the drain – it leads directly to my home"
☐ Report Illicit Discharges beverage coaster
☐ Other:

2. Have you given away all the materials (brochures, flyers, giveaways) you ordered from GVMC this year?
   ☐ Yes ☒ No

3. Where did you distribute your materials?
   ☒ Government office ☐ Library ☐ Community event ☒ Other Grand Rapids Public Schools

4. Approximately how many people did you interact with during distribution of materials? 50

5. What was the most popular giveaway from the materials distributed in your community? Septic tank information.

6. What topics are of greatest interest to members of your community?

☒ How to report stormwater pollution
☐ Stormwater discharge locations/impacts
☒ Native vegetation/rain gardens/riparian buffers
☐ Proper vehicle care/motor oil disposal
☐ Proper use of pesticides/fertilizers/herbicides
☐ Proper yard waste disposal
☒ Proper septic system maintenance
☐ Household hazardous waste management

Illicit Discharge Reporting

7. Did you distribute illicit discharge reporting materials to your residents?

   ☐ Hard copies of "Citizens Reporting Brochures" from the IDEP – Number distributed:
   ☐ Link to LGROW's reporting page posted to your website https://www.lgrow.org/report/
   ☐ Report Illicit Discharge magnets – Number distributed:

   Please describe any interest, comments, or discussion generated from the brochure, magnet or website https://www.lgrow.org/report/:

   How many complaints were received from the general public regarding illicit discharges? 5

Newsletters, Banners, and Displays

8. Did you order and display new lamppost banners during this permit cycle?
   ☐ Ordered and displayed new lamppost banners at (streets):
   ☐ Displayed lamppost banners provided in 2009-2013 at (streets):
   ☒ Did not order or display lamppost banners

9. Did you distribute stormwater focused newsletter articles to your residents? ☒Yes ☐No
   a. Please describe any interest, comments, or discussion generated from the articles
   b. If applicable, list the newsletter name or webpage address used to distribute stormwater information to the public: Newsletter to Kent County Employes.
   c. If applicable, how many residents received your community newsletter? 2000
   d. If applicable, how many total website hits did you receive for your online newsletter articles or stormwater information website?

10. Did you use any of the following materials or activities at events during the reporting period?

Stormwater poster board display	☐Yes, Date:	☒No
EnviroScape interactive stormwater model	☐Yes, Date:	☒No
Watershed map with pushpins	☐Yes, Date:	☒No
Stormwater mural banner and scavenger hunt	☐Yes, Date:	☒No
Major Runoff stormwater mascot	☐Yes, Date:	☒No
Interactive Corn Hole Board	☐Yes, Date:	☒No
Interactive catch basin demos	☐Yes, Date:	☒No

Events and Pledges

11. Did you host a seed bomb or native plant workshop? ☐ Yes, on: ☒No

12. Did you distribute any additional educational materials on native plants?
    ☒ Yes (Describe): ☐No To residents desiring plantings is wet soil.

13. Please describe any interest, comments, or discussion generated from native plant workshops or giveaways:

14. Did your community collect pet waste pledges distributed with the public education materials?
    ☐Yes, Number: ☒No

15. Did your community collect car wash pledges distributed with the public education materials?
    ☐Yes, Number: ☒No

    Please describe any interest, comments, or discussion generated from either of the pledges and associated giveaways.

16. Did you implement a storm drain awareness activity between August 1, 2017 and July 31, 2018?

    ☐ Yes: (streets) on (dates)
    ☐ Yes, we held a storm drain stenciling event on (dates) and stenciled (streets)
    ☐ Yes, we have approximately (#) pre-marked catch basin backs/grates with the message "No dumping, drains to waterway"
    ☐ Yes, we hung door knob flyers on (streets) on (dates)

    Please describe any interest, comments, or discussion generated from the activities above:
    Have you noticed a reduction in storm drain dumping? ☒Yes ☐No Describe: A larger percentage of people walking their dog are picking up pet waste.
17. Please describe any interest, comments, or discussion generated from these materials/activities:

18. Did you participate in any community stormwater events? (check all that apply)

    ☐ Rain barrel workshop Date: Number of Attendees:
    ☐ Rain garden/Green Infrastructure Workday Date: Number of attendees:
    ☐ River clean up (location): Date: Number of Attendees:
    ☐ Ottawa County Water Quality Forum – November 30, 2017
    ☐ MWEA Watershed & Stormwater Seminar – December 5, 2017
    ☒ MWEA Watershed Summit – March 28, 2018
    ☐ Earth Day at Blandford Nature Center – April 21, 2018
    ☒ 15th Annual Grand River Spring Forum – May 11, 2018
    ☐ Grand River Water Festival – June 24, 2018
    ☐ MWEA Annual Conference – June 25-27, 2018
    ☐ West Michigan WhiteCaps Concourse Table – July 26, 2018
    ☐ Other: Date: Number of Attendees:
19. Describe any materials distributed, number of attendees, messages used at these events:

20. If applicable, please describe any other stormwater public education activities your community implemented beyond the events described above (This includes education with school groups, other community events, etc.) and submit any relevant documentation.

PART 4 - IDEP

Regional IDEP Activities

The IDEP for the Lower Grand River Watershed was approved in July of 2013 as meeting requirements of the General Permit Application for Storm Water Discharges from MS4s. The IDEP is intended to prohibit and effectively eliminate illicit discharges to the MS4.

The IDEP is being implemented under a cooperative program administered by the Grand Valley Metropolitan Council (GVMC) and involving the county agencies and municipal units participating in the Watershed Approach. The approved IDEP utilizes an alternative approach which includes the sampling of all storm sewer outfalls to Waters of the State within the urbanized area for the following parameters: surfactants, temperature, ammonia, and pH. Cooperative agreements were signed by participating communities to ensure that any illicit discharges detected would be traced upstream to their point of origin within the approved timeline whether or not they crossed jurisdictional boundaries. Illicit discharges that were identified either by public reporting or staff identification during this reporting period are detailed in each community's IDEP. Descriptions of the other IDEP activities undertaken on an individual basis are included below. IDEP activities include dry-weather screening of discharge points, locating possible sources of contamination, responding to reported incidents, correcting the problems, and preventing new illicit connections.

Dry-weather screening was completed by the Kent County Drain Commissioner during this reporting period for the Drain Commissioner's MS4. Other communities in the watershed began outfall sampling in the summer of 2018, and that work had not been completed at the time this report was written. A full report on IDEP outfall screening will be included in next year's report.

Community IDEP Activities

Please describe any dry-weather screening conducted during the reporting period and the findings of that screening.
The second round of urbanized outfall screening was completed May 2018. All 329 Drain District outfalls have been inspected. Only 28 outfalls had flow that were tested for PH, ammonia, surfactants and temperature. Of the 28, 2 were identified with low ammonia range. A follow up on 1 of the 2 has been conducted and the additional test and observation found no indicators. The second was revisited and field tested with same parameters. Water samples collected for laboratory analysis showed high ammonia. We are working with the City of Grand Rapids to trace flow upstream. Kent County Urban outfalls have been screened and out of the 25, only 3 had flow but found no indicators.
Please list any other known and/or resolved illicit discharges identified during the reporting period and status of elimination. For significant discharges, also list the pollutants involved with an estimate of the volume and loading. Examples of illicit discharges include: malfunctioning septic systems; sanitary sewer leaks, overflows, or cross-connections; laundry water discharges; leaking fluids from vehicles, barrels, dumpsters, or tanks; concrete truck wash water; polluted runoff from temporary or permanent storage areas; improper fire hydrant flushing; spills from auto accidents; power washing wastewater; industrial/commercial wastewater, dumping; and any other violation of the IDEP ordinance.
None
Please list the status and schedule for elimination for any illicit discharges identified but not eliminated during this reporting period. Also, report the status of any illicit discharges identified but not eliminated during previous reporting periods.
As described above, the outfall found with high ammonia, Louis-Lyon Drain ID#GRC 25.05 DC, is the only outfall screened that had a high ammonia indicator. We are working with the City of Grand Rapids to trace the indicator of pollution upstream to find the source. It is scheduled for November 2018.

Please describe actions taken when indications of illicit discharges have been identified, if any.
In May 2018, upon a complaint received by a local observer, the Drain Commissioner inspected the Behan & Foley County Drain with a complaint of a milky white residue being discharged into the channel. Working upstream, the discharge appeared to be coming from the connected upstream private storm sewer system. It was traced to a commercial lot where the wastewater of a concrete plant was being discharged into the connected system. The MDEQ was contacted, being that the channel is a water of the state, and a violation was issued. Violation Notice No. VN-008360. A follow up was conducted and confirmed that the clean up of the drain was completed. The incident was logged into our Community IDEP log with Incident Number 2-18.
Please provide: ● An estimated quantification of the number of discharges eliminated, and ● An estimated quantification of the volume of illicit flow eliminated (*For large spills or, where the amount discharged is possible to estimate)*.
2 Unknown quantity. Cleanup was approximately 25cft.

Identify any specific coordination with the health department in response to illicit discharge elimination for failed or failing septic fields.
Describe the effectiveness of the program to prevent illicit discharges and the method used to assess effectiveness.

PART 5 - New Point Source Discharges of Stormwater

Do you own or operate any NEW or previously unidentified stormwater discharges? ☒Yes ☐No If "yes," please indicate which discharge points are new on your outfall map or list.
Is your stormwater discharge point map attached or provided electronically? ☐ Map is attached ☒ Map is provided electronically ☐ Other. Please explain in comments section.
Is your stormwater discharge point list attached or provided electronically? ☒ List is attached ☒ List is provided electronically ☐ Other. Please explain in comments section.
Comments: Map and list were submitted to MDEQ as Appendix 2 in Illicit Discharge Elimination Plan revision, July 30, 2013. Updated lists were submitted to the MDEQ as part of the 2016 MS4 Permit Application which is currently under review.

PART 6 - Nested Drainage System Agreements

Please list all nested jurisdictions with whom you have a cooperative agreement:		
Name of Nested Jurisdiction	**Agreement previously provided to MDEQ**	**Agreement attached**
N/A	☐Yes ☐No	☐Yes ☐No
	☐Yes ☐No	☐Yes ☐No
	☐Yes ☐No	☐Yes ☐No
Comments:		

PART 7 - Other Actions

Please list any extra efforts your community has conducted above and beyond your commitments recorded above (e.g., stream buffer ordinance adoption, new management techniques, invasive species control, habitat enhancement/protection, logjam removal, stream/beach clean-ups, etc.) that have helped implement the **Lower Grand River Watershed Management Plan**:
Negotiating with property owners along a County Drain to establish a buffer along the stream. This office is inspecting and cleaning storm sewer catch basins. Negotiating with owners of large commercial properties to reduce the amount of chlorides used for snow melt.
Please list any other actions your community has conducted to reduce stormwater pollution

PART 8 - Revisions to the SWPPI

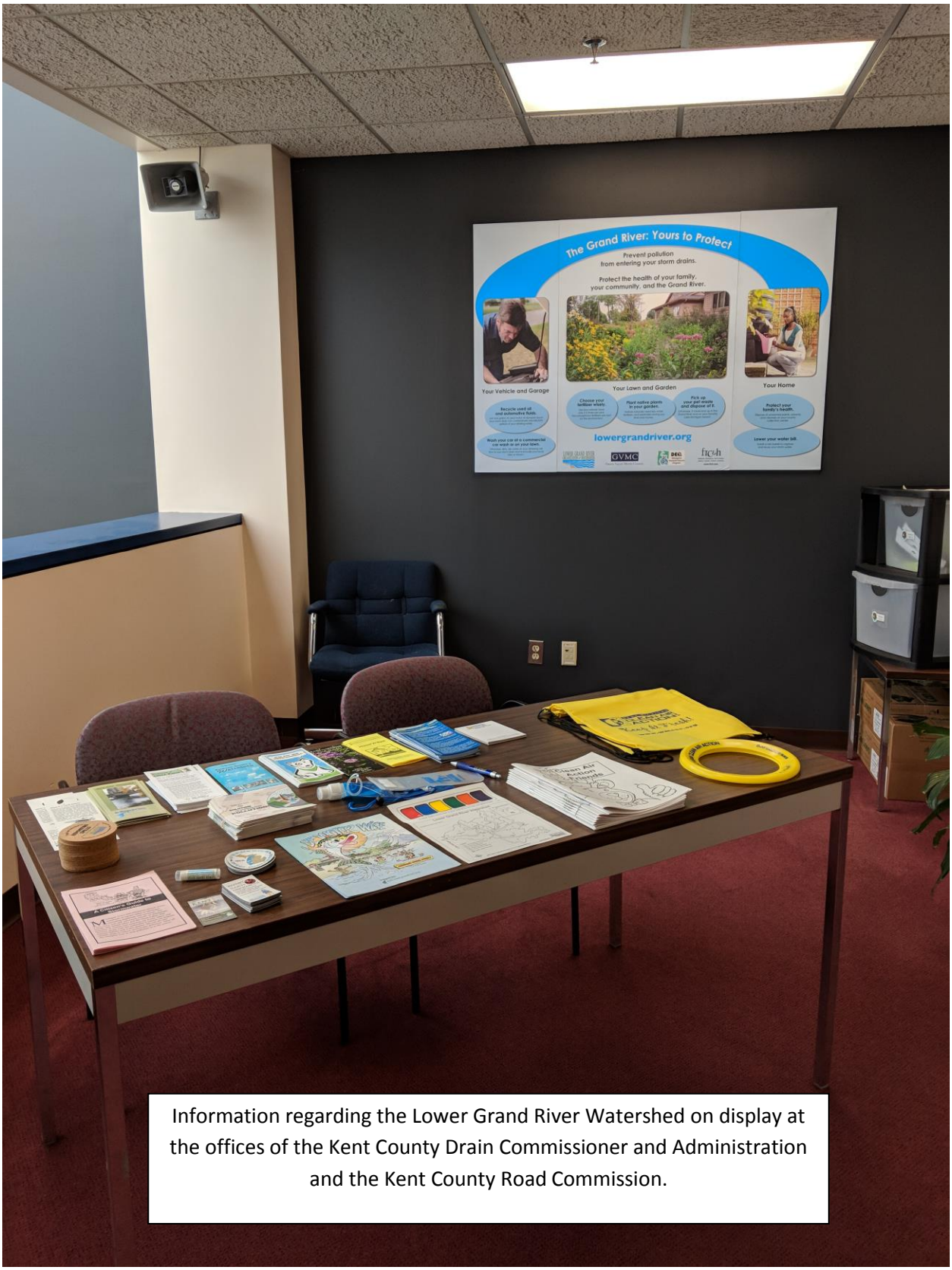
Based on your evaluation of the effectiveness of your stormwater BMPs, are there any commitments that should be added to or removed from the SWPPI?

☒ No, the SWPPI does not need any revisions

☐ The following revisions to the SWPPI could be considered:

Original SWPPI Section/Subsection	**Revision**

Additional Documentation



Information regarding the Lower Grand River Watershed on display at the offices of the Kent County Drain Commissioner and Administration and the Kent County Road Commission.

NEWLY ADDED OUTFALL/DISCHARGE POINT

					LOCATION		OUTFALL		DISCHARGE POINT				DISCHARGE POINT	Priority
DATE	LOCAL ID #	Drain Name/ FACILITY NAME	Unit(s)	Section	°N	°W	Type	SIZE	Community	Type	MS4 Community	Urbanized	Waters of the State	(Future)
12/6/2017	PLN 21.05 DC	Summit Crest	Plainfield	21	43.07121	-85.6259	Storm Sewer	18		OPEN CHANNEL		X	TRIB TO GRAND RIVER	MEDIUM-HIGH
12/7/2017	LOW 04.07 DC	Stony Bluff	Lowell	4	42.94373	-85.3786	Storm Sewer	12	KCRC	STORM SEWER	X		TRIB TO GRAND RIVER	LOW
12/8/2017	WLK 20.09 DC	Arbor Estates	Walker	20	42.98243	-85.7639	Storm Sewer	12	WALKER	STORM SEWER	X	X	WORDEN DRAIN	MEDIUM
2/13/2018	GNS 03.07 DC	Hanna Lake Trails	Gaines	3	42.845	-85.591	Storm Sewer	24		OPEN CHANNEL		X	PLASTER CREEK	MEDIUM-HIGH
5/10/2018	BYN 10.60 DC	Arlington Park	Byron	10	42.83059	-85.702	Storm Sewer	36	KCRC	Storm sewer	X	X	TRIB TO GOOSE CREEK	MEDIUM
9/12/2018	BYN 17.02 DC	Railside West No 2	Byron	17	42.81691	-85.7438	Storm Sewer	12		OPEN CHANNEL			KNIGHT DRAIN	MEDIUM LOW
9/12/2018	BYN 17.03 DC	Railside West No 2	Byron	17	42.81581	-85.7445	Storm Sewer	24		OPEN CHANNEL			KNIGHT DRAIN	MEDIUM LOW

Appendix 2
KCDC Outfalls and Dischage Points
2018

Outfall ID #	Point of Discharge	LATITUDE	LONGITUDE	PRIORITY	OUTFALL OR DISCHARGE POINT	ULTIMATE OUTFALL
ADA 07.02 DC	Waters of the State	43.007000	-85.533000	MEDIUM-HIGH	OUTFALL	Tributary to Egypt Creek
ADA 13.01 DC	Waters of the State	42.991624	-85.449425	MEDIUM-LOW	OUTFALL	Trib to Honey Creek
ADA 29.01 DC	Waters of the State	42.959000	-85.514000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 29.02 DC	Waters of the State	42.957000	-85.514000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 29.03 DC	Waters of the State	42.959000	-85.517000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 29.04 DC	Waters of the State	42.957000	-85.517000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 29.05 DC	Waters of the State	42.957000	-85.518000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 29.06 DC	Waters of the State	42.951000	-85.512000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 30.01 DC	Waters of the State	42.960000	-85.531000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 31.01 DC	Waters of the State	42.943000	-85.547000	MEDIUM-HIGH	OUTFALL	Tributary to Little Plaster Creek
ADA 31.02 DC	Waters of the State	42.942000	-85.539000	MEDIUM-LOW	OUTFALL	Tributary to Little Plaster Creek
ADA 31.03 DC	Waters of the State	42.945000	-85.539000	MEDIUM-HIGH	OUTFALL	MARTIN & BEAK NO.2
ADA 31.04 DC	Waters of the State	42.951000	-85.540000	MEDIUM-HIGH	OUTFALL	Tributary to Grand River
ADA 34.01 DC	Waters of the State	42.952000	-85.486000	MEDIUM-LOW	OUTFALL	Thornapple River
ALG 17.01 DC	Waters of the State	43.162571	-85.162571	MEDIUM-LOW	OUTFALL	Trib to Little Cedar Creek
ALG 19.01 DC	Waters of the State	43.157412	-85.656501	MEDIUM-LOW	OUTFALL	TRIB TO LOW LAKE
ALG 24.01 DC	Waters of the State	43.156894	-85.570820	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
ALP 25.01 DC	Waters of the State	43.049000	-85.676000	MEDIUM-HIGH	OUTFALL	TRIB TO STRAWBERRY CREEK
ALP 27.01 DC	Waters of the State	43.052000	-85.719000	MEDIUM-LOW	OUTFALL	TRIB TO INDIAN MILL CREEK
ALP 31.01 DC	Waters of the State	43.045115	-85.774168	MEDIUM-LOW	OUTFALL	SAND CREEK - EAST FORK
ALP 35.01 DC	Waters of the State	43.031000	-85.693000	HIGH	OUTFALL	WETLANDS/POND
ALP 35.02 DC	Waters of the State	43.030000	-85.692000	MEDIUM-HIGH	OUTFALL	WETLANDS/POND
ALP 36.01 DC	Waters of the State	43.037000	-85.681000	MEDIUM-HIGH	OUTFALL	YORK CREEK/ALPINE WALKER DRAIN
ALP 36.02 DC	Waters of the State	43.039000	-85.682000	MEDIUM-HIGH	OUTFALL	YORK CREEK/ALPINE WALKER DRAIN
BWN 06.01 DC	Waters of the State	42.844885	-85.421668	MEDIUM-LOW	OUTFALL	BROOKSHIRE ESTATES WET POND
BWN 06.02 DC	Waters of the State	42.843457	-85.423585	MEDIUM-LOW	OUTFALL	WETLANDS/POND
BWN 11.01 DC	Waters of the State	42.841443	-85.347308	MEDIUM-LOW	OUTFALL	PRATT LAKE
BWN 14.01 DC	Waters of the State	42.823800	-85.344000	MEDIUM-LOW	OUTFALL	PRATT LAKE
BWN 16.01 DC	Waters of the State	42.818201	-85.379500	MEDIUM-LOW	OUTFALL	TRIB TO CLARK AND BUNKER DRAIN
BWN 22.01 DC	Waters of the State	42.811920	-85.363650	MEDIUM-LOW	OUTFALL	TRIB TO TYLER CREEK
BWN 27.01 DC	Waters of the State	42.783961	-85.366323	MEDIUM-LOW	OUTFALL	TRIB TO COLDWATER RIVER

BWN 29.01 DC	Waters of the State	42.784643	-85.408038	MEDIUM-LOW	OUTFALL	COLDWATER RIVER
BWN 35.01 DC	Waters of the State	42.774246	-85.342001	MEDIUM-LOW	OUTFALL	TRIB TO COLDWATER RIVER
BYN 01.01 DC	Waters of the State	42.844000	-85.674000	MEDIUM-HIGH	OUTFALL	BUCK CREEK
BYN 01.02 DC	Waters of the State	42.841000	-85.673000	MEDIUM-HIGH	OUTFALL	BUCK CREEK
BYN 03.01 DC	Waters of the State	42.845000	-85.714000	MEDIUM-HIGH	OUTFALL	WET POND
BYN 03.02 DC	Waters of the State	42.844000	-85.721000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.03 DC	Waters of the State	42.843000	-85.721000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.04 DC	Waters of the State	42.843000	-85.720000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.05 DC	Waters of the State	42.843000	-85.718000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.06 DC	Waters of the State	42.843000	-85.717000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.07 DC	Waters of the State	42.844000	-85.716000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.08 DC	Waters of the State	42.844000	-85.717000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.09 DC	Waters of the State	42.845000	-85.719000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.10 DC	Waters of the State	42.846000	-85.721000	MEDIUM-HIGH	OUTFALL	Vansingel Farms
BYN 03.11 DC	Waters of the State	42.841000	-85.712000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON
BYN 03.12 DC	Waters of the State	42.842000	-85.710000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON
BYN 03.13 DC	Waters of the State	42.842000	-85.709000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON
BYN 04.01 DC	Waters of the State	42.845000	-85.731000	MEDIUM-HIGH	OUTFALL	RUSH CREEK/KNIGHT DRAIN
BYN 04.02 DC	Waters of the State	42.841000	-85.723000	MEDIUM-HIGH	OUTFALL	KNIGHT DRAIN BRANCH 1
BYN 06.01 DC	Waters of the State	42.852000	-85.778000	MEDIUM-HIGH	OUTFALL	RUSH CREEK EAST BRANCH
BYN 06.02 DC	Waters of the State	42.848759	-85.768891	MEDIUM-LOW	OUTFALL	TRIB TO BROWN DRAIN
BYN 06.08 DC	Waters of the State	42.851240	-85.771950	MEDIUM-HIGH	OUTFALL	Trib to Rush Creek (East Branch)
BYN 09.01 DC	Waters of the State	42.839000	-85.738000	MEDIUM-HIGH	OUTFALL	KNIGHT DRAIN
BYN 09.03 DC	Waters of the State	42.836000	-85.729000	MEDIUM-HIGH	OUTFALL	RUSH CREEK/KNIGHT DRAIN
BYN 09.04 DC	Waters of the State	0.000000	-85.724000	MEDIUM-HIGH	OUTFALL	DETENTION BASIN/WETLAND
BYN 09.07 DC	Waters of the State	42.827000	-85.738000	MEDIUM-LOW	OUTFALL	TRIB TO RUSH CREEK/KNIGHT DRAIN
BYN 10.01 DC	Waters of the State	42.841000	-85.721000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.02 DC	Waters of the State	42.839000	-85.721000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.03 DC	Waters of the State	42.839000	-85.719000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.04 DC	Waters of the State	42.839000	-85.717000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.05 DC	Waters of the State	42.839000	-85.714000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.06 DC	Waters of the State	42.841000	-85.713000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.07 DC	Waters of the State	42.840000	-85.721000	MEDIUM-HIGH	OUTFALL	West Lake Byron
BYN 10.08 DC	Waters of the State	42.840000	-85.712000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON
BYN 10.09 DC	Waters of the State	42.838000	-85.712000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON
BYN 10.10 DC	Waters of the State	42.837000	-85.712000	MEDIUM-HIGH	OUTFALL	Water's Edge Pond
BYN 10.11 DC	Waters of the State	42.836000	-85.712000	MEDIUM-HIGH	OUTFALL	Water's Edge Pond
BYN 10.12 DC	Waters of the State	42.836000	-85.711000	MEDIUM-HIGH	OUTFALL	Water's Edge Pond
BYN 10.13 DC	Waters of the State	42.837000	-85.711000	MEDIUM-HIGH	OUTFALL	Water's Edge Pond
BYN 10.14 DC	Waters of the State	42.837000	-85.704000	MEDIUM-HIGH	OUTFALL	EAST LAKE BYRON

BYN 10.15 DC	Waters of the State	42.833000	-85.717000	MEDIUM-HIGH	OUTFALL	WHISTLE RIDGE NO. 3 DETENTION/CHANNEL
BYN 10.17 DC	Waters of the State	42.830000	-85.713000	MEDIUM-HIGH	OUTFALL	TRIB TO KNIGHT DRAIN
BYN 10.19 DC	Waters of the State	42.830000	-85.722000	MEDIUM-HIGH	OUTFALL	WARNER COUNTY DRAIN
BYN 10.20 DC	Waters of the State	42.831868	-85.710097	MEDIUM-HIGH	OUTFALL	TRIB TO KNIGHT DRAIN
BYN 10.21 DC	Waters of the State	42.832000	-85.710000	MEDIUM-HIGH	OUTFALL	WET BASIN/WETLAND
BYN 11.01 DC	Waters of the State	42.841000	-85.692000	MEDIUM-HIGH	OUTFALL	Cutlerville Orchard
BYN 11.02 DC	Waters of the State	42.835000	-85.700000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.03 DC	Waters of the State	42.835000	-85.698000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.04 DC	Waters of the State	42.835000	-85.697000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.05 DC	Waters of the State	42.835000	-85.703000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.06 DC	Waters of the State	42.835000	-85.703000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.07 DC	Waters of the State	42.836000	-85.702000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.08 DC	Waters of the State	42.836000	-85.702000	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.09 DC	Waters of the State	42.834000	-85.689000	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.10 DC	Waters of the State	42.834000	-85.691000	MEDIUM-HIGH	OUTFALL	DAN KOSTER M.I.C
BYN 11.11 DC	Waters of the State	42.832000	-85.689000	MEDIUM-HIGH	OUTFALL	DAN KOSTER M.I.C
BYN 11.12 DC	Waters of the State	42.833000	-85.688000	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.13 DC	Waters of the State	42.832000	-85.686000	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.14 DC	Waters of the State	42.831000	-85.684000	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.15 DC	Waters of the State	42.836600	-85.699600	MEDIUM-HIGH	OUTFALL	GOOSE CREEK
BYN 11.16 DC	Waters of the State	42.836900	-85.701500	MEDIUM-HIGH	OUTFALL	PROVIDENCE COVE POND
BYN 11.17 DC	Waters of the State	42.836900	-85.699800	MEDIUM-HIGH	OUTFALL	PROVIDENCE COVE POND
BYN 11.18 DC	Waters of the State	42.834800	-85.698000	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 11.19 DC	Waters of the State	42.834300	-85.699900	MEDIUM-HIGH	OUTFALL	PROVIDENCE LAKE
BYN 12.01 DC	Waters of the State	42.837000	-85.667000	MEDIUM-HIGH	OUTFALL	MATT STREET DRAIN
BYN 12.02 DC	Waters of the State	42.836412	-85.667092	MEDIUM-HIGH	OUTFALL	BUCK CREEK EXT DRAIN
BYN 12.03 DC	Waters of the State	42.833000	-85.671000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 13.01 DC	Waters of the State	42.816000	-85.669000	MEDIUM-HIGH	OUTFALL	PFEIFFER DRAIN
BYN 14.01 DC	Waters of the State	42.825000	-85.697000	MEDIUM-LOW	OUTFALL	TRIB TO BUCK CREEK
BYN 14.05 DC	Waters of the State	42.816000	-85.693000	MEDIUM-HIGH	OUTFALL	BUCK CREEK
BYN 14.08 DC	Waters of the State	42.820607	-85.697633	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 14.09 DC	Waters of the State	42.820209	-85.697658	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 15.03 DC	Waters of the State	42.813000	-85.712000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 15.04 DC	Waters of the State	42.813000	-85.712000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 15.05 DC	Waters of the State	42.816000	-85.723000	MEDIUM-HIGH	OUTFALL	WARNER DRAIN
BYN 15.06 DC	Waters of the State	42.821000	-85.719000	MEDIUM-HIGH	OUTFALL	WARNER DRAIN
BYN 16.01 DC	Waters of the State	42.826000	-85.735000	MEDIUM-HIGH	OUTFALL	KNIGHT DRAIN
BYN 16.02 DC	Waters of the State	42.823000	-85.738000	MEDIUM-LOW	OUTFALL	KNIGHT DRAIN
BYN 16.03 DC	Waters of the State	42.823000	-85.739000	MEDIUM-LOW	OUTFALL	KNIGHT DRAIN
BYN 16.04 DC	Waters of the State	42.821000	-85.741000	MEDIUM-LOW	OUTFALL	KNIGHT DRAIN

BYN 16.05 DC	Waters of the State	42.820000	-85.742000	MEDIUM-LOW	OUTFALL	KNIGHT DRAIN
BYN 16.06 DC	Waters of the State	42.818954	-85.728767	MEDIUM-HIGH	OUTFALL	WARNER DRAIN
BYN 17.01 DC	Waters of the State	42.819000	-85.743000	MEDIUM LOW	OUTFALL	KNIGHT DRAIN
BYN 17.02 DC	Waters of the State	42.816910	-85.743760	MEDIUM LOW	OUTFALL	KNIGHT DRAIN
BYN 17.03 DC	Waters of the State	42.815810	-85.744510	MEDIUM LOW	OUTFALL	KNIGHT DRAIN
BYN 21.02 DC	Waters of the State	42.804000	-85.724000	MEDIUM-HIGH	OUTFALL	TRIB TO JAKES DRAIN
BYN 21.03 DC	Waters of the State	42.802000	-85.728000	MEDIUM-HIGH	OUTFALL	JAKES DRAIN
BYN 21.04 DC	Waters of the State	42.803000	-85.730000	MEDIUM-HIGH	OUTFALL	POND/WETLAND
BYN 21.05 DC	Waters of the State	42.804000	-85.730000	MEDIUM-HIGH	OUTFALL	POND/WETLAND
BYN 21.06 DC	Waters of the State	42.803000	-85.730000	MEDIUM-HIGH	OUTFALL	JAKES DRAIN
BYN 22.01 DC	Waters of the State	42.809000	-85.715000	MEDIUM-HIGH	OUTFALL	LANTING DRAIN
BYN 22.02 DC	Waters of the State	42.804000	-85.706000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.03 DC	Waters of the State	42.804000	-85.704000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.04 DC	Waters of the State	42.803000	-85.704000	MEDIUM-HIGH	OUTFALL	LANTING
BYN 22.05 DC	Waters of the State	42.803000	-85.705000	MEDIUM-HIGH	OUTFALL	LANTING
BYN 22.07 DC	Waters of the State	42.802000	-85.709000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.08 DC	Waters of the State	42.802000	-85.710000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.09 DC	Waters of the State	42.802000	-85.710000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.10 DC	Waters of the State	42.802000	-85.710000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.11 DC	Waters of the State	42.802000	-85.709000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.12 DC	Waters of the State	42.802000	-85.709000	MEDIUM-HIGH	OUTFALL	PLANTERS ROW
BYN 22.13 DC	Waters of the State	42.711790	-85.799700	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 23.01 DC	Waters of the State	42.806000	-85.692000	MEDIUM-LOW	OUTFALL	CARLISLE SHORES DRAIN
BYN 23.02 DC	Waters of the State	42.806000	-85.692000	MEDIUM-LOW	OUTFALL	CARLISLE SHORES DRAIN
BYN 23.03 DC	Waters of the State	42.807000	-85.690000	MEDIUM-LOW	OUTFALL	CARLISLE SHORES DRAIN
BYN 23.04 DC	Waters of the State	42.807000	-85.691000	MEDIUM-LOW	OUTFALL	CARLISLE SHORES DRAIN
BYN 23.05 DC	Waters of the State	42.808000	-85.688000	MEDIUM-LOW	OUTFALL	CARLISLE DRAIN
BYN 23.07 DC	Waters of the State	42.810087	-85.688686	MEDIUM-LOW	OUTFALL	TRIB TO CARLISLE DRAIN
BYN 24.02 DC	Waters of the State	42.810652	-85.674059	MEDIUM-LOW	OUTFALL	TRIB TO CARLISLE DRAIN
BYN 24.03 DC	Waters of the State	42.801543	-85.673370	MEDIUM-LOW	OUTFALL	TRIB TO CARLISLE DRAIN
BYN 30.01 DC	Waters of the State	42.796558	-85.780228	MEDIUM-LOW	OUTFALL	TRIB TO BLACK CREEK
BYN 32.01 DC	Waters of the State	42.768312	-85.758008	MEDIUM-LOW	OUTFALL	TRIB TO UNNAMED CREEK
BYN 35.01 DC	Waters of the State	42.780521	-85.691586	MEDIUM-LOW	OUTFALL	BUCK CREEK
CAL 03.01 DC	Waters of the State	42.844000	-85.475000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAL 11.01 DC	Waters of the State	42.838176	-85.451085	MEDIUM-HIGH	OUTFALL	CAMPAU LAKE
CAL 12.01 DC	Waters of the State	42.839000	-85.438000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAL 12.02 DC	Waters of the State	42.839000	-85.438000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAL 19.01 DC	Waters of the State	42.802582	-85.533958	MEDIUM-LOW	OUTFALL	TRIB TO THORNAPPLE
CAL 20.01 DC	Waters of the State	42.808952	-85.513189	MEDIUM-HIGH	OUTFALL	TRIB TO EMMONS LAKE
CAL 20.02 DC	Waters of the State	42.802840	-85.511795	MEDIUM-LOW	OUTFALL	EMMONS LAKE

CAL 20.03 DC	Waters of the State	42.800311	-85.511960	MEDIUM-LOW	OUTFALL	EMMONS LAKE
CAL 20.04 DC	Waters of the State	42.799589	-85.511692	MEDIUM-LOW	OUTFALL	EMMONS LAKE
CAL 20.05 DC	Waters of the State	42.798402	-85.511594	MEDIUM-LOW	OUTFALL	EMMONS LAKE
CAL 20.06 DC	Waters of the State	42.797548	-85.511811	MEDIUM-LOW	OUTFALL	EMMONS LAKE
CAL 21.01 DC	Waters of the State	42.807121	-85.490352	MEDIUM-LOW	OUTFALL	TRIB TO THORNAPPLE
CAL 22.01 DC	Waters of the State	42.807490	-85.468250	MEDIUM-LOW	OUTFALL	TRIB TO THORNAPPLE
CAL 22.02 DC	Waters of the State	42.807906	-85.472249	MEDIUM-LOW	OUTFALL	TRIB TO THORNAPPLE
CAL 22.03 DC	Waters of the State	42.808939	-85.477667	MEDIUM-LOW	OUTFALL	TRIB TO THORNAPPLE
CAL 24.01 DC	Waters of the State	42.812405	-85.428575	HIGH	OUTFALL	CAMPBELL LAKE
CAL 29.01 DC	Waters of the State	42.794626	-85.518941	MEDIUM-LOW	OUTFALL	TRIB TO EMMONS LAKE
CAL 29.02 DC	Waters of the State	42.791538	-85.514898	MEDIUM-LOW	OUTFALL	EMMONS LAKE
CAN 08.01 DC	Waters of the State	43.092000	-85.530000	MEDIUM-LOW	OUTFALL	BARKLEY CREEK
CAN 09.01 DC	Waters of the State	43.904000	-85.506000	MEDIUM-HIGH	OUTFALL	LAKE BELLA VISTA
CAN 09.02 DC	Waters of the State	43.093000	-85.505000	MEDIUM-HIGH	OUTFALL	LAKE BELLA VISTA
CAN 09.04 DC	Waters of the State	43.097000	-85.493000	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
CAN 11.01 DC	Waters of the State	43.908000	-85.455000	MEDIUM-HIGH	OUTFALL	TRIB TO BOSTWICK LAKE
CAN 27.01 DC	Waters of the State	43.053408	-85.472834	MEDIUM-LOW	OUTFALL	TRIB TO BEAR CREEK
CAS 06.01 DC	Waters of the State	42.931000	-85.545000	MEDIUM-HIGH	OUTFALL	MARTIN & BEAK DRAIN
CAS 06.02 DC	Waters of the State	42.938000	-85.547000	MEDIUM-HIGH	OUTFALL	TRIB TO GILLETT DRAIN
CAS 06.03 DC	Waters of the State	42.940000	-85.550000	MEDIUM-HIGH	OUTFALL	TRIB TO GILLETT DRAIN
CAS 06.04 DC	Waters of the State	42.941000	-85.546000	MEDIUM-HIGH	OUTFALL	TRIB TO GILLETT DRAIN
CAS 06.05 DC	Waters of the State	42.927000	-85.539000	MEDIUM-HIGH	OUTFALL	TRIB TO SPAULDING DRAIN
CAS 07.01 DC	Waters of the State	42.927000	-85.539000	MEDIUM-HIGH	OUTFALL	Spaulding Drain
CAS 07.02 DC	Waters of the State	42.915000	-85.538000	MEDIUM-HIGH	OUTFALL	PATTERSON DRAIN
CAS 07.03 DC	Waters of the State	42.916000	-85.536000	MEDIUM-HIGH	OUTFALL	PATTERSON DRAIN
CAS 07.04 DC	Waters of the State	42.915000	-85.536000	MEDIUM-HIGH	OUTFALL	PATTERSON DRAIN
CAS 08.02 DC	Waters of the State	42.921000	-85.515000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 08.03 DC	Waters of the State	42.921000	-85.513000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 08.04 DC	Waters of the State	42.916000	-85.516000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 08.05 DC	Waters of the State	42.919000	-85.511000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 09.01 DC	Waters of the State	42.920000	-85.509000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 09.02 DC	Waters of the State	42.921000	-85.507000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 09.03 DC	Waters of the State	42.917000	-85.502000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 10.01 DC	Waters of the State	42.923000	-85.476000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 10.03 DC	Waters of the State	42.918000	-85.479000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 15.01 DC	Waters of the State	42.902000	-85.479000	MEDIUM-HIGH	OUTFALL	APPLE HILLS DRAIN
CAS 15.02 DC	Waters of the State	42.902000	-85.480000	MEDIUM-HIGH	OUTFALL	APPLE HILLS DRAIN
CAS 15.03 DC	Waters of the State	42.903000	-85.471000	MEDIUM-HIGH	OUTFALL	WET BASIN/WETLAND
CAS 15.04 DC	Waters of the State	42.903000	-85.471000	MEDIUM-HIGH	OUTFALL	APPLE HILLS EAST DRAIN
CAS 18.01 DC	Waters of the State	42.907000	-85.530000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK

CAS 18.02 DC	Waters of the State	42.912000	-85.545000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
CAS 21.01 DC	Waters of the State	42.895000	-85.494000	MEDIUM-HIGH	OUTFALL	TRIB TO THORNAPPLE
CAS 31.03 DC	Waters of the State	42.862000	-85.545000	MEDIUM-LOW	OUTFALL	TRIB TO PLASTER CREEK
CDS 25.01 DC	Waters of the State	43.223071	-85.556207	MEDIUM-LOW	OUTFALL	CEDAR CREEK
CDS 25.02 DC	Waters of the State	43.224135	-85.555759	MEDIUM-LOW	OUTFALL	CEDAR CREEK
CRT 21.01 DC	Waters of the State	43.153130	-85.508260	MEDIUM-LOW	OUTFALL	FOXTAIL DRAIN
CRT 28.01 DC	Waters of the State	43.135000	-85.493000	MEDIUM-HIGH	OUTFALL	MYERS LAKE/RUM CREEK
CRT 31.01 DC	Waters of the State	43.126000	-85.546000	MEDIUM-HIGH	OUTFALL	RUM CREEK
CRT 33.01 DC	Waters of the State	43.132000	-85.493000	MEDIUM-HIGH	OUTFALL	RUM CREEK
CRT 34.01 DC	Waters of the State	43.127000	-85.483000	MEDIUM-HIGH	OUTFALL	LITTLE BROWER LAKE
GDV 21.01 DC	Waters of the State	42.892703	-85.734134	MEDIUM-HIGH	OUTFALL	BEHAN &FOLEY DRAIN - TRIB TO BUCK CREEK
GDV 21.02 DC	Waters of the State	42.885651	-85.739028	MEDIUM-HIGH	OUTFALL	TRIB TO BEHAN & FOLEY DRAIN
GDV 21.03 DC	Waters of the State	42.886305	-85.738594	MEDIUM-HIGH	OUTFALL	TRIB TO BEHAN & FOLEY DRAIN
GDV 29.01 DC	Waters of the State	42.883205	-85.746660	MEDIUM-HIGH	OUTFALL	HUIZENGA DRAIN
GDV 30.01 DC	Waters of the State	42.882128	-85.764503	MEDIUM-HIGH	OUTFALL	HUIZENGA DRAIN
GNS 03.01 DC	Waters of the State	42.842000	-85.602000	MEDIUM-HIGH	OUTFALL	AVALON POINTE POND
GNS 03.02 DC	Waters of the State	42.842000	-85.601000	MEDIUM-HIGH	OUTFALL	AVALON POINTE POND
GNS 03.03 DC	Waters of the State	42.844000	-85.600000	MEDIUM-HIGH	OUTFALL	AVALON POINTE POND
GNS 03.04 DC	Waters of the State	42.845000	-85.601000	MEDIUM-HIGH	OUTFALL	AVALON POINTE POND
GNS 03.05 DC	Waters of the State	42.845000	-85.600000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
GNS 03.06 DC	Waters of the State	42.843000	-85.598000	MEDIUM-HIGH	OUTFALL	WETLANDS ADJACENT TO PLASTER CREEK
GNS 03.07 DC	Waters of the State	42.845000	-85.591000	MEDIUM-HIGH	OUTFALL	PLASTER CREEK
GNS 04.02 DC	Waters of the State	42.847000	-85.611000	MEDIUM-HIGH	OUTFALL	VANTAGE POINT WEST POND
GNS 04.03 DC	Waters of the State	42.847000	-85.612000	MEDIUM-HIGH	OUTFALL	VANTAGE POINT WEST POND
GNS 04.05 DC	Waters of the State	42.848000	-85.624000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 04.06 DC	Waters of the State	42.848000	-85.608000	MEDIUM-HIGH	OUTFALL	TRIB TO CUTLERVILLE DRAIN
GNS 04.07 DC	Waters of the State	42.849000	-85.607000	MEDIUM-HIGH	OUTFALL	TRIB TO CUTLERVILLE DRAIN
GNS 05.01 DC	Waters of the State	42.844000	-85.631000	MEDIUM-HIGH	OUTFALL	CUTLERVILLE DRAIN
GNS 05.02 DC	Waters of the State	42.844000	-85.629000	MEDIUM-HIGH	OUTFALL	CUTLERVILLE DRAIN
GNS 05.03 DC	Waters of the State	42.845000	-85.632000	MEDIUM-HIGH	OUTFALL	CUTLERVILLE DRAIN
GNS 05.04 DC	Waters of the State	42.845000	-85.633000	MEDIUM-HIGH	OUTFALL	CUTLERVILLE DRAIN
GNS 06.01 DC	Waters of the State	42.847000	-85.655000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.02 DC	Waters of the State	42.847000	-85.655000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.03 DC	Waters of the State	42.847000	-85.657000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.04 DC	Waters of the State	42.846000	-85.658000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.05 DC	Waters of the State	42.845000	-85.657000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.06 DC	Waters of the State	42.844000	-85.657000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.07 DC	Waters of the State	42.845000	-85.659000	MEDIUM-HIGH	OUTFALL	SUMMER SHORES LAKE
GNS 06.08 DC	Waters of the State	42.852000	-85.649000	MEDIUM-HIGH	OUTFALL	VAN OOSTEN DRAIN
GNS 06.09 DC	Waters of the State	42.850000	-85.650000	MEDIUM-HIGH	OUTFALL	VAN OOSTEN DRAIN

GNS 07.01 DC	Waters of the State	42.831000	-85.653000	MEDIUM-HIGH	OUTFALL	BUCK CREEK EXTENSION
GNS 07.02 DC	Waters of the State	42.828000	-85.646000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 08.01 DC	Waters of the State	42.827000	-85.641000	MEDIUM-HIGH	OUTFALL	CRYSTAL CREEK DRAIN
GNS 08.02 DC	Waters of the State	42.830000	-85.638000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 08.03 DC	Waters of the State	42.830000	-85.637000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 09.02 DC	Waters of the State	42.828000	-85.618000	MEDIUM-HIGH	OUTFALL	WET POND
GNS 09.03 DC	Waters of the State	42.827000	-85.619000	MEDIUM-HIGH	OUTFALL	WET POND
GNS 09.04 DC	Waters of the State	42.840000	-85.617000	MEDIUM-HIGH	OUTFALL	WET POND - HEATHERS DRAIN
GNS 09.06 DC	Waters of the State	42.841000	-85.615000	MEDIUM-HIGH	OUTFALL	TRIB TO CUTLERVILLE DRAIN
GNS 09.08 DC	Waters of the State	42.832000	-85.608000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
GNS 09.09 DC	Waters of the State	42.833000	-85.606000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
GNS 09.10 DC	Waters of the State	42.832000	-85.608000	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
GNS 10.01 DC	Waters of the State	42.838000	-85.599000	MEDIUM-LOW	OUTFALL	PLASTER CREEK
GNS 10.02 DC	Waters of the State	42.836000	-85.589000	MEDIUM-LOW	OUTFALL	PLASTER CREEK
GNS 10.03 DC	Waters of the State	42.837000	-85.589000	MEDIUM-LOW	OUTFALL	PLASTER CREEK
GNS 11.03 DC	Waters of the State	42.834000	-85.571000	MEDIUM-LOW	OUTFALL	TRIB TO DUTTON DRAIN
GNS 11.06 DC	Waters of the State	42.831967	-85.580781	MEDIUM-LOW	OUTFALL	TRIB TO PLASTER CREEK
GNS 16.01 DC	Waters of the State	42.817000	-85.615000	MEDIUM-LOW	OUTFALL	BREWER DRAIN
GNS 17.01 DC	Waters of the State	42.822000	-85.628000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.02 DC	Waters of the State	42.822000	-85.628000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.03 DC	Waters of the State	42.822000	-85.627000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.04 DC	Waters of the State	42.822000	-85.626000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.05 DC	Waters of the State	42.823000	-85.633000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.06 DC	Waters of the State	42.824000	-85.633000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.07 DC	Waters of the State	42.824000	-85.632000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 17.08 DC	Waters of the State	42.818000	-85.643000	MEDIUM-HIGH	OUTFALL	TRIB TO BUCK CREEK
GNS 18.01 DC	Waters of the State	42.824000	-85.653000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARPS CREEK
GNS 18.02 DC	Waters of the State	42.822000	-85.659000	MEDIUM-HIGH	OUTFALL	SHARP'S CREEK
GNS 18.03 DC	Waters of the State	42.817000	-85.660000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARP'S CREEK
GNS 18.04 DC	Waters of the State	42.818000	-85.661000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARP'S CREEK
GNS 18.05 DC	Waters of the State	42.819000	-85.661000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARP'S CREEK
GNS 18.09 DC	Waters of the State	42.818000	-85.648000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARPS CREEK
GNS 18.11 DC	Waters of the State	42.817000	-85.653000	MEDIUM-HIGH	OUTFALL	TRIB TO SHARPS CREEK
GNS 26.01 DC	Waters of the State	42.795499	-85.581703	MEDIUM-LOW	OUTFALL	TRIB TO HANNA LAKE
GNS 31.01 DC	Waters of the State	42.768000	-85.659000	MEDIUM-LOW	OUTFALL	TRIB TO BUCK CREEK
GNS 31.02 DC	Waters of the State	42.778760	-85.655770	MEDIUM-LOW	OUTFALL	WET POND
GRC 04.02 DC	Waters of the State	43.023000	-85.629000	MEDIUM-HIGH	OUTFALL	LAMBERTON LAKE
GRC 04.04 DC	Waters of the State	42.940000	-85.620000	MEDIUM-HIGH	OUTFALL	SILVER CREEK KEISER POND
GRC 04.05 DC	Waters of the State	42.939000	-85.620000	MEDIUM-HIGH	OUTFALL	SILVER CREEK KEISER POND
GRC 05.02 DC	Waters of the State	42.937000	-85.636000	MEDIUM-HIGH	OUTFALL	SILVER CREEK CALVIN POND

GRC 06.01 DC	Waters of the State	43.020000	-85.655000	MEDIUM-HIGH	OUTFALL	LAMBERTON CREEK
GRC 08.01 DC	Waters of the State	43.007000	-85.634000	MEDIUM-HIGH	OUTFALL	LAMBERTON CREEK
GRC 08.02 DC	Waters of the State	43.001000	-85.635000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRC 09.01 DC	Waters of the State	43.009000	-85.628000	MEDIUM-HIGH	OUTFALL	LAMBERTON CREEK
GRC 09.03 DC	Waters of the State	43.006000	-85.731000	MEDIUM-HIGH	OUTFALL	INDIAN MILL CREEK
GRC 13.01 DC	Waters of the State	42.998000	-85.672000	MEDIUM-HIGH	OUTFALL	GRAND RIVER
GRC 15.01 DC	Waters of the State	42.990000	-85.601000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRC 15.02 DC	Waters of the State	42.988000	-85.601000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRC 15.03 DC	Waters of the State	42.993000	-85.601000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRC 15.04 DC	Waters of the State	42.993000	-85.601000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRC 15.05 DC	Waters of the State	43.000000	-85.718000	MEDIUM-HIGH	OUTFALL	INDIAN MILL CREEK
GRC 15.06 DC	Waters of the State	42.994000	-85.727000	MEDIUM-HIGH	OUTFALL	TRIB TO INDIAN MILL CREEK
GRC 16.01 DC	Waters of the State	42.989000	-85.746000	MEDIUM-HIGH	OUTFALL	TRIB TO WORDEN & INDIAN MILL CREEK
GRC 16.02 DC	Waters of the State	42.909825	-85.621079	MEDIUM-HIGH	OUTFALL	BURTON-BRETON DRAIN
GRC 16.03 DC	Waters of the State	42.902220	-85.615089	MEDIUM-HIGH	OUTFALL	PLASTER CREEK
GRC 16.04 DC	Waters of the State	42.993619	-85.744246	MEDIUM-HIGH	OUTFALL	BRANDYWINE CREEK
GRC 17.03 DC	Waters of the State	42.909338	-85.646727	MEDIUM-HIGH	OUTFALL	PLASTER CREEK
GRC 19.01 DC	Waters of the State	42.981000	-85.650000	MEDIUM-HIGH	OUTFALL	TRIB TO COLDBROOK CREEK
GRC 19.02 DC	Waters of the State	42.974000	-85.654000	MEDIUM-HIGH	OUTFALL	TRIB TO COLDBROOK CREEK
GRC 20.01 DC	Waters of the State	42.972000	-85.636000	MEDIUM-HIGH	OUTFALL	TRIB TO COLDBROOK CREEK
GRC 20.05 DC	Waters of the State	42.979000	-85.748000	MEDIUM-HIGH	OUTFALL	TRIB TO WORDEN
GRC 20.06 DC	Waters of the State	42.979000	-85.751000	MEDIUM-HIGH	OUTFALL	TRIB TO WORDEN
GRC 21.02 DC	Waters of the State	42.974000	-85.618000	MEDIUM-HIGH	OUTFALL	COLDBROOK CREEK
GRC 21.03 DC	Waters of the State	42.982000	-85.740000	MEDIUM-HIGH	OUTFALL	TRIB TO GRAHAM & WORDEN DRAIN
GRC 21.06 DC	Waters of the State	42.978000	-85.744000	MEDIUM-HIGH	OUTFALL	TRIB TO WORDEN
GRC 22.01 DC	Waters of the State	42.979000	-85.606000	MEDIUM-HIGH	OUTFALL	TRIB TO COLDBROOK CREEK
GRC 24.01 DC	Waters of the State	42.982000	-85.672000	HIGH	OUTFALL	GRAND RIVER
GRC 25.05 DC	Waters of the State	42.965516	-85.674531	MEDIUM-HIGH	OUTFALL	GRAND RIVER
GRC 25.06 DC	Waters of the State	42.968261	-85.674345	MEDIUM-HIGH	OUTFALL	GRAND RIVER
GRC 28.01 DC	Waters of the State	42.963000	-85.618000	MEDIUM-HIGH	OUTFALL	WATERS DRAIN
GRC 28.02 DC	Waters of the State	42.962000	-85.610000	HIGH	OUTFALL	WATERS DRAIN
GRC 28.03 DC	Waters of the State	42.963000	-85.621000	MEDIUM-HIGH	OUTFALL	WATERS DRAIN
GRT 04.01 DC	Waters of the State	43.027000	-85.628000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON LAKE
GRT 04.03 DC	Waters of the State	43.027000	-85.618000	MEDIUM-HIGH	OUTFALL	POND
GRT 10.03 DC	Waters of the State	43.007000	-85.596000	MEDIUM-HIGH	OUTFALL	WET POND - TRIB TO LAMBERTON CREEK
GRT 10.04 DC	Waters of the State	43.007000	-85.597000	MEDIUM-HIGH	OUTFALL	WET POND - TRIB TO LAMBERTON CREEK
GRT 10.05 DC	Waters of the State	43.006000	-85.597000	MEDIUM-HIGH	OUTFALL	TRIB TO LAMBERTON CREEK
GRT 24.01 DC	Waters of the State	42.970000	-85.568000	MEDIUM-LOW	OUTFALL	TRIB TO SADDLEBAG
GRT 24.02 DC	Waters of the State	42.970000	-85.568000	MEDIUM-LOW	OUTFALL	TRIB TO SADDLEBAG
GRT 25.01 DC	Waters of the State	42.961000	-85.558000	MEDIUM-HIGH	OUTFALL	WET BASIN

GRT 25.02 DC	Waters of the State	42.965000	-85.563000	MEDIUM-HIGH	OUTFALL	TRIB TO SADDLEBAG
GRT 25.03 DC	Waters of the State	42.965000	-85.558000	MEDIUM-HIGH	OUTFALL	TRIB TO SADDLEBAG
GRT 25.04 DC	Waters of the State	42.964000	-85.556000	MEDIUM-HIGH	OUTFALL	TRIB TO SADDLEBAG
GRT 26.01 DC	Waters of the State	42.966000	-85.576000	MEDIUM-HIGH	OUTFALL	TRIB TO SADDLEBAG
GRT 36.01 DC	Waters of the State	42.952000	-85.564000	MEDIUM-HIGH	OUTFALL	SADDLEBAG DRAIN
KWD 14.01 DC	Waters of the State	42.911811	-85.583826	MEDIUM-HIGH	OUTFALL	WHISKEY CREEK
KWD 14.02 DC	Waters of the State	42.912089	-85.581193	MEDIUM-HIGH	OUTFALL	WHISKEY CREEK
KWD 22.01 DC	Waters of the State	42.896294	-85.605184	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
KWD 23.01 DC	Waters of the State	42.898100	-85.581670	MEDIUM-LOW	OUTFALL	TRIB TO PLASTER CREEK
KWD 26.01 DC	Waters of the State	42.874278	-85.572311	MEDIUM-LOW	OUTFALL	TRIB TO PLASTER CREEK
KWD 26.02 DC	Waters of the State	42.877309	-85.573484	MEDIUM-LOW	OUTFALL	TRIB TO PLASTER CREEK
KWD 29.01 DC	Waters of the State	42.882609	-85.629426	MEDIUM-HIGH	OUTFALL	PARIS DRAIN - TRIB TO BUCK
KWD 31.01 DC	Waters of the State	42.865793	-85.656990	MEDIUM-HIGH	OUTFALL	TRIB TO HEYBOER
KWD 32.01 DC	Waters of the State	42.868042	-85.629064	MEDIUM-HIGH	OUTFALL	TRIB TO HEYBOER
KWD 34.01 DC	Waters of the State	42.854808	-85.590140	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
KWD 35.01 DC	Waters of the State	42.854718	-85.568077	MEDIUM-HIGH	OUTFALL	TRIB TO PLASTER CREEK
LOW 04.01 DC	Waters of the State	42.928982	-85.376074	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
LOW 04.03 DC	Waters of the State	42.934373	-85.376082	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
LOW 04.04 DC	Waters of the State	42.936873	-85.389175	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
LOW 04.05 DC	Waters of the State	42.935324	-85.387491	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
LOW 04.06 DC	Waters of the State	42.935010	-85.387347	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
LOW 20.01 DC	Waters of the State	42.890148	-85.406900	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
PLN 03.01 DC	Waters of the State	43.116682	-85.596366	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
PLN 11.01 DC	Waters of the State	43.098552	-85.584818	MEDIUM-HIGH	OUTFALL	ROGUE RIVER
PLN 11.03 DC	Waters of the State	43.089303	-85.574808	MEDIUM-HIGH	OUTFALL	WET BASIN - TRIB TO ROGUE RIVER
PLN 12.01 DC	Waters of the State	43.098347	-85.550953	MEDIUM-LOW	OUTFALL	TRIB TO BARKLEY CREEK
PLN 16.01 DC	Waters of the State	43.075614	-85.616348	MEDIUM-HIGH	OUTFALL	WHITE PINE DRAIN
PLN 16.02 DC	Waters of the State	43.073225	-85.618029	MEDIUM-HIGH	OUTFALL	WHITE PINE DRAIN
PLN 16.03 DC	Waters of the State	43.072710	-85.618614	MEDIUM-HIGH	OUTFALL	WHITE PINE DRAIN
PLN 17.02 DC	Waters of the State	43.074832	-85.630271	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 17.03 DC	Waters of the State	43.074139	-85.630984	MEDIUM-HIGH	OUTFALL	SCOTT CREEK TRIB TO GRAND RIVER
PLN 17.04 DC	Waters of the State	43.074141	-85.631092	MEDIUM-HIGH	OUTFALL	SCOTT CREEK TRIB TO GRAND RIVER
PLN 17.05 DC	Waters of the State	43.072077	-85.630053	MEDIUM-HIGH	OUTFALL	SCOTT CREEK TRIB TO GRAND RIVER
PLN 18.01 DC	Waters of the State	43.073507	-85.651165	MEDIUM-LOW	OUTFALL	WETLANDS
PLN 18.02 DC	Waters of the State	43.077181	-85.650846	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
PLN 19.01 DC	Waters of the State	43.067678	-85.669770	MEDIUM-HIGH	OUTFALL	TRIB TO MILL CR
PLN 20.02 DC	Waters of the State	43.061798	-85.641959	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 21.02 DC	Waters of the State	43.067666	-85.614024	MEDIUM-HIGH	OUTFALL	JUPITER POND (SOUTH BASIN)
PLN 21.03 DC	Waters of the State	43.067170	-85.612794	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 21.04 DC	Waters of the State	43.070387	-85.620286	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER

PLN 21.05 DC	Waters of the State	43.071210	-85.625882	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 22.02 DC	Waters of the State	43.067947	-85.599611	MEDIUM-HIGH	OUTFALL	TRIB TO ROGUE RIVER
PLN 23.01 DC	Waters of the State	43.062873	-85.581561	MEDIUM-HIGH	OUTFALL	GRAND RIVER
PLN 24.01 DC	Waters of the State	43.065314	-85.565040	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
PLN 24.02 DC	Waters of the State	43.060736	-85.563522	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
PLN 24.03 DC	Waters of the State	43.064800	-85.563700	MEDIUM-LOW	OUTFALL	BOULDER CREEK EAST
PLN 24.04 DC	Waters of the State	43.063500	-85.563700	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
PLN 25.01 DC	Waters of the State	43.054100	-85.565167	MEDIUM-LOW	OUTFALL	GRAND RIVER
PLN 27.01 DC	Waters of the State	43.057017	-85.590091	MEDIUM-HIGH	OUTFALL	GRAND RIVER
PLN 27.03 DC	Waters of the State	43.055586	-85.597757	MEDIUM-HIGH	OUTFALL	GRAND RIVER
PLN 28.01 DC	Waters of the State	43.043596	-85.611129	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 28.02 DC	Waters of the State	43.053000	-85.629000	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 30.01 DC	Waters of the State	43.051893	-85.650118	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 30.02 DC	Waters of the State	43.053332	-85.660826	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 31.01 DC	Waters of the State	43.030000	-85.659000	MEDIUM-HIGH	OUTFALL	GRAND RIVER
PLN 32.01 DC	Waters of the State	43.034436	-85.640991	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
PLN 33.01 DC	Waters of the State	43.036336	-85.628107	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 33.02 DC	Waters of the State	43.036721	-85.627703	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 33.03 DC	Waters of the State	43.036368	-85.627922	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 33.04 DC	Waters of the State	43.038048	-85.628344	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 33.05 DC	Waters of the State	43.038014	-85.628597	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 34.01 DC	Waters of the State	43.034490	-85.598815	MEDIUM-HIGH	OUTFALL	WET BASIN
PLN 34.02 DC	Waters of the State	43.038801	-85.597818	MEDIUM-HIGH	OUTFALL	WET BASIN
SOL 35.01 DC	Waters of the State	43.211368	-85.578495	MEDIUM-LOW	OUTFALL	TRIB TO CEDAR CREEK
SPR 27.01 DC	Waters of the State	43.144508	-85.728754	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
SPR 35.01 DC	Waters of the State	43.117120	-85.699017	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
TYR 19.01 DC	Waters of the State	43.237757	-85.787080	MEDIUM-LOW	OUTFALL	TRIB TO ROGUE RIVER
TYR 30.01 DC	Waters of the State	43.226887	-85.776638	MEDIUM-LOW	OUTFALL	GREINER DRAIN
TYR 32.01 DC	Waters of the State	43.214719	-85.766011	MEDIUM-LOW	OUTFALL	TRIB TO CROCKERY CREEK
TYR 32.02 DC	Waters of the State	43.214710	-85.766018	MEDIUM-LOW	OUTFALL	TRIB TO CROCKERY CREEK
TYR 33.01 DC	Waters of the State	43.215200	-85.746900	MEDIUM-LOW	OUTFALL	BALL CREEK
VER 26.01 DC	Waters of the State	42.961442	-85.339753	MEDIUM-LOW	OUTFALL	FLAT RIVER
VER 31.01 DC	Waters of the State	42.945465	-85.414044	MEDIUM-LOW	OUTFALL	TRIB TO GRAND RIVER
VER 35.01 DC	Waters of the State	42.956828	-85.340000	MEDIUM-LOW	OUTFALL	TRIB TO FLAT RIVER
VSP 22.01 DC	Waters of the State	43.155639	-85.715862	MEDIUM-HIGH	OUTFALL	ROGERS DRAIN
WLK 01.01 DC	Waters of the State	43.026024	-85.498500	MEDIUM-HIGH	OUTFALL	YORK CREEK/ALPINE WALKER DRAIN
WLK 01.02 DC	Waters of the State	43.026798	-85.691429	MEDIUM-HIGH	OUTFALL	YORK CREEK/ALPINE WALKER DRAIN
WLK 04.01 DC	Waters of the State	43.020969	-85.738487	MEDIUM-HIGH	OUTFALL	TRIB TO INDIAN MILL CREEK
WLK 05.01 DC	Waters of the State	43.015997	-85.759353	MEDIUM-HIGH	OUTFALL	TRIB TO SAND CREEK
WLK 06.01 DC	Waters of the State	43.020626	-85.777591	MEDIUM-LOW	OUTFALL	TRIB TO SAND CREEK

WLK 06.02 DC	Waters of the State	43.020055	-85.777143	MEDIUM-LOW	OUTFALL	TRIB TO SAND CREEK
WLK 06.03 DC	Waters of the State	43.019909	-85.785346	MEDIUM-LOW	OUTFALL	TRIB TO SAND CREEK
WLK 06.04 DC	Waters of the State	43.019165	-85.786326	MEDIUM-LOW	OUTFALL	TRIB TO SAND CREEK
WLK 07.01 DC	Waters of the State	43.005244	-85.775872	MEDIUM-HIGH	OUTFALL	VET BASIN - TRIB TO FRIAR AND KIMBALL DRAIN
WLK 08.01 DC	Waters of the State	43.012069	-85.760039	MEDIUM-HIGH	OUTFALL	FRUIT RIDGE IND PARK POND
WLK 08.02 DC	Waters of the State	43.011642	-85.760045	MEDIUM-HIGH	OUTFALL	WETLANDS- TRIB TO SAND CREEK
WLK 08.03 DC	Waters of the State	43.010055	-85.761122	MEDIUM-HIGH	OUTFALL	WETLANDS-TRIB TO SAND CREEK
WLK 08.04 DC	Waters of the State	43.006358	-85.764927	MEDIUM-HIGH	OUTFALL	NOLAN DRAIN
WLK 08.05 DC	Waters of the State	43.001423	-85.765076	MEDIUM-HIGH	OUTFALL	NOLAN DRAIN
WLK 10.01 DC	Waters of the State	43.003508	-85.724028	MEDIUM-HIGH	OUTFALL	INDIAN MILL CREEK
WLK 10.02 DC	Waters of the State	43.003508	-85.724525	MEDIUM-HIGH	OUTFALL	TRIB TO INDIAN MILL CREEK
WLK 12.01 DC	Waters of the State	43.008469	-85.680037	MEDIUM-HIGH	OUTFALL	TRIB TO NOLAN DRAIN
WLK 12.02 DC	Waters of the State	43.006586	-85.676678	MEDIUM-HIGH	OUTFALL	TRIB TO NOLAN DRAIN
WLK 12.03 DC	Waters of the State	43.004178	-85.688089	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
WLK 12.04 DC	Waters of the State	43.001110	-85.676623	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
WLK 12.05 DC	Waters of the State	43.008700	-85.677463	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
WLK 17.01 DC	Waters of the State	42.996189	-85.756087	MEDIUM-HIGH	OUTFALL	MULLINS DRAIN
WLK 17.02 DC	Waters of the State	42.995915	-85.756056	MEDIUM-HIGH	OUTFALL	MULLINS DRAIN
WLK 17.07 DC	Waters of the State	42.988760	-85.747888	MEDIUM-HIGH	OUTFALL	TRIB TO BRANDYWINE
WLK 19.01 DC	Waters of the State	42.983845	-85.781686	MEDIUM-HIGH	OUTFALL	TALLMAN CREEK DRAIN
WLK 19.02 DC	Waters of the State	42.975979	-85.771346	MEDIUM-HIGH	OUTFALL	TALLMAN CREEK DRAIN
WLK 20.02 DC	Waters of the State	42.985405	-85.759545	MEDIUM-HIGH	OUTFALL	WORDEN DRAIN
WLK 20.03 DC	Waters of the State	42.980432	-85.759074	MEDIUM-HIGH	OUTFALL	WET DETENTION BASIN
WLK 20.04 DC	Waters of the State	42.981648	-85.756303	MEDIUM-HIGH	OUTFALL	WORDEN DRAIN
WLK 20.06 DC	Waters of the State	42.981654	-85.754969	MEDIUM-HIGH	OUTFALL	TRIB TO WORDEN DRAIN
WLK 20.07 DC	Waters of the State	42.980339	-85.751010	MEDIUM-HIGH	OUTFALL	GRAHAM & WORDEN DRAIN
WLK 29.01 DC	Waters of the State	42.968171	-85.756937	MEDIUM-HIGH	OUTFALL	SEXTON DRAIN
WLK 29.02 DC	Waters of the State	42.959908	-85.757702	MEDIUM-HIGH	OUTFALL	TRIB TO TALLMAN CREEK
WLK 29.03 DC	Waters of the State	42.959468	-85.759396	MEDIUM-HIGH	OUTFALL	TRIB TO TALLMAN CREEK
WLK 30.01 DC	Waters of the State	42.970943	-85.768884	MEDIUM-HIGH	OUTFALL	TRIB TO GRAND RIVER
WLK 30.02 DC	Waters of the State	42.968033	-85.767648	MEDIUM-HIGH	OUTFALL	TALLMAN CREEK
WYM 02.01 DC	Waters of the State	42.935691	-85.687364	MEDIUM-HIGH	OUTFALL	PLASTER CREEK
WYM 09.01 DC	Waters of the State	42.921093	-85.742189	MEDIUM-HIGH	OUTFALL	ROYS CREEK
WYM 15.01 DC	Waters of the State	42.907768	-85.713380	MEDIUM-HIGH	OUTFALL	ROYS CREEK
WYM 15.02 DC	Waters of the State	42.911705	-85.707351	MEDIUM-HIGH	OUTFALL	ROYS CREEK
WYM 19.01 DC	Waters of the State	42.894355	-85.648783	MEDIUM-HIGH	OUTFALL	TRIB TO HEYBOER MAIN DRAIN
WYM 19.02 DC	Waters of the State	42.891203	-85.649928	MEDIUM-HIGH	OUTFALL	HEYBOER MAIN DRAIN
WYM 19.03 DC	Waters of the State	42.885708	-85.649355	MEDIUM-HIGH	OUTFALL	HEYBOER MAIN DRAIN
WYM 19.04 DC	Waters of the State	42.884183	-85.653598	MEDIUM-HIGH	OUTFALL	HEYBOER MAIN DRAIN
BYN 14.02 PRK	Waters of the State	42.816000	-85.691000	MEDIUM HIGH	OUTFALL	BUCK CREEK

BYN 14.03 PRK	Waters of the State	42.817000	-85.691000	MEDIUM HIGH	OUTFALL	BUCK CREEK
BYN 14.04 PRK	Waters of the State	42.815000	-85.693000	MEDIUM HIGH	OUTFALL	BUCK CREEK
BYN 36.01 DPW	Waters of the State	42.771561	-85.680443	MEDIUM HIGH	OUTFALL	BUCK CREEK
BYN 36.02 DPW	Waters of the State	42.778040	-85.677679	MEDIUM HIGH	OUTFALL	TRIB TO BUCK CREEK
BYN 36.03 DPW	Waters of the State	42.768401	-85.675605	MEDIUM HIGH	OUTFALL	BUCK CREEK
CRT 27.01 PRK	Waters of the State	43.138970	-85.488000	MEDIUM LOW	OUTFALL	MYERS LAKE
GRC 20.01 KC	Waters of the State	42.976000	-85.637000	MEDIUM HIGH	OUTFALL	WETLANDS - TRIB TO CORDUROY CREEK
GRC 20.02 KC	Waters of the State	42.976000	-85.637000	MEDIUM HIGH	OUTFALL	WETLANDS - TRIB TO CORDUROY CREEK
GRC 20.03 KC	Waters of the State	42.975000	-85.636000	MEDIUM HIGH	OUTFALL	WETLANDS - TRIB TO CORDUROY CREEK
GRC 20.04 KC	Waters of the State	42.975000	-85.635000	MEDIUM HIGH	OUTFALL	CORDUROY POND - WETLANDS
GRC 20.05 KC	Waters of the State	42.974000	-85.633000	MEDIUM HIGH	OUTFALL	CORDUROY POND - WETLANDS
GRC 20.06 KC	Waters of the State	42.974000	-85.633000	MEDIUM HIGH	OUTFALL	CORDUROY POND - WETLANDS
GRC 20.07 KC	Waters of the State	42.974000	-85.633000	MEDIUM HIGH	OUTFALL	CORDUROY POND - WETLANDS
GRC 35.01 DPW	Waters of the State	42.950000	-85.694000	MEDIUM HIGH	OUTFALL	GRAND RIVER
KWD 27.01 DPW	Waters of the State	42.876000	-85.589000	MEDIUM HIGH	OUTFALL	PLASTER CREEK
KWD 27.02 DPW	Waters of the State	42.875000	-85.590000	MEDIUM HIGH	OUTFALL	PLASTER CREEK
KWD 27.03 DPW	Waters of the State	42.873000	-85.590000	MEDIUM HIGH	OUTFALL	PLASTER CREEK
PLN 03.01 DPW	Waters of the State	43.116129	-85.595073	MEDIUM HIGH	OUTFALL	Trib to Rogue River
PLN 03.02 DPW	Waters of the State	43.116000	-85.593000	MEDIUM HIGH	OUTFALL	Trib to Rogue River
PLN 03.03 DPW	Waters of the State	43.110000	-85.597000	MEDIUM HIGH	OUTFALL	Trib to Rogue River
PLN 03.04 DPW	Waters of the State	43.111809	-85.598849	MEDIUM HIGH	OUTFALL	Trib to Rogue River
PLN 31.02 PRK	Waters of the State	43.035520	-85.668700	MEDIUM HIGH	OUTFALL	MILL CREEK
PLN 31.03 PRK	Waters of the State	43.034150	-85.667240	MEDIUM HIGH	OUTFALL	MILL CREEK
PLN 31.04 PRK	Waters of the State	43.033740	-85.666820	MEDIUM HIGH	OUTFALL	MILL CREEK
WLK 05.02 PRK	Waters of the State	42.934000	-85.749000	MEDIUM LOW	OUTFALL	TRIB TO GRAND RIVER
WLK 05.03 PRK	Waters of the State	42.935000	-85.748000	MEDIUM LOW	OUTFALL	TRIB TO GRAND RIVER
WLK 05.04 PRK	Waters of the State	42.937000	-85.747000	MEDIUM LOW	OUTFALL	TRIB TO GRAND RIVER
WLK 07.02 PRK	Waters of the State	42.919685	-85.765610	MEDIUM HIGH	OUTFALL	GRAND RIVER
WLK 07.03 PRK	Waters of the State	42.915727	-85.767320	MEDIUM HIGH	OUTFALL	GRAND RIVER
WLK 07.04 PRK	Waters of the State	42.915673	-85.767370	MEDIUM HIGH	OUTFALL	GRAND RIVER
WLK 07.05 PRK	Waters of the State	42.923158	-85.764790	MEDIUM HIGH	OUTFALL	GRAND RIVER
ADA 28.01 DC	MS4 TO MS4	42.960000	-85.506000	MEDIUM	DISCHARGE POINT	Tributary to Grand River
ALP 23.01 DC	MS4 TO MS4	43.069000	-85.691000	MEDIUM	DISCHARGE POINT	TRIB TO STRAWBERRY CREEK
ALP 23.02 DC	MS4 TO MS4	43.069000	-85.692000	LOW	DISCHARGE POINT	TRIB TO STRAWBERRY CREEK
ALP 24.01 DC	MS4 TO MS4	43.069000	-85.690000	MEDIUM	DISCHARGE POINT	TRIB TO STRAWBERRY CREEK
BYN 02.01 DC	MS4 TO MS4	42.841000	-85.693000	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.02 DC	MS4 TO MS4	42.845000	-85.691000	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.03 DC	MS4 TO MS4	42.845000	-85.691000	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.04 DC	MS4 TO MS4	42.845845	-85.690993	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.05 DC	MS4 TO MS4	42.846560	-85.692194	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK

BYN 02.06 DC	MS4 TO MS4	42.845863	-85.689889	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.07 DC	MS4 TO MS4	42.845874	-85.689373	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.08 DC	MS4 TO MS4	42.845403	-85.689351	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 02.09 DC	MS4 TO MS4	42.844759	-85.697279	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 03.14 DC	MS4 TO MS4	42.842000	-85.721000	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 03.15 DC	MS4 TO MS4	42.846241	-85.722129	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.16 DC	MS4 TO MS4	42.845253	-85.722134	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.17 DC	MS4 TO MS4	42.844517	-85.722049	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.18 DC	MS4 TO MS4	42.843242	-85.721999	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.19 DC	MS4 TO MS4	42.845011	-85.716848	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.20 DC	MS4 TO MS4	42.845449	-85.717784	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.21 DC	MS4 TO MS4	42.846092	-85.719638	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 03.22 DC	MS4 TO MS4	42.846245	-85.720634	MEDIUM	DISCHARGE POINT	VANSINGEL FARMS WET BASIN
BYN 06.03 DC	MS4 TO MS4	42.854080	-85.781092	LOW	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 06.04 DC	MS4 TO MS4	42.851332	-85.770629	LOW	DISCHARGE POINT	TRIB TO RUSH CREEK (EAST BRANCH)
BYN 06.05 DC	MS4 TO MS4	42.851919	-85.772860	LOW	DISCHARGE POINT	TRIB TO RUSH CREEK (EAST BRANCH)
BYN 06.06 DC	MS4 TO MS4	42.852931	-85.770353	LOW	DISCHARGE POINT	TRIB TO RUSH CREEK (EAST BRANCH)
BYN 06.07 DC	MS4 TO MS4	42.853281	-85.771586	LOW	DISCHARGE POINT	TRIB TO RUSH CREEK (EAST BRANCH)
BYN 06.08 DC	MS4 TO MS4	42.850414	-85.777972	LOW	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 09.05 DC	MS4 TO MS4	42.837000	-85.723000	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 09.06 DC	MS4 TO MS4	42.838000	-85.723000	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 09.08 DC	MS4 TO MS4	42.837365	-85.727352	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 09.09 DC	MS4 TO MS4	42.836632	-85.727560	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 09.10 DC	MS4 TO MS4	42.833318	-85.739323	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.11 DC	MS4 TO MS4	42.833307	-85.740171	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.12 DC	MS4 TO MS4	42.833090	-85.740366	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.13 DC	MS4 TO MS4	42.832340	-85.740238	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.14 DC	MS4 TO MS4	42.832141	-85.740147	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.15 DC	MS4 TO MS4	42.832451	-85.738678	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.16 DC	MS4 TO MS4	42.831670	-85.740156	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.17 DC	MS4 TO MS4	42.830815	-85.739363	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.18 DC	MS4 TO MS4	42.829989	-85.740158	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.19 DC	MS4 TO MS4	42.828871	-85.738570	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.20 DC	MS4 TO MS4	42.828809	-85.738524	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 09.21 DC	MS4 TO MS5	42.827716	-85.741053	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.16 DC	MS4 TO MS4	42.836000	-85.723000	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 10.18 DC	MS4 TO MS4	42.831000	-85.722000	MEDIUM	DISCHARGE POINT	WARNER COUNTY DRAIN
BYN 10.22 DC	MS4 TO MS4	42.833000	-85.703000	MEDIUM	DISCHARGE POINT	GOOSE CREEK
BYN 10.23 DC	MS4 TO MS4	42.839941	-85.721596	MEDIUM	DISCHARGE POINT	WEST LAKE BYRON
BYN 10.24 DC	MS4 TO MS4	42.838972	-85.721983	MEDIUM	DISCHARGE POINT	WEST LAKE BYRON

BYN 10.25 DC	MS4 TO MS4	42.838266	-85.719516	MEDIUM	DISCHARGE POINT	WEST LAKE BYRON
BYN 10.26 DC	MS4 TO MS4	42.838189	-85.714305	MEDIUM	DISCHARGE POINT	WEST LAKE BYRON
BYN 10.27 DC	MS4 TO MS4	42.836235	-85.720717	MEDIUM	DISCHARGE POINT	RUSH CREEK (EAST BRANCH)
BYN 10.28 DC	MS4 TO MS4	42.835149	-85.710819	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.29 DC	MS4 TO MS4	42.835109	-85.711914	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.30 DC	MS4 TO MS4	42.835096	-85.712443	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.31 DC	MS4 TO MS4	42.835656	-85.712517	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.32 DC	MS4 TO MS4	42.836398	-85.712524	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.33 DC	MS4 TO MS4	42.836895	-85.712390	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.34 DC	MS4 TO MS4	42.837374	-85.712287	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.35 DC	MS4 TO MS4	42.835856	-85.710800	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.36 DC	MS4 TO MS4	42.836782	-85.710580	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.37 DC	MS4 TO MS4	42.836226	-85.709460	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.38 DC	MS4 TO MS4	42.836743	-85.708724	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.39 DC	MS4 TO MS4	42.836702	-85.708863	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.40 DC	MS4 TO MS4	42.837179	-85.708860	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.41 DC	MS4 TO MS4	42.837196	-85.709523	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.42 DC	MS4 TO MS4	42.837170	-85.710225	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.43 DC	MS4 TO MS4	42.835763	-85.708787	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.44 DC	MS4 TO MS4	42.835118	-85.708889	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.45 DC	MS4 TO MS4	42.836264	-85.708828	MEDIUM	DISCHARGE POINT	WATERS EDGE WET BASIN
BYN 10.46 DC	MS4 TO MS4	42.827089	-85.720583	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.47 DC	MS4 TO MS4	42.828353	-85.720687	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.48 DC	MS4 TO MS4	42.830017	-85.721415	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.49 DC	MS4 TO MS4	42.832552	-85.720909	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.50 DC	MS4 TO MS4	42.832545	-85.719753	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.51 DC	MS4 TO MS4	42.832446	-85.718074	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.52 DC	MS4 TO MS4	42.830207	-85.719846	MEDIUM	DISCHARGE POINT	WARNER DRAIN
BYN 10.53 DC	MS4 TO MS4	42.830998	-85.716902	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.54 DC	MS4 TO MS4	42.829154	-85.717149	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.55 DC	MS4 TO MS4	42.827406	-85.716453	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.56 DC	MS4 TO MS4	42.829780	-85.714523	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.57 DC	MS4 TO MS4	42.831876	-85.709397	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.58 DC	MS4 TO MS4	42.832550	-85.708994	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.59 DC	MS4 TO MS4	42.832551	-85.707181	MEDIUM	DISCHARGE POINT	TRIB TO KNIGHT DRAIN
BYN 10.60 DC	MS4 TO MS4	42.831096	-85.703318	MEDIUM	DISCHARGE POINT	TRIB TO GOOSE CREEK
BYN 14.06 DC	MS4 TO MS4	42.820957	-85.702897	MEDIUM	DISCHARGE POINT	TRIB TO BUCK CREEK
BYN 14.07 DC	MS4 TO MS4	42.821550	-85.698405	MEDIUM	DISCHARGE POINT	TRIB TO BUCK CREEK
BYN 15.01 DC	MS4 TO MS4	42.824000	-85.707000	MEDIUM	DISCHARGE POINT	WINCHESTER COUNTY DRAIN
BYN 15.02 DC	MS4 TO MS4	42.815000	-85.703000	LOW	DISCHARGE POINT	TRIB TO WILLARD COUNTY DRAIN

BYN 21.01 DC	MS4 TO MS4	42.812000	-85.738000	LOW	DISCHARGE POINT	KNIGHT COUNTY DRAIN
BYN 22.06 DC	MS4 TO MS4	42.803000	-85.709000	MEDIUM	DISCHARGE POINT	LANTING COUNTY DRAIN
BYN 23.06 DC	MS4 TO MS4	42.811812	-85.686015	LOW	DISCHARGE POINT	TRIB TO CARLISLE DRAIN
BYN 24.01 DC	MS4 TO MS4	42.808058	-85.675129	LOW	DISCHARGE POINT	TRIB TO CARLISLE DRAIN
CAN 09.03 DC	MS4 TO MS4	43.097000	-85.505000	MEDIUM	DISCHARGE POINT	GRASS LAKE
CAS 08.01 DC	MS4 TO MS4	42.920000	-85.527000	MEDIUM	DISCHARGE POINT	PRIVATE POND
CAS 10.02 DC	MS4 TO MS4	42.924000	-85.472000	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
CAS 15.05 DC	MS4 TO MS4	42.908000	-85.479000	MEDIUM	DISCHARGE POINT	TRIB TO THORNAPPLE RIVER
CAS 15.06 DC	MS4 TO MS4	42.910000	-85.475000	MEDIUM	DISCHARGE POINT	APPLE HILLS COUNTY DRAIN
CAS 15.07 DC	MS4 TO MS4	42.908000	-85.475000	MEDIUM	DISCHARGE POINT	APPLE HILLS COUNTY DRAIN
CAS 17.01 DC	MS4 TO MS4	42.907000	-85.527000	MEDIUM	DISCHARGE POINT	PATTERSON COUNTY DRAIN
CAS 31.01 DC	MS4 TO MS4	42.867000	-85.546000	LOW	DISCHARGE POINT	TRIB TO FISK DRAIN
CAS 31.02 DC	MS4 TO MS4	42.867000	-85.546000	LOW	DISCHARGE POINT	TRIB TO FISK DRAIN
EGR 03.01 DC	MS4 TO MS4	42.940009	-85.597301	MEDIUM	DISCHARGE POINT	REEDS LAKE
GDV 29.02 DC	MS4 TO MS4	42.884161	-85.757684	MEDIUM	DISCHARGE POINT	HUIZENGA DRAIN
GNS 04.01 DC	MS4 TO MS4	42.848000	-85.612000	MEDIUM	DISCHARGE POINT	TRIB TO CUTLERVILLE DRAIN
GNS 04.04 DC	MS4 TO MS4	42.841000	-85.617000	MEDIUM	DISCHARGE POINT	TRIB TO CUTLERVILLE DRAIN
GNS 05.05 DC	MS4 TO MS4	42.841000	-85.644000	MEDIUM	DISCHARGE POINT	CUTLERVILLE DRAIN
GNS 07.03 DC	MS4 TO MS4	42.839000	-85.650000	MEDIUM	DISCHARGE POINT	CUTLERVILLE DRAIN
GNS 07.04 DC	MS4 TO MS4	42.838000	-85.649000	MEDIUM	DISCHARGE POINT	CUTLERVILLE DRAIN
GNS 09.01 DC	MS4 TO MS4	42.830000	-85.624000	MEDIUM	DISCHARGE POINT	BUCK CREEK
GNS 09.05 DC	MS4 TO MS4	42.840000	-85.619000	MEDIUM	DISCHARGE POINT	CUTLERVILLE DRAIN
GNS 09.07 DC	MS4 TO MS4	42.834000	-85.610000	MEDIUM	DISCHARGE POINT	PLASTER CREEK
GNS 11.01 DC	MS4 TO MS4	42.834000	-85.575000	LOW	DISCHARGE POINT	TRIB TO PLASTER CREEK
GNS 11.02 DC	MS4 TO MS4	42.833000	-85.575000	LOW	DISCHARGE POINT	TRIB TO PLASTER CREEK
GNS 11.04 DC	MS4 TO MS4	42.831450	-85.584214	LOW	DISCHARGE POINT	TRIB TO PLASTER CREEK
GNS 11.05 DC	MS4 TO MS4	42.830969	85.581292	LOW	DISCHARGE POINT	TRIB TO PLASTER CREEK
GNS 18.08 DC	MS4 TO MS4	42.813000	-85.644000	MEDIUM	DISCHARGE POINT	SHARPS CREEK
GNS 18.10 DC	MS4 TO MS4	42.819000	-85.645000	MEDIUM	DISCHARGE POINT	TRIB TO SHARPS CREEK
GRC 05.01 DC	MS4 TO MS4	43.027000	-85.635000	MEDIUM	DISCHARGE POINT	TRIB TO SOFT WATER LAKE
GRC 09.02 DC	MS4 TO MS4	43.006000	-85.625000	MEDIUM	DISCHARGE POINT	TRIB TO LAMBERTON CREEK
GRC 09.04 DC	MS4 TO MS4	43.004000	-85.740000	MEDIUM	DISCHARGE POINT	TRIB TO BRANDYWINE CREEK
GRC 09.05 DC	MS4 TO MS4	42.925658	-85.621871	MEDIUM	DISCHARGE POINT	TRIB TO BURTON BRETON DRAIN
GRC 09.06 DC	MS4 TO MS4	42.921375	-85.627799	MEDIUM	DISCHARGE POINT	TRIB TO LARAWAY BROOKLYN DRAIN
GRC 10.07 DC	MS4 TO MS4	42.919367	-85.598508	MEDIUM	DISCHARGE POINT	TRIB TO BURTON BRETON DRAIN
GRC 17.01 DC	MS4 TO MS4	42.986000	-85.630000	MEDIUM	DISCHARGE POINT	WETLANDS/POND
GRC 17.02 DC	MS4 TO MS4	42.992000	-85.646000	LOW	DISCHARGE POINT	PALMER SEPARATION COUNTY DRAIN
GRC 20.04 DC	MS4 TO MS4	42.980000	-85.646000	HIGH	DISCHARGE POINT	COLDBROOK CARRIER CREEK COUNTY DRAIN
GRC 21.01 DC	MS4 TO MS4	42.974000	-85.625000	MEDIUM	DISCHARGE POINT	TRIB TO COLDBROOK CORDUROY POND
GRC 21.04 DC	MS4 TO MS4	42.979000	-85.737000	MEDIUM	DISCHARGE POINT	WETLAND

GRC 21.05 DC	MS4 TO MS4	42.979000	-85.737000	MEDIUM	DISCHARGE POINT	WETLAND
GRC 22.02 DC	MS4 TO MS4	42.975000	-85.717000	MEDIUM	DISCHARGE POINT	GRAND RIVER
GRC 23.01 DC	MS4 TO MS4	42.973000	-85.707000	MEDIUM	DISCHARGE POINT	GRAND RIVER
GRC 27.03 DC	MS4 TO MS4	42.967000	-85.722000	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
GRT 04.04 DC	MS4 TO MS4	43.014000	-85.614000	MEDIUM	DISCHARGE POINT	TRIB TO LAMBERTON CREEK
GRT 04.05 DC	MS4 TO MS4	43.013000	-85.622000	MEDIUM	DISCHARGE POINT	TRIB TO LAMBERTON CREEK
GRT 10.01 DC	MS4 TO MS4	43.012000	-85.605000	MEDIUM	DISCHARGE POINT	TRIB TO LAMBERTON CREEK
GRT 10.02 DC	MS4 TO MS4	43.009000	-85.606000	MEDIUM	DISCHARGE POINT	TRIB TO LAMBERTON CREEK
GRT 10.06 DC	MS4 TO MS4	43.010000	-85.591000	MEDIUM	DISCHARGE POINT	WETLANDS/PONDS
GRT 26.02 DC	MS4 TO MS4	42.965000	-85.590000	MEDIUM	DISCHARGE POINT	CHURCH LAKE
GRT 27.01 DC	MS4 TO MS4	42.962000	-85.600000	MEDIUM	DISCHARGE POINT	TRIB TO WATERS COUNTY DRAIN
GRT 27.02 DC	MS4 TO MS4	42.962000	-85.596000	MEDIUM	DISCHARGE POINT	TRIB TO WATERS COUNTY DRAIN
GRT 36.02 DC	MS4 TO MS4	42.946000	-85.555000	MEDIUM	DISCHARGE POINT	MARTIN AND BEAK DRAIN
GRT 36.03 DC	MS4 TO MS4	42.947000	-85.551000	MEDIUM	DISCHARGE POINT	MARTIN AND BEAK DRAIN
KWD 22.02 DC	MS4 TO MS4	42.890745	-85.587227	MEDIUM	DISCHARGE POINT	PLASTER CREEK
KWD 35.02 DC	MS4 TO MS4	42.868814	-85.567455	MEDIUM	DISCHARGE POINT	PLASTER CREEK
LOW 04.02 DC	MS4 TO MS4	42.932313	-85.381262	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
LOW 04.07 DC	MS4 TO MS4	42.943733	-85.378591	LOW	DISCHARGE POINT	TRIB TO GRAND RIVER
PLN 11.02 DC	MS4 TO MS4	43.089620	-85.580047	MEDIUM	DISCHARGE POINT	TRIB TO ROGUE RIVER
PLN 13.01 DC	MS4 TO MS4	43.085659	-85.565265	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
PLN 17.01 DC	MS4 TO MS4	43.076366	-85.634551	MEDIUM	DISCHARGE POINT	SCOTT CREEK
PLN 20.01 DC	MS4 TO MS4	43.057736	-85.643194	MEDIUM	DISCHARGE POINT	GRAND RIVER
PLN 21.01 DC	MS4 TO MS4	43.065605	-85.616398	MEDIUM	DISCHARGE POINT	GRAND RIVER
PLN 22.01 DC	MS4 TO MS4	43.064496	-85.606199	MEDIUM	DISCHARGE POINT	GRAND RIVER
PLN 24.05 DC	MS4 TO MS4	43.064700	-85.568500	LOW	DISCHARGE POINT	GRAND RIVER
PLN 27.02 DC	MS4 TO MS4	43.051461	-85.597346	MEDIUM	DISCHARGE POINT	COIT AND PLAINFIELD DRAIN
PLN 29.01 DC	MS4 TO MS4	43.056297	-85.645931	MEDIUM	DISCHARGE POINT	GRAND RIVER
PLN 33.06 DC	MS4 TO MS4	43.040354	-85.628177	MEDIUM	DISCHARGE POINT	WETLAND
PLN 35.01 DC	MS4 TO MS4	43.042402	-85.581466	LOW	DISCHARGE POINT	GRAND RIVER DRIVE DRAIN
VSP 22.02 DC	MS4 TO MS4	43.154047	-85.715152	MEDIUM	DISCHARGE POINT	ROGERS COUNTY DRAIN
WLK 02.01 DC	MS4 TO MS4	43.014719	-85.698670	MEDIUM	DISCHARGE POINT	ALPINE ESTATES DRAIN
WLK 06.05 DC	MS4 TO MS4	43.026256	-85.787935	LOW	DISCHARGE POINT	SAND CREE (EAST FORK)
WLK 07.02 DC	MS4 TO MS4	43.005756	-85.777475	LOW	DISCHARGE POINT	FRIAR AND KIMBALL OTTAWA COUNTY DRAIN
WLK 07.03 DC	MS4 TO MS4	43.007600	-85.768631	MEDIUM	DISCHARGE POINT	TRIB TO SAND CREEK (EAST FORK)
WLK 07.04 DC	MS4 TO MS4	43.006790	-85.786500	LOW	DISCHARGE POINT	FRIAR AND KIMBALL OTTAWA COUNTY DRAIN
WLK 09.01 DC	MS4 TO MS4	43.005000	-85.743000	MEDIUM	DISCHARGE POINT	BRANDYWINE CREEK
WLK 11.01 DC	MS4 TO MS4	43.009490	-85.697943	MEDIUM	DISCHARGE POINT	TRIB TO INDIAN MILL CREEK
WLK 11.02 DC	MS4 TO MS4	43.005347	-85.690833	MEDIUM	DISCHARGE POINT	COGSWELL DRAIN
WLK 17.03 DC	MS4 TO MS4	43.001150	-85.755866	MEDIUM	DISCHARGE POINT	TRIB TO BRANDYWINE CREEK
WLK 17.04 DC	MS4 TO MS4	43.001081	-85.753327	MEDIUM	DISCHARGE POINT	TRIB TO BRANDYWINE CREEK

WLK 17.05 DC	MS4 TO MS4	43.001020	-85.752582	MEDIUM	DISCHARGE POINT	TRIB TO BRANDYWINE CREEK
WLK 17.06 DC	MS4 TO MS4	43.000670	-85.752446	MEDIUM	DISCHARGE POINT	TRIB TO BRANDYWINE CREEK
WLK 18.01 DC	MS4 TO MS4	43.993419	-85.767985	MEDIUM	DISCHARGE POINT	MULLINS DRAIN
WLK 18.02 DC	MS4 TO MS4	43.992189	-85.768171	MEDIUM	DISCHARGE POINT	MULLINS DRAIN
WLK 20.01 DC	MS4 TO MS4	42.986682	-85.762655	MEDIUM	DISCHARGE POINT	WORDEN DRAIN
WLK 20.05 DC	MS4 TO MS4	42.986121	-85.755572	MEDIUM	DISCHARGE POINT	WORDEN DRAIN
WLK 20.08 DC	MS4 TO MS4	42.972209	-85.757245	MEDIUM	DISCHARGE POINT	SEXTON DRAIN
WLK 20.09 DC	MS4 TO MS4	42.982434	-85.763930	MEDIUM	DISCHARGE POINT	WORDEN DRAIN
WLK 29.04 DC	MS4 TO MS4	42.959977	-85.756328	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
GRT 14.01 KC	MS4 TO MS4	42.998734	-85.585449	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
GRC 20.08 KC	MS4 TO MS4	42.977000	-85.630000	MEDIUM	DISCHARGE POINT	CORDUROY POND - WETLANDS
GRC 26.01 DPW	MS4 TO MS4	42.957000	-85.693000	MEDIUM	DISCHARGE POINT	TRIB TO GRAND RIVER
GRC 31.01 KC	MS4 TO MS4	42.950000	-85.666000	MEDIUM	DISCHARGE POINT	GRAND RIVER
GRC 31.02 KC	MS4 TO MS4	42.949000	-85.664000	MEDIUM	DISCHARGE POINT	GRAND RIVER
GRC 31.03 KC	MS4 TO MS4	42.949000	-85.666000	MEDIUM	DISCHARGE POINT	GRAND RIVER

2017 Focus Group Report for the NPDES MS4 Public Education Plan in the Lower Grand River Watershed

December 2017

Grand Valley Metropolitan Council

GVMC

Introduction

A focus group was held on December 18, 2017 as part of the compliance activities associated with the National Pollution Discharge Elimination System (NPDES) Stormwater Regulations watershed-based permit for communities in the Lower Grand River Watershed (LGRW). The focus group served as an evaluation tool for the LGRW Public Education Plan (PEP), an integral part of the NPDES Municipal Separate Storm Sewer System (MS4) permit. In 2003, twenty three entities made up of county, city, village, township, university, and local school districts collaborated under the guidance of Grand Valley Metropolitan Council (GVMC) to apply for a watershed-based stormwater permits. The Lower Grand River Organization of Watersheds (LGROW) was officially formed as an agency of GVMC in 2009 to coordinate the implementation of the permits and provide basin-wide oversight, conduct watershed-wide initiatives, and prioritize water quality concerns.

The PEP was created for the participating communities in Kent, Ottawa, and Muskegon Counties and is intended to educate the public on stormwater pollution reduction. Successful implementation of the PEP will form partnerships with agencies and organizations that have existing programs and use educational materials and strategies familiar and relevant to the area residents. LGROW is the mechanism used to promote PEP programs and materials.

The unique purpose of the public education portion of the NPDES MS4 Stormwater Regulations is to increase the awareness of watershed residents that their everyday activities can contribute pollutants to their community's water resources. Most citizens recognize the recreational and aesthetic benefits they receive from water, and also recognize that water quality degradation is a serious concern in the Great Lakes Region. Most people, however, have not made the connection that significant pollution is generated from their normal everyday actions, and not simply from large commercial and industrial sources.

The advantage of this regional watershed-based initiative is the cooperation and resource sharing that is developed between the participating communities. Implementing a successful PEP takes funding and preparation time that one community may find impossible to do alone. However, when coordination develops between many communities in the watershed, these resources can be shared, and a larger audience can be reached at a lesser cost per contributing community. Since the overall aim is to encourage pollution prevention by coordinating a regional effort, it makes sense to pool all available resources and delegate tasks to the communities that will be the most efficient at accomplishing their responsibilities.

The last focus group held to evaluate the PEP was in 2009 at Fishbeck, Thompson, Carr & Huber (FTC&H) in Grand Rapids. The purpose of the focus group was to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts in 2008 and 2009. Results of that session were used by GVMC and the LGROW Public Engagement Committee to further enhance the goals, objectives, and deliverables of the MS4 program.

The 2017 focus group was held at the offices of GVMC with the purpose to determine changes in the awareness, education, and behavior of the public as a result of stormwater education efforts since 2009.

In this report the results of the focus group will be evaluated, and recommendations given by participants will be used to edit and update the current LGRW MS4 PEP.

Methods

Focus group participants were nominated by local units of government that maintain MS4 permits. Each participating local unit of government was asked to submit two potential participants that meet the following criteria:

1. The nominees must live in Kent or Ottawa Counties, specifically in the Lower Grand River Watershed, preferably in the community they are representing
2. The individuals do not manage or have direct involvement with your community's MS4 Permit
3. The nominees have had the potential to encounter LGROW deliverables (examples: events, educational outreach, brochures or fliers, LGROW website or Facebook page)

GVMC staff administered the 1.5 hour long focus group session on December 18, 2017. Twelve invited individuals were present, representing Kent and Ottawa Counties. Eleven of the 23 municipalities that GVMC works with regarding MS4 permits were represented. There was a diverse demographic represented among the group.

Focus Group Dialogue

All participants were asked to fill out the following questionnaire before discussion began:

Table 1 – Questionnaire
1. Name?
2. Affiliation or workplace?
3. What community (city, township, or village) do you live in?
4. What local parks do you most often go to?
5. What community do you work in?
6. What is the zip code where you live?

The results of this questionnaire indicated that all twelve participants live in the Lower Grand River Watershed and subwatersheds of the Lower Grand (Plaster Creek, Lower Rogue, Indian Mill Creek, and Spring Lake). Half of the participants worked for the municipality that they were representing for the focus group, although only one of those six work directly to manage their municipality's MS4 permit.

Discussion began with introductions of everyone present and an ice breaker question. The conversation followed six dialogue questions led by GVMC. The dialogue questions were as follows:

Table 2 – 2017 Dialogue Questions
1. What do you know about LGROW?
2. What LGROW information have you seen, heard, or read?
3. Did the message (that you have seen, heard, or read) influence you? If so, how?
4. Have you seen any stormwater or pollution prevention messaging at your workplace? Who was the message from? (LGROW, employer, other org.)
5. How could LGROW project deliverables be improved?
6. Where and how do you get information on community activities?

Question #1: What do you know about LGROW?

In all correspondence with participants prior to the focus group, the words 'Lower Grand River Organization of Watersheds' were not used. This was in order to determine the reach of the organization. When asked what they knew about LGROW, participants could not specifically spell out what LGROW stands for, but did display knowledge of watershed concepts and understand that the organization had something to do with watershed protection. One participant identified LGROW as the Lower Grand River Association of Watersheds and correctly described it as "a watershed partner for the larger area." Once told what LGROW stood for, participants were able to identify events and projects that LGROW partners and participates in, such as the Mayor's Grand River Cleanup (led by the West Michigan Environmental Action Council, WMEAC), Basin Buddy program and Stormwater Oversight Commission (City of Grand Rapids), MS4 permit management (GVMC/LGROW) and pet waste pledges (LGROW).

After topics for Question #1 were exhausted, GVMC staff explained the purpose of this focus group as it relates to the MS4 permitting process and explained the history of LGROW.

Question #2: What LGROW information have you seen, heard, or read?

The purpose of this question was to learn which materials LGROW had successfully administered to the communities. Some participants mentioned school activities, rain barrel workshops, and tours/events at breweries. Others described activities that their individual communities completed as part of MS4 compliance, including displays at city hall, e-newsletters, no dumping signs on catch basins, and touch-a-truck events where the DPW conducts outreach. Representatives from Grand Haven discussed their community's work with schools focusing on source water protection and recognized materials with LGROW's older "Keep it Pure: Yours to Protect" messaging. One participant was familiar with the LGROW Spring Forum and encouraged others to attend.

Participants wondered if LGROW ran a Master Rain Gardener program and asked about LGROW's connection to WMEAC and to Plaster Creek Stewards. The only LGROW-specific information that participants were able to relay was storm drain markers and pet waste signs.

Discussion for this question also raised participant concerns regarding combined sewer overflow (CSO) that reaches the Lower Grand River from upstream communities and its local effects. Participants also questioned if there would be opportunity for LGROW to do outreach concerning PFAS drinking water contamination.

All participants received re-usable LGROW tote bags that contained LGROW promotional and public outreach materials. GVMC staff also presented a power point presentation that contained pictures of other LGROW materials that were used in the past, materials that could not fit into the tote bags (ex: storm drain stencils), and pictures from events or festivals that LGROW has been present at.

Question #3: Did the message (that you have seen, heard, or read) influence you? If so, how?

The discussion regarding Question #3 didn't focus on how the stormwater messages changed behavior in participants, but instead focused on the content of messages. Participants did indicate that they had seen 'Entering the [Lower Grand River] Watershed' signs, but discussion did not cover how that information affected their behavior. Most participants agreed that placing these signs at watershed boundaries is better than only along the stream, but one participant thought the signs were not useful because people ignore them on busy streets.

Storm drain markings were discussed at length, and the general group consensus was that storm drain markers are good to have. However, the way that the storm drains are marked can affect the purpose of the marking. For example, the group seemed to be in agreement that the circular LGROW drain markers are hard to read, and therefore the message they are trying to convey (no dumping, drains to local waterway), gets lost. Also, if all drain markers are in English, and they are used in a neighborhood that isn't predominately native English speakers, the message gets lost. Excellent points were made by focus group participants asking about LGROW's outreach in different languages, and approaching citizen perspectives from different cultural point of views. If someone is from a culture where it is common practice to dump things down the storm drain, they may need different educational messages than those who understand how local stormwater infrastructure works.

Question #4: Have you seen any stormwater or pollution prevention messaging at your workplace? Who was the message from (LGROW, employer, other org.)?

One participant shared that unless you are working for a DPW directly with the stormwater permit, one would not receive official stormwater training. However, in that community, there is stormwater education provided to employees, especially if their daily job encounters stormwater management best management practices (BMPs). The general consensus from the focus group was that participants hadn't seen much information about stormwater in their workplace, or couldn't specifically recall any stormwater messaging at work.

Question #5: How could LGROW project deliverables be improved?

Participants offered helpful and realistic ways for deliverables to be achieved, how to improve messaging and improved methods of outreach. One suggestion was to connect watershed education with drinking water quality. Citizens are often more concerned with the quality of drinking water than surface water and stormwater runoff. If a connection between stormwater and drinking water can be made, citizens may become more invested in stormwater messaging.

There were many ideas about the methods used to reach people. The general consensus was that LGROW needs a broader reach and more people need to be aware of stormwater messaging. Participants mentioned that they would like to see messages on billboards, on physical print materials such as newspapers or magazines, and/or in promotional videos that offer watershed education messaging.

New audiences and topics for outreach were also suggested, including educating residents of apartment complexes on their current impacts as well as how they can manage future properties, and educating owners of LEED buildings on maintenance of their green infrastructure.

One participant mentioned that communication with local governments is crucial. For example, LGROW has been encouraging people to wash their car on their grass (or at a commercial car wash) in order to avoid runoff polluted with soap and automobile fluids entering the storm sewer system through storm drains. However, it was mentioned that it is against some city codes to park your vehicle on the lawn and residents can get ticketed.

Question #6: Where and how do you get information on community activities?

Many participants received community information from the internet. Internet and social media sites mentioned included: Facebook, Instagram, Nextdoor, municipal websites, Experience Grand Rapids website, and Eventbrite.

Other sources include community newsletter and mailers, water bill mailers, and word of mouth. It was mentioned that word of mouth is extremely important in communities where people do not have access to the internet or smart phones. Also, participants expressed that it isn't enough to tell people about the watershed or stormwater pollution prevention, you also need to tell them why they should care about information you are presenting.

Other Discussion

GVMC staff asked for other suggestions for new LGROW promotional materials and giveaways that would help promote stormwater messaging. New ideas from the focus group participants included: phone accessories such as PopSockets, water bottle stickers to get free water refills (similar to a program Art Prize has used in Grand Rapids), conducting storm drain marking events with private neighborhood associations who would not otherwise have their drains marked by a municipality, pencils for kids at schools, politicians spreading the word when they go door-to-door during campaign season, and attending farmers markets to partner with farmers who could hand out information on LGROW's behalf.

Results

This focus group ended up being a very educational experience for its participants while providing valuable feedback on LGROW outreach activities. The mixed demographic of participants and the number of MS4 communities participating provided a fairly diverse view of LGROW's reach into the watershed, and participants shared many ideas to improve LGROW messaging.

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New Target Audiences

- *Municipal employees*
- *Adults through schoolchildren*
- *People living in apartment complexes*
- *LEED certified building owners*
- *Farmers*

Much of the focus group time was spent explaining to participants what LGROW does and why, instead of gaining insight on how to improve specific LGROW messages and materials. The fact that many of the participants were employees of municipalities participating in the MS4 program suggests that LGROW may need to emphasize improvement of outreach to these communities in order to extend our reach into the wider watershed community. Since these communities are meant to be assisting in spreading LGROW's stormwater messaging and materials, it is important that their employees understand LGROW's work. More stormwater messaging needs to be available to municipality employees regarding that municipality's stormwater permit and program. Focus group participants were not opposed to learning more about their municipality's program, instead they seemed genuinely interested to know more about it and seemed willing to share that information with others. LGROW needs to find a more effective way for municipalities to share stormwater program information with municipality employees.

Frequently, LGROW focuses its attention on educating school children. It was suggested that information could be given to children at school for them to take home to their parents. Adults may become more invested in the messaging if it comes to them from their children. One participant suggested that LGROW spends a lot of time educating children, and should focus on targeting its messages to adults. An effective way to reach many adults at one time would be to expand messaging to apartment complexes. After this comment was made, other participants agreed, and suggested that private home associations, or subdivisions be brought into the loop in order to reach many adults who have a vested interest in the watershed, but aren't receiving messaging from another source. Other target audiences suggested were the owners of local LEED certified buildings. It is a good idea to reach out to these owners because they may need education on how to maintain their green infrastructure (GI).

Reworking Messages

- *Translating materials in to the language of the neighborhood*
- *Address 'why' citizens need to know the message presented*
- *Simplify messages*

Participants stressed the importance of materials being available in the language of citizens that LGROW is wishing to serve. There is a large Hispanic population in West Michigan, and in order to reach those people, materials in Spanish should be available. It is also important to take into consideration cultural values because many people may not understand how their local stormwater infrastructure works. While educating people on how the storm sewer works, focus group participants also mentioned that it

is important to explain to people why LGROW messages are important and how stormwater affects their everyday life. Messages should also be simple, in order to ensure understanding and avoid confusion.

Delivery Mechanisms

- *Placement of watershed information (placement of 'Entering the Watershed' signs, more signs for GI)*
- *Tours of municipalities and events at breweries*
- *Word of mouth*
- *Presence at festivals*
- *Advertising in churches in the watershed*

There was excellent discussion by the group about ways that they would like to receive more information regarding stormwater messaging, and the places where they thought that messaging would be well received in the watershed.

'You are now entering the [Lower Grand River] Watershed' signs were deemed helpful by participants. Only one participant expressed that these signs are not helpful to citizens, because if you drive past them frequently in your neighborhood, you quickly become immune and ignore them. There was discussion about the placement of the watershed signs, and the group seemed to agree that it is helpful to have the signs placed at watershed boundaries, not directly at river or stream crossings. However, it was suggested that if signs were placed along bike or walking trails, there would be an opportunity for people to stop and read the sign and any other information provided with it. It is not practical for a driver of a car or passenger to read the whole sign while driving by. It was suggested that LGROW consider placing more signs in parks with watershed information, where interested parties will stop and read. Participants also noted that you might reach more people if you have a sign on a roadside versus a trail based on how busy that road or trail is.

Participants noticed that stormwater education is often given during facilities tours at municipalities, and that is a good place to get information to a captive audience. Also, many people have an interest in local breweries, so events or messaging promoted at breweries would also be successful.

Word of mouth is extremely helpful in communities for people who do not have internet access or smartphones. It was suggested that LGROW find a community leader and use them to spread educational messages.

Attending festivals is another mechanism that was suggested during the focus group, and advertising events or stormwater messaging in churches was also mentioned. Festivals and churches usually contain many local leaders, and this would be a great way to get active community members involved.

Key take-aways for LGROW from the focus group are summarized in the following table:

How LGROW messages can be improved	
New Target Audiences	• *Municipal employees* • *Adults through schoolchildren* • *People living in apartment complexes* • *LEED certified building owners* • *Farmers*
Reworking Messages	• *Translating materials in to the language of the neighborhood* • *Address 'why' citizens need to know the message presented* • *Simplify messages*
Delivery Mechanisms	• *Placement of watershed information (placement of 'Entering the Watershed' signs, more signs for GI)* • *Tours of municipalities and events at breweries* • *Word of mouth* • *Presence at festivals* • *Advertising in churches in the watershed*

Future Action Steps

Using the information provided from the focus group, the PEP for the LGRW communities can be edited to better serve the public. The challenges, successes, and recommendations communicated in this report will be evaluated to modify the PEP as needed. The updated PEP will result in a more effective public outreach campaign to reduce stormwater pollution and raise MS4 awareness during the next permit cycle.

Photos


LGROW Stormwater
Outreach Materials
LOWER GRAND RIVER
ORGANIZATION OF WATERSHEDS


Drain Markers & Door Hangers