



Program Management

Report Written- March 12, 2021

MONROE COUNTY MS4

2018-2020 Report

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PART D: PROGRAM MANAGEMENT

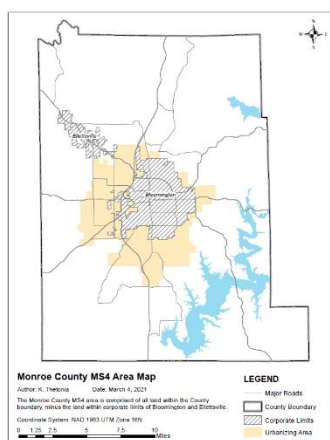
16. Provide a summary of the following program management activities performed during the reporting period:

a) If this is a co-permit, list all permittees and operators responsible for permit implementation for each entity.

Ivy Tech State College-Bloomington, INRA40003

b) Identify changes to the MS4 area boundaries, including areas added to or lost to the MS4 area via annexation or other similar means. Provide a current map (8.5" x 11" or 8.5" x 14")

134.67 Acres were voluntarily annexed by the Town of Ellettsville during the reporting period.



Address	Acres Annexed
4630 N. Thomas Road	32
5000 N. Lakeview Dr.	1
8118 W. Reeves Road	87
4760 N. Loudon Road	14.67
Total	134.67

Full size map is located in appendix a page 43.

c) Identify follow-up or additional water quality characterizations completed during the reporting period if applicable.

No additional water quality characterizations were completed during the reporting period.

d) Provide updated receiving water information completed during the reporting period if applicable. N/A

e) Identify funding sources (utility fees, grants, enforcement fines, etc.) utilized for MS4 program implementation during this reporting period.

Monroe County MS4 is funded by stormwater utility fees. The fluctuation in number of residential and commercial properties in the county, not including Stinesville, can be explained by the review process on township vacant properties. Each property class code of vacant was reviewed on the Elevate GIS County mapping system. The new MS4 Assistant processed the

2019 and 2020 stormwater fees and made the following observations as featured on the table below.

The increase in number of commercial and residential properties between 2018 and 2019 can be explained in the number of vacant properties developed and the review process. Griffin reviewed township property class codes 100 and 500 (vacant properties) and added properties with 1,000 sq. ft. or more of impervious surface (based on our Stormwater Fee Ordinance) so we saw an increase of 132 properties added to the billing list.

The difference in number of residential and commercial properties between 2019 and 2020 is explained in reducing double billing for properties built over property lines and receiving two stormwater bills. The Assessor's Office worked to combine these properties so the property owner would only pay one residential stormwater fee, so the number of properties billed was reduced by 114.

Please see billing totals, annual fee rates and number of residential and commercial properties billed in the table below. Total stormwater fees charged in MS4 jurisdiction during reporting period- \$3,485,323.89.

Monroe County (Not including Stinesville)

Billing Year (Property Taxes are collected one year in the rear)	Number of Residential and Commercial Properties	Annual Fee Rate	Amount Billed
2018	21,855	\$35.16	\$1,155,440.29
2019	21,987 (increase 132)	\$35.16	\$1,173,502.18
2020	21,873 (decrease 114)	\$35.16	\$1,156,381.42
			\$3,485,323.89

Stinesville stormwater fee is \$35.25 and the fee is placed on their personal property tax bill and collected in two installments spring and fall. The fee goes directly to Stinesville and is not managed by Monroe County MS4. An interlocal agreement will be revised if Stinesville determines they want to increase the fee amount.

Stinesville

Year	Number of Residential and Commercial Properties	Annual Fee Rate	Amount Billed
2018	99	\$35.25	\$3,812.26
2019	99	\$35.25	\$3,812.26
2020	99	\$35.25	\$3,812.26
			\$11,436.78

2021 Stormwater Fee

The 2021 stormwater fee for Monroe County MS4 will be raised to \$75.77 (One Equivalent Residential Unit (ERU)) annually for the entire MS4 area, as approved by the County Commissioners on March 3, 2021. Stinesville will pay the same ERU as other residents and commercial properties in the MS4's jurisdiction.

f) Provide a list of new active industrial sites identified during this reporting period.

No new industrial sites were identified during the reporting period.

g) Provide a list of facilities owned and operated by the MS4 that require Rule 6 (industrial stormwater) permits.

Monroe County Airport INRM00165 for permit period 5/9/19-6/21/2024.

h) Provide a summary of complaints received and follow-up investigation results related to stormwater quality issues during the reporting period.

Stormwater Services received 641 stormwater related complaints during the reporting period with 80% responded to by our stormwater crew. Below is a summary of complaint types and total by complaint type. The remaining, un-resolved complaints include low status, such as shoulder repair, needs aggregate and misc.

641 Complaints Received	Complaint Type	Total by Complaint Type
Issues:	Clean Culvert/Inlet	186
	Ditching	125
	Drainage/Investigate	196
	Repair, replace culvert	15
	Areas washed out	56
	Misc.	63
	Total	641
Repairs conducted based on complaints:		518
	80% Resolved	

i) Other:

PART E: PUBLIC EDUCATION AND OUTREACH – MINIMUM CONTROL MEASURE

17. Identify the best management practices (BMPs) for public education and outreach included in your Storm Water Quality Management Plan (SWQMP) Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this minimum control measure (MCM) including timetables and measurable goals during this reporting period.

MCM 1 Activity 1

Continue to facilitate Storm Water Environmental Education Team (SWEET) meetings to share information and to coordinate activities among interested MS4 entities in the county.

SWEET continued to meet monthly in 2018 and 2019 in person and virtually since spring of 2020 for a total of 28 meetings during the reporting period. Since the former MS4 Assistant Dana Wilkinson accepted a new position, in June of 2019, the Chair position was entrusted to Kriste Lindberg, Stormwater Education Specialist for the City of Bloomington Utilities Department. Kriste has held meetings monthly and participants discuss scheduled outreach events and training events and conferences. As the new MS4 Assistant I attend monthly SWEET meetings and participate in County updates and outreach activities.

MCM 1 Activity 2

Continue to create an annual Monroe County Stormwater Calendar (or similar outreach materials) for fair & office distribution.

The annual calendar has been produced by staff and interns since 2015. The calendar features citizen and staff photographs of nature areas in the county and relevant stormwater messages.

We order 1500 stormwater calendars annually. Below are distribution tables.

2018 (2019 Calendar)

4-H Fair	1100
Visitors Center	25
County Departments/Court Building/Court House	300
Master Gardener Class	50
Misc.	25
Total	1500

2019 (2020 Calendar)

4-H Fair	1250
Visitors Center	25
County Departments/Court Building/Court House	150
Master Gardener Class	50 (in-person presentation on rain gardens)
Misc.	25
Total	1500

2020 (2021 Calendar) Reduced order to 500

4-H Fair	Canceled
Visitors Center	50
County Departments/Court Building/Court House	230
Master Gardener Class	0 (Event was virtual)
Concrete Companies	36
City of Bloomington, SWEET Chair	10
2021 Calendar contest winners 10 each	120
Monroe County Schools	25
Misc.	29
Total	500

In 2020 Stormwater Services sponsored a 2021 Calendar Contest for K-12 with the theme of “Waste No Water”. Monroe County schools were mailed information on the contest and directed to the Stormwater Quality web page to validate the contest information.

Student art was introduced in the 2021 calendar. Winners of the contest were awarded a cash prize, stormwater educational items, and 10 calendars to share with family and friends. We’re continuing with the calendar art contest K-12 for 2022 with the theme “Stormwater Matters”.

We reduced the 2021 calendar quantity to 500, since the 4-H Fair was canceled. The Visitors Center requested 50 calendars this year and we provided calendars to schools in Monroe County when we mailed information on the 2022 calendar contest. In addition, the 2021 calendar was mailed to all concrete companies in Monroe County as a thank you for reviewing the education items I mailed on concrete wash out requirements.

MCM 1 Activity 3

Develop Excel sheet of area schools and potential teacher connections for classroom visits w/MCCSC & R-BB.

An excel worksheet was created in the spring of 2020 for K-12 Monroe County Schools in the MS4 area. We use the mailing list for sending contest notices and stormwater education materials, though we would like to add educational opportunities when Covid restrictions subside.

MCM 1 Activity 4

Continue hosting educational booth and sponsoring annual events: BugFest (sponsor, aquatic insect focus), Sustaining Nature and Your Land (SNAYL) Day (sponsor, rain garden focus), Environmental Fair at The Academy (watersheds and BMPs at home focus), Monroe County Fair, and Fall Festival.

In addition to Stormwater Services 2018-2019 outreach activities, class and virtual presentations were conducted by SWCD, MC Solid Waste District, Monroe County Parks and

Recreation and Friends of Lake Monroe Watershed Coordinator. For a full listing of education programs, please refer to the appendix a pages 44-57.

Agency	2018 Programs	2019 Programs	2020 Programs	Mini Grants 2018-2020
Monroe County Stormwater Services	7	7	0	N/A
Soil and Water Conservation District	2	5	2	25
Monroe County Solid Waste District Report; 2018-2020 combined	184 programs, total students and teachers reached 4,968			N/A
Monroe County Parks and Recreation	24	15	0	N/A
SWEET (Not a public attended event, not counted)	12	12	12	N/A
Friends of Lake Monroe	N/A	N/A	6	N/A
Total Events/Mini Grants	33	27	8	25

2018 Monroe County Stormwater Services

Monroe County Fall Festival Education Day (9/21/2018)

Stormwater Services sponsored an interactive booth on how land use can affect flooding, water quality and community planning.

Peden Farm Children's Festival (9/26/18)

Stormwater Services partnered with the Monroe County Soil and Water Conservation District tabled to share stormwater information and farming practices to reduce soil erosion.

The Friday Zone (11/8/2018)

The Public Broadcast Station offers kids and families' quality entertaining and education programs across Indiana. Stormwater Services assisted with one half-hour episode which presented information on flooding.

Leonard Springs Nature Days (11/19/2018)

Leonard Springs Nature Park provides education and observation experiences relevant to wetlands, flora and fauna, caves, and steep forested slopes. Stormwater Services participated with an interactive display.

2019 Monroe County Stormwater Services

Garden Fair (4/6/2019)

Monroe County Master Gardeners Association sponsored the event and the 2019 fair focused on good gardening practices, education and environmental stewardship.

Sustaining Nature and Your Land Day (5/18/19)

Stormwater Services financially supports Sustaining Nature and Your Land Day as well as tables at this event. This event helps landowners understand and develop skills to create robust native habitats that are free on invasive species.

BugFest (6/22/2019)

Stormwater financially supports the program and tables at this event hosted by Monroe County Parks and Recreation, City of Bloomington Parks and Recreation, Wonder Lab, Purdue Extension Office, and Hilltop Gardens at Indiana University.

Our table featured a collection of fresh water macroinvertebrates and stormwater handouts. We discuss how water quality affects macroinvertebrates and how decreased populations of these insects is an indicator of poor water health.

The Monroe County 4-H Fair (6/29-7/7/2019)

The 4-H Fair is one of the most well attended week-long event held in the county. We distribute stormwater information in the evenings, listen to citizen concerns and complaints, handout County road maps and stormwater calendar.

2020

2020 was a great disappointment for in-person outreach due to Covid. Events we normally attend and financially contribute to were postponed until 2021 or later if necessary.

MCM 1 Activity 5

Main watershed post cards to property owners in one watershed per year describing practices that homeowners can implement to reduce polluted runoff.

No postcards were mailed during the reporting period.

2021

A postcard event is planned for spring of 2021 to introduce a stormwater fee increase in the MS4 area. The postcard will be mailed to all residents and will notify them of the annual

increase amount, as well as list of planned capital improvement projects, and the shared benefits of the fee.

2019-2020

The new MS4 Assistant focused on other promotional items instead of post cards. We decided to spend our education dollars on a K-12 calendar contest, stormwater education items, and rain gauges. Please see the table below.

Promotional items	Promotional item distributed during event
Stormwater Hero Pencils	Children's stormwater events
Bug stickers, plastic insects, insect flash cards	BugFest
Rain Gauges	Contractor's workshop, and pre-construction meetings
Calendars	Contest winners, Master Gardener presentations, 4-H Fair, misc.
Water Conservation Booklets	Children's stormwater events
Tooth brush/paste/ and a brochure to turn off the water while you brush your teeth	4-H Fair or Children's stormwater events
Eco-Friendly Sticker Book	4-H Fair or Children's stormwater events

MCM 1 Activity 6

Provide at least 2 Rain Garden workshops per year.

The MS4 Assistant conducted two Rain Garden presentations during the report period: 10/2/2019 (Monroe County Master Gardeners) and 4/30/2020 (Purdue Extension Master Gardeners). Two site visits on private property were conducted to discuss rain garden benefits, to supply information on installation and native plant selection guides.

In 2020 a Rain Garden video was produced and posted to Stormwater Services web page.

MCM 1 Activity 7

Maintain media outreach activities- All of the following have been used to disseminate stormwater information, future options can vary/w/efficacy: TV infomercials (or support MCSWMD infomercials), Herald Times articles, Facebook page, CATS, Radio PSAs.

Stormwater Services infomercials ended in early 2017 when board members determined the cost benefit ratio was not justifiable and limited target audience.

Monroe County Solid Waste District (MCSWD) finds Comcast's Cable TV is a prime source in educating the public. During the reporting period nine new 30 second infomercials were produced that relate to stormwater, as well as nine infomercials about District services. Please see appendix a, pages 54-57 for MCSWD report.

In addition, the MCSWD uses radio for public service announcements. WHCC Hoosier Country Radio airs a series on environmental challenges and solutions. Other radio stations, which run free PSA's include WCLS, WVNI and sometimes WFHB.

The District is a major component of Monroe County environmental education, they produce videos, which are available on You Tube, social media on Facebook and Twitter posts. Reaching a large and diverse demographic. Within the school corporations, the District finds elementary grades have less stringent testing pressures and less activities, so they're more welcoming as compared to middle and high school grades.

2018-2020 Public Meetings

Community Access TV Services (CATS) is a public access channel and televises public meetings on the access channel as well as on the Internet (<https://catstv.net/>) and includes the monthly Stormwater Management Board Meetings.

The Stormwater Management Board is held monthly and is advertised on CATS Channel Line-Ups. The meetings are also advertised on the events page/Monroe County Calendar page <https://www.co.monroe.in.us/> and the Stormwater Management Board web page- <https://www.co.monroe.in.us/departments/board.php?structureid=134>.

Our regular meeting location is in the Monroe County Court House, Nat Hill Room, with CATS TV televising in real-time, but after Covid restrictions were put in place CATS picked up our virtual Zoom meetings. Please see table below for both Stormwater Management Board and Drainage Board Meetings.

Stormwater Management Board Meetings CATS TV/Nat Hill Room				Drainage Board Meetings Public Noticed/Petitioner's Attend			
2018	2019	2020	2020 Virtual	2018	2019	2020	2020 Virtual
(Number of meeting and dates)							
7	9	1	9	3	6	6	6
1/11, 3/8, 4/12, 7/12, 8/9, 10/11, and 11/8	01/10, 02/14, 3/14, 7/11, 8/19, 9/12, 10/10, 11/14, and 12/12	1/9	5/14, 6/11, 7/7, 8/12, 8/18, 9/9, 10/14, 11/9, and 12/09	10/3, 11/7, and 12/10	1/2, 7/3, 8/7, 9/4, 10/2, and 11/6		6/3, 7/1, 8/5, 9/2, 10/7, and 11/4

Drainage Board is advertised on the events page/Monroe County Calendar page <https://www.co.monroe.in.us/> and the Drainage Board web page- <https://www.co.monroe.in.us/departments/board.php?structureid=37>. Drainage Board

meetings were public noticed, but not filmed by CATS. All meetings are recorded on zoom and anyone can request a meeting recording by emailing zoom@co.monroe.in.us.

Facebook

Facebook allows the MS4 to advertise and promote stormwater events and issues at no-cost. Stormwater Services interns and staff posted 79 Facebook posts during the reporting period.

Facebook Posts Year and Total		
2018	2019	2020
32	42	5

In 2020, the number of posts fell to five posts. Our department was no longer staffed by interns, and there was a change in MS4 Assistants. As a new employee, I focused on training, inspections, enforcement and implementing a database of MS4 information.

b) Describe implementation problems encountered and changes made due to ineffectiveness or infeasibility during this reporting period.

Media outreach was ceased in 2017 due to production costs and the media spots were not reaching a large enough audience for the financial commitment.

Newspaper/public service announcements were not pursued because space in the Herald Times would be charged at advertising rates. We use direct mail, Facebook and the County's web site to support our advertising and outreach.

In 2020, Covid 19 disrupted most, if not all, stormwater outreach and participation events, which we participate. It was late summer before videos and other outreach programs were initiated.

c) Describe program BMPs that went beyond those identified in the SWQMP.

2018

Stormwater Services participated on PBS; The Friday Zone program. This particular episode was about flooding. In addition, we participated in Leonard Springs Nature Days and provided an interactive display focusing on water quality.

2019

Stormwater Services tabled at Garden Fair where invasive plants were the focus of the event.

2020

Two site visits were conducted on two private properties for rain garden assistance. Both properties were dealing with stormwater runoff issues. We provided a printed Power Point presentation that included site selection, site preparation, soil amendments and plant selection/guides.

Five videos were produced by the MS4 Assistant, since in-person outreach efforts were canceled due to Covid. The videos are short in duration and provide information on stormwater. The videos are titled:

- Stormwater Overview,
- Stormwater Tips for Property Care,
- Rain Gardens,
- Best Management Practices,
- Erosion Control

In the spring of 2020, the Drainage Board Meetings went virtual, which improved public accessibility and the ability to make a public comment if desired, whereas prior to Covid only petitioners attended.

d) Identify stormwater BMPs installed or initiated for this MCM during this reporting period.

Stormwater Services, as most MS4's, had to shift their stormwater programs from in-person to direct mailings, videos and virtual programs due to Covid.

Virtual Meetings SWMB/DB	15
Videos Featured on Web Site	5/101 views (2/19/21)
Mailing Concrete Companies in Monroe County with 2021 Stormwater Calendar	36
Limestone Industry Dust Tracking Mailing	12
Critical Drainage Basin Mailing with Map	26
2021/2022 Calendar Contest Monroe County School Mailings	25

e) Describe program implementation partnerships and explain successes and barriers during this reporting period.

Stormwater Services participated with Monroe County Parks and Recreation, City of Bloomington Utilities, City of Bloomington Parks and Recreation, Purdue Extension Services, Wonder Lab, Hilltop Gardens/Indiana University and MCSWCD during the reporting period, and met monthly with SWEET members.

The outreach programs which we participate in are well established and attended annual events, which almost always ensures a successful program. The table below features averages on attendance for these events. Covid was the only barrier in our outreach program in 2020.

BugFest	Master Gardener Presentations	4-H Fair Commercial Tent (10 day event)	SWEET	Peden Farm Children's Festival	SNAYL Day
Our table visits with about 150 kids	12 to 50 people in attendance	200-300 people most evenings	8 to 12 Members attend	5000 kids attend the event	150

f) Other:

PART F: PUBLIC PARTICIPATION AND INVOLVEMENT – MINIMUM CONTROL MEASURE

18. Identify the best management practices for public participation and involvement included in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period.

MCM 2 Activity 1

Continue to present Hoosier Riverwatch training workshops (at least one per year), hosted by Monroe County Parks & Recreation.

2018

Monroe County Parks and Recreation conducted a Hoosier River Watch training workshop at Bloomington High School North and 15 Elementary children attended. The dates of the events were: 4/16/18, 4/26/18, and 4/30/18.

2019

Monroe County Parks and Recreation reported on 6/10/19 a training workshop was scheduled, but due to weather this event was canceled.

2020

Monroe County Parks and Recreation did not have a Naturalist employed in 2020, so no other workshops were held during this period.

MCM 2 Activity 2

Investigate ways to involve neighborhood groups (HOAs) in creating and maintaining best management practices, including rain barrels and rain gardens.

Stormwater Services shares information on our Facebook page to advertise promotions and events by the MCSWMD. Once a year the District offers for purchase compost bins and rain barrels to promote Earth Day.

Stormwater Services provides rain garden presentations and/or education materials to contractors and homeowners when requested and have information posted on our website. In the fall of 2020 we created 5 videos about homeowner tips to deal with stormwater, rain gardens and permanent BMP structure maintenance.

MCM 2 Activity 3

Administer a survey once per permit cycle.

No surveys were conducted during the reporting period. A survey is being planned for inclusion in the 2021 postcard.

MCM 2 Activity 4

Continue to sponsor and support Monroe Lake Shoreline Cleanup annually.

Monroe Lake Shoreline Cleanup-10/7/2018 & 10/6/2019

Stormwater Services financially contributed to the Monroe Lake Shoreline Cleanup during 2018 and 2019. We pay for the rental of 8 pontoon boats and a pay for a barbeque at the end of the day for the attendees.

2020

In 2020 a Lake Monroe Watershed Coordinator was hired by Friends of Lake Monroe. An agreement was entered into January 1, 2020, by the U.S. Geological Survey, OKI Water Science Center, United States Department Of The Interior, party of the first part, and the Monroe County Stormwater party of the second part, (please see appendix a for agreement).

Stormwater Services financial contribution included the following financial support to cover all of the cost of the necessary field and analytical work directly related to this program-January 1, 2020 to December 31, 2021- \$8,000.00 and January 1, 2020 to December 31, 2021-\$18,500.00 for a total of \$26,500.00.

Lake Monroe Shoreline Cleanups are now conducted by members of Friends of Lake Monroe and organized by the new Lake Monroe Watershed Coordinator. Paynetown State Recreation Area takes part in the DNR's Adopt-A-Shoreline program. Interested volunteers can sign up for their events on Friends of Lake Monroe website. Two events were scheduled for 2020: October 18 and November 15.

MCM 2 Activity 5

Maintain Adopt-a-Stream Program (County/City Parks & Recreation).

2019

Monroe County Parks and Recreation reported on 3/28/2019 Adopt a Stream Bloomington Parks was reported, but no additional information on participation was reported.

MCM 2 Activity 6

Develop storm inlet marking program, assess community need and mark one neighborhood or area per year.

No storm drain marking program was conducted during the reporting period, although we currently have an inventory of 158 markers left over from prior marking events. Former storm drain marking consists of: 24 drains Karst Farm in 2007 and 72 drains Highland Village in 2008.

We hope to add this program back into the outreach/participation events during the next reporting period. We would like to track the markers in our asset management database, Cartegraph. If we track marking events by neighborhood, we will include information on the event date, location, number of drains marked and number of participants in our Excel Annual Report file.

MCM 2 Activity 7

Maintain MOU with the Monroe County SWCD to support the Mini-Grants program each year.

The SWCD Mini-Grant program continues to receive \$35,000.00 annually from Stormwater Services. The money is distributed to the District Manager MCSWCD to financially assist Monroe County residents in property issues concerning stormwater. The MOU is reviewed annually, and the MCSWCD makes presentations to the Stormwater Management Board as requested to discuss the amount of grants issued, program expenditures and benefits. Please see MOU in appendix a page 62.

MCSWCD reported 25 stormwater mini-grants, as shown on page 6. Additional information is available on the mini-grant program in appendix a page 63.

b) Describe implementation problems encountered and changes made due to ineffectiveness or infeasibility during the reporting period.

Some implementation problems encountered was staff turnover/retirement and database tracking. An Excel workbook was created to standardize documentation and tracking for Monroe County MS4 information, but we rely on several groups/departments to fulfill MCM 1 & 2, we will send out a request to these agencies to collect stormwater related programs,

number of attendees, description of program, where the event was held, and date of the event as to remain consistent with our format, documentation and reporting.

The County is accustomed to staff turnover and retirements, but along with those transitions, also goes seasoned knowledge and skill sets. Monroe County Parks and Recreation is one example. Cathy Meyer, MCPR Naturalist, was with the county for thirty years, and her position not filled until the year after she left.

Neighborhood HOA's would like Stormwater Services to become more involved with their permanent stormwater infrastructure. Older residential subdivisions don't have established revenue streams or HOA dues in place for the maintenance or the knowledge to maintain vital stormwater infrastructure.

County Stormwater Services maintains stormwater infrastructure in the county right-of-way, county roads and county conveyances, but not private infrastructure.

In trying to improve this situation, the SWMB suggested adding more adult stormwater education. Stormwater Services responded by creating 5 videos to assist with some of these concerns. In addition, our staff inspects some of these complaints and makes recommendations when appropriate. We supply plan sets when they are accessible, but we are only required to maintain certain documentation for 3-5 years. Digital files has improved this issue over the past few decades, but doesn't predate many of the first subdivisions.

c) Describe program BMPs that went beyond those identified in the SWQMP.

2019

Stormwater Services entered into an agreement with the U.S. Geological Survey, OKI Water Science Center, United States Department Of The Interior to assist with field and analytical work directly related to installation, operation, and maintenance of the South Fork Salt Creek stream gage at Kurtz, Indiana.

d) Identify stormwater BMPs installed or initiated for this MCM during this reporting period.

Installation of full range streamflow station at Salt Creek Kurtz, IN, which is a tributary that feeds into Lake Monroe and directly impacts the water quality of Lake Monroe.

e) Describe program implementation partnerships and explain successes and barriers during this reporting period.

A partnership agreement was developed with the U.S. Department of the Interior, U.S. Geological Survey and Monroe County Stormwater Services for a joint funding agreement for water resource investigations in December of 2019.

Some of the obstacles you can anticipate with this agreement, as well as with most agreements, is the requirements of periodic reviews and the areas to be included in the program. The agreement was written so either party may terminate this agreement upon written notice to the other party in case the partnering agencies are not satisfied with the program.

The MS4 Assistant in spring of 2021 will join the Lower Salt Creek Steering Committee along with other agencies, such as the Monroe County Health Department, to assist their hired consultant.

f) Other:

PART G: ILLICIT DISCHARGE DETECTION AND ELIMINATION – MINIMUM CONTROL MEASURE

19. Identify the best management practices for illicit discharge detection and elimination (IDDE) included in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period (mapping, screening, etc.).

MCM 3 Activity 1

Complete dry weather screening of all outfalls within the urbanized area once during each permit cycle.

According to 2017 documentation, Monroe County Stormwater staff visited all of the recorded outfalls in the MS4 area (69 outfalls in total) in June 2017 to screen for illicit discharges. Dry weather outfall screenings occurred when there was a minimum of 72 hours with less than 0.1 inches of rainfall. Field visits occurred on the following dates 6-2-17, 6-12-17, 6-13- 17, and 6-27-17.

No illicit discharges were detected during the dry weather screenings. Presence of flow was observed at five of the outfalls, but no unusual color, unusual odor, or pollutants were observed at any of the outfalls.

Nineteen outfalls were removed from the county GIS map during inspection because they were not discharging close enough to a water body to convey pollutants and are therefore not considered outfalls.

Currently, 69 outfalls are recorded in unincorporated Monroe County. The main watershed (10-digit HUC) and sub watershed (12-digit HUC) of each outfall was also recorded. The Bean Blossom and Salt Creek watersheds have the most outfalls, with 30 and 25 outfalls,

respectively. The sub watershed with the most outfalls is Jack's Defeat Creek-Bean Blossom Creek with 22 outfalls. Please see outfall map and information in appendix a pages 64-67.

MCM 3 Activity 2

Sample all of our Hoosier Riverwatch characterization program sites once per permit cycle.

Data collected by Hoosier Riverwatch is listed on IDEM's website by Monroe County, which includes the Town of Ellettsville, City of Bloomington, and Monroe County MS4 jurisdictional boundaries combined.

In 2017 the Monroe County Planning Department assisted Stormwater Services interns in collecting the data and reporting the data to Hoosier Riverwatch.

MCM 3 Activity 3

Distribute educational materials to all fuel stations and restaurant industries in County jurisdiction once per permit cycle.

Stormwater Services did not mail out educational materials to fuel stations, although in 2015 a list of gas stations was compiled, and in 2019 a brochure was designed for the restaurant industry. Please see the table of information on page 18.

In 2020, three letters were mailed on separate dates to all active Rule 5 sites for a total of 212 letters.

The letters listed:

- Project information, permit number and effective dates of the permit
- Proper erosion control for winter transitioning to spring
- Common compliance issues (erosion control maintenance/concrete wash out areas)
- Routine inspection notices
- Self-Monitoring inspections

Separate letters (48) were mailed to the Limestone industry and concrete companies in the County. The letters focused on public road track out and common issues concrete companies face. These letters were not enforcement based, although the IDDE Chapter violation was listed.

In 2021 we will focus on septic system training, restaurants, and fueling areas and will continue with annual and seasonal training concerning erosion control and illicit discharge.

The Health Department and Stormwater Services held a septic system workshop in a prior reporting period, see page 18, and no additional workshops have been held. Stormwater Services has contacted the Health Department to re-establish the workshop as an annual event, and hope to conduct an in-person training session in the fall of 2021 or a virtual event.

2015-2018/2019	2020
List compiled of Monroe County gas stations	2/25/20 Education letter to current, active Rule 5 sites. 50 letters were mailed to provide information on terminating or renewing projects. Transition from winter to spring erosion control.
Education materials developed: Name that Illicit Discharge, and Spotting Illicit Discharges	8/12/20, 54 letters mailed out to active construction sites. The letter focused on common compliance issues and routine inspections.
6/18/19- Stormwater Pollution Prevention information for restaurants & food service industry brochure prepared.	Concrete Washout. Concrete company training materials mailed, along with a 2021 Stormwater Calendar. 36 letters/education materials mailed out. 10/13/20
	Limestone Dust and Sediment Tracking. Limestone industry training materials mailed. 12 letters, 10/20/20
	11/24/20, 60 letters were mailed for winter stabilization letters to all active Rule 5 sites.

MCM 3 Activity 4

Support Monroe County Health Department in providing a Septic System Workshop once per year.

Stormwater Services hosted a *Septic 101 Program* on March 21, 2017, prior to this reporting period. The workshop was provided through a partnership with Monroe County Health Department, MCSWCD and MCSWS. A total of nineteen people attended; seven were county employees from MCSWS, Planning and Health Department.

Three speakers presented, Jim Brown, part-time soil scientist, Ryan Cushman-Kasper and Randy Raines, full-time staff Health Department.

Topics of presentation included: soil, soil layers, soil characteristics, septic maintenance, costs to install, slope, leach field, mound and chamber septic systems and erosion control used during installation.

Since the 2017 information was the only reporting date with documentation, MCSWS contacted Ryan Cushman-Kasper to inquire about other events held during the reporting period. Stormwater Services would be interested in either participating or supporting the Health Department in holding the event annually and would assist with the training. Mr. Cushman-Kasper responded that Health would be very interested in developing an annual training event.

In late spring the Health Department and Stormwater Services will meet to discuss starting the annual training in the fall of 2021.

In reviewing the Health Department web page, the Department requires septic installers to register and pass a standard departmental exam to improve septic system installations.

MCM 3 Activity 5

Maintain Cartegraph/GIS mapping of outfalls and other mapped items.

Cartegraph is kept up to date with the county stormwater assets, mapped outfalls, and when maintenance is conducted on the county system of conveyances. In addition, citizen stormwater complaints are entered, when a complaint site is inspected, the level of the complaint and conditions (low, medium or high) and what work is completed/costs/time. Stormwater Services has 69 outfalls to date. We have them identified with an ID number, Street name, marked with a symbol on a Cartegraph map, please see appendix a pages 64-67, structural material with photos of each stored in the software program.

MCM 3 Activity 6

Create GIS layers for Rule 6 facilities, fueling stations, and other relevant items.

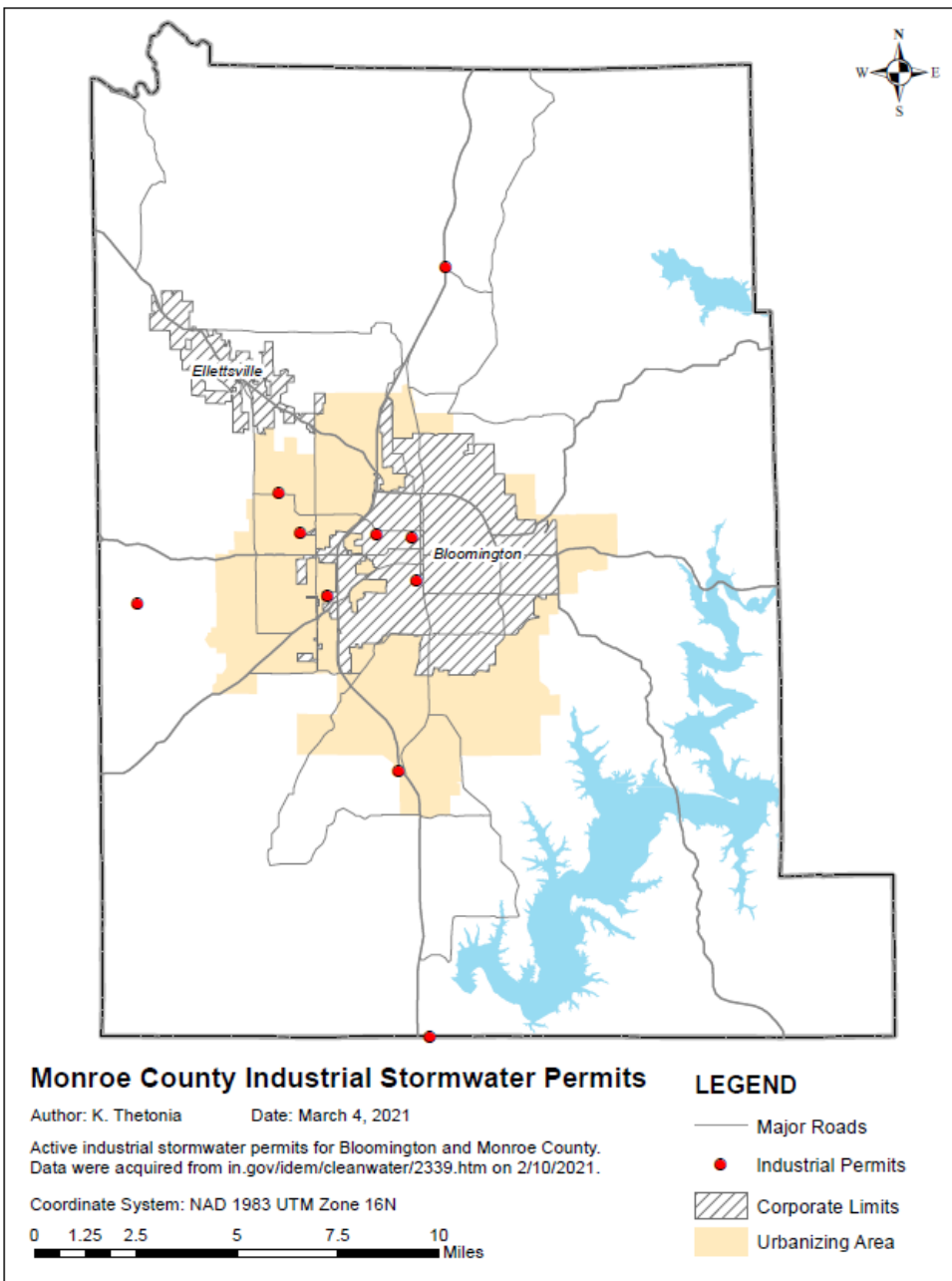
Monroe County has one Rule 6 site, the Monroe County Airport, which is a mixture of public and private infrastructure.

NPDES ID or Permit Name	Permit Date	Permit Expiration Date	Address	Latitude in Decimal Degrees	Longitude in Decimal Degrees
INRM00165	6/22/2019	6/21/2024	972 S Kirby Rd, Bloomington, IN 47403	39.147677	-86.616525
Gas Stations in MS4 Area, see Appendix for 38 commercial retail fueling stations.					

Please see Monroe County industrial facilities discharging into a Monroe County Conveyance, and map featured on page 20.

NPDES ID	Permit Name	Expiration Date	Local Address
INRM00087	Bloomington Bin	9/16/2024	510 W Vernal Pike Bloomington, IN
INRM00165	Monroe County Airport	6/21/2024	972 S Kirby Rd Bloomington, IN
INRM00360	Printpack Inc	3/27/2021	2121 N Angelina LN Bloomington, IN
INRM01182	Hoosier Transfer Station	9/12/2024	6660 S Old SR 37 Bloomington, IN

INRM01328	Bloomington Auto Parts	7/10/2020	7650 N SR 37 Bloomington, IN
INRM02288	Cook Property Incorporated	11/26/2022	301 N Curry Pike Bloomington, IN
INRM02293	Berry Global, Inc.	12/10/2022	4100 W Profile Pkwy Bloomington, IN
INRM02618	BG Hoadley Quarries Inc	9/29/2024	3211 W Arlington Rd Bloomington, IN



MCM 3 Activity 7

Annually promote existence of reporting mechanism to public for illicit discharge concerns.

Stormwater Services maintains a 24-hour, 7 day a week reporting program through Survey Monkey. The link to the reporting tool is on our Stormwater Quality web page- <https://www.co.monroe.in.us/departments/division.php?structureid=131>. By selecting <https://www.surveymonkey.com/r/QDKNQSR> a citizen will be directed to Survey Monkey where they'll respond to four questions.

b) Describe implementation problems or challenges encountered particularly as it relates to mapping and screening of outfalls during this reporting period.

Mapping and screening of outfalls was primarily conducted by student interns in June of 2017. No additional data collection of outfalls or mapping has been conducted since that reporting period.

c) Identify changes made to the IDDE Plan during this reporting period if applicable.

A Standard Operating Procedures (SOP) was written 1/19/2021. The SOP provides investigators with guidance and forms to ensure that consistent investigations occur for every known illicit discharge, please see appendix a pages 68-71.

IDDE complaints logged in Survey Monkey were entered into the MS4 Annual Report database along with phoned in complaints to Stormwater Services.

Eleven complaints were reported during the reporting period. The complaints were concerning sediment runoff, hydraulic fluid line break, small oil spill on pavement, concrete wash water and an oil spill from a turned over piece of construction equipment.

In all cases the property owners or the responsible party was notified by Stormwater Services concerning the complaint. Sites were repeatedly inspected until the issue was resolved.

One environmental study was performed in the case of the construction equipment accident. Eurofins Environment Testing TestAmerica, Laboratory Job ID: 500-170487-1, for VET Environmental Engineering, LLC in Bloomington, IN. Please see inspection photos in appendix a pages 72-84.

Six complaints were logged during the reporting period from the 24-hour/7-days a week accessible reporting system. Please see number of complaints reported by citizens and entered in Survey Monkey and history of reporting totals for prior reporting periods.

2013	2014	2015	2016	2017	2018	2019	2020
4	0	3	1	2	1	2	3

Five IDDE complaints were phoned in to Stormwater Services during the reporting period, please see table below.

2018	2019	2020
0	4	1

d) Identify updates or revisions to the IDDE ordinance or other regulatory mechanism made during this reporting period.

Monroe County Ordinance, Chapter 767 Illicit Discharge Prohibition and Enforcement has not been updated since 2/24/2012.

e) Describe level of mapping and screening completed to date. If there are unmapped or unscreened outfalls, provide a plan and a timetable for completion.

Stormwater Services hired a new MS4 Coordinator in February of 2021. Several County code revisions are taking place with the adoption of the Construction General Permit requirements.

The timeframe to update SOPs, mapping updates, programs and inventories, as well as facility SWPPP's, are being planned and those will be reported in the next reporting period.

f) Other:

PART H: CONSTRUCTION SITE STORMWATER RUN-OFF CONTROL – MINIMUM CONTROL MEASURE

20. List the best management practices for the construction site stormwater run-off program identified in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP for this MCM including timetables and measurable goals during this reporting period.

MCM 4 Activity 1

Maintain construction site inspection frequency and documentation.

Since beginning this position (MS4 Assistant) in June of 2019, I've maintained an inspection worksheet in Excel with 143 inspections conducted during the reporting period. I maintain contact information, property owner, contractor/trained individual contact information, address, inspection findings and actions taken by Stormwater Services.

MCM 4 Activity 2

Develop & maintain internal SWPPP review of County-owned projects w/Public Works Director.

Active Rule 5/Construction General Permit County-owned projects are kept track of in a Rule 5 active sites database by the MS4 Assistant. Monroe County Highway Department does not conduct our own SWPPP reviews, we send them to the MCSWCD, and then IDEM is contacted by the District to conduct the review.

Our Highway Director, Highway Engineer, MS4 Coordinator and MS4 Assistant conduct monitoring inspections to maintain compliancy with the approved SWPPP on county projects. If a county staff member notes non-compliance on a project site, the project manager is contacted to bring the issue into compliance with the SWPPP.

Our Highway Director, Highway Engineer and MS4 Coordinator ensure that the project is being installed to Monroe County technical standards and other applicable rules.

The hired “trained individual” or project manager for the County owned projects, as part of the contract, are required to document the project site inspections and make them available within 48 hours of MS4 request.

MCM 4 Activity 3

Attend pre-construction meetings and conduct inspections for County-owned projects.

The MS4 Coordinator attends pre-construction meetings of County-owned projects along with the Highway Director and Highway Engineer. Stormwater Services tracks all Rule 5/Construction General Permit status and inspections conducted by the MS4 in Excel. Please see current list of County projects in the table below.

Project Name	IN Number	Effective Permit Dates	NOT Approved	Address
Limestone Greenway	INRA03174	3/18/19 through 3/17/24	2/16/2021	Church Ln & S Victor Pike
Highway Garage Building Project	INRA04905	1/30/20-1/29/2025	2/16/2021	5850 W Foster Curry Dr
Profile Parkway Extension	INRA04280	07/15/19 through 7/14/24		3000-4000 Profile Pkwy
Monroe County Highway Garage Storm Water Quality BMP Project	INRA04847	1/15/20-1/14/2025		2800 S Kirby Rd
#21 Bridge Replacement	INRA01414	05/15/18 through 5/14/23		Bottom Rd & Beanblossom Creek

Karst Farm Park Concrete Block Removal & Site Restoration	INRA00681	12/27/2017-12/26/2022	2/16/21	2450 S Endwright Rd
Karst Farm Trail Extension	INRA05098	3/02/20-3/1/2025		Walcott Lane and N Hartstrait Rd.
Monroe Bridge #33 Mitigation Plan	INR10K067	11/14/14 through 11/13/19	9/24/20	Brighton Rd
Monroe County Bridge #46 Replacement	INR10J641	02/17/15 through 2/16/20	3/12/20	Kinser Pike & Beanblossom Creek
Hartstrait Road Extension	INRA02514	10/29/2018 through 10/28/2023	8/24/2020	750 Daniels Way
Fullerton Pike Corridor Reconstruction Phase II	INRA00983	3/13/18 through 3/12/23	12/21/20	Gordon Pike & S Rogers St

MCM 4 Activity 4

Hold annual Monroe County Contractors Workshop w/partners and guest speakers from area MS4s.

3/20/2018

The 2018 workshop had guest speakers from IDEM Region 5 Stormwater Specialist, and D2 Land and Water Resource, Inc.

3/19/2019

The 2019 workshop had guest speakers from IDEM Region 5 Stormwater Specialist, Eco Logic, D2 Land and Water Resource, Inc.

2/11/2020

The MS4 Assistant approached the City of Bloomington and the Indiana MS4 Partnership to participate in the workshop along with guest speakers from the County MS4, City of Bloomington MS4/Utilities, Wessler Engineering, IDEM, Monroe County Planning Department, and Eco Logic.

We conducted a survey of the workshop attendees and our intern Kolt Vaughn produced a qualitative response, please see appendix a pages 85-87. Kolt reported that we received a 60% response rate. He found that most attendees have worked in the stormwater industry from a little over 5 years to over 30 years.

We received very positive feedback on the selection of speakers, presentations, lunch and venue. Stormwater Services hopes to continue partnering with multiple agencies in the future.

2021 Contractors Workshop Postponed

MCM 4 Activity 5

MS4 Assistant to attend at least 2 INAFSM Inspector Group meetings per year.

2017/2018	2019	2020
At the 2017 INAFSM Conference Dana Wilkinson participated in the IDDE Panel Discussion, she was the IDDE Group Chair.	9/17/19 INAFSM Conference Amy Harvell held a meeting for the Inspector's Group.	1/29/20 in Muncie, I didn't attend due to distance.
9/6/2018- Dana Wilkinson presented Put a Little Prep in Your Step: IDDE Program Audit Preparedness	10/25/19 Wessler Engineering hosted a meeting for the Inspector's Group (Amy Harvell).	7/15/20 Health emergency by host (Toni Cecil meeting cancelled)
		10/28/20 Zoom meeting (I was on vacation)

b) Describe program implementation partnerships and explain successes and barriers during this reporting period.

Establishing a database of the MS4 program, program documentation and reporting all in one Excel worksheet has been indispensable and will assist the program going forward.

Establishing a Rule 5/Construction General Permit database of all active sites and County owned projects, inspections, terminated projects (NOTs), project information, contact information and a mail merge file to issue forms has also been invaluable.

On the inverse side of setting up a collective database, the filing system would benefit greatly from using individual folders for the MCMs. This would allow for hyperlinking to the database, ease in locating information and reporting.

Developing partnerships with other MS4s to conduct the Contractors Workshop really benefitted multiple MS4s as well as designers, consultants and engineers working in our area.

Including the City of Bloomington, MS4 of Indiana and certified professionals in erosion and sediment control, provided up-to-date training, new contacts and topic diversity.

Participating in the INAFSM Inspector's Group and attending in-person meetings can be a hurdle due to distance of meetings. The group has reduced in size over the past few years and for most members it's due to their personal workloads. To take on this issue Stormwater Services suggested we combine the remaining members to work on one or two projects a year as a group; all sharing in the responsibility to produce a usable product by Inspectors. The MS4 Assistant is in charge of IDDE, and this group only one member.

c) Identify the number of construction sites permitted during this reporting period and identify the number and type of enforcement actions taken against construction site operators during the same period.

Stormwater Services has 53 active construction sites permitted and currently active, and 33 sites that have been closed for a total of 86 during the reporting period.

Stormwater Services Enforcement

Year	2018	2019 (documentation begins 6/10/2019)	2020
MS4 Assistant Conducted Inspections		41	102
Non-Compliant Construction Sites		20	25

Stormwater Services relies on repeat inspections and contact with contractors and property owners to bring sites into compliance. The main issues are sediment track-out and erosion control maintenance or lack of implementing erosion control as per the project SWPPP.

Follow up inspections conducted by the MS4 Assistant typically finds the site is either in complete compliance from the former inspection or in a state of being repaired.

The County's Erosion Control Chapter 816 is administered by the Planning Department and not Stormwater Services. Planning's Zoning Inspector has the authority to issue stop-work-orders, Notice of Violations, as well as take cases to the County Attorney for assistance.

Zoning Inspector Enforcement Construction Operators Chapter 816 Erosion Control

Violation Activity	2018	2019	2020
Grading without a permit	6	6	6

d) Identify the number and types of training opportunities that were provided to contractors, developers, and builders during the permit period.

2018	Training Opportunity	2019	Training Opportunity	2020	Training Opportunity
3/20/18	Contractors Workshop	3/19/20	Contractors Workshop	2/11/20	Contractors Workshop
				3 videos posted on web/You Tube	Stormwater Overview, Erosion Control, and BMP's

				50 letters mailed to active Rule 5's	Erosion Control Mailing
				54 letters mailed to active Rule 5's	Common Compliance Issues
				36 letters mailed to concrete companies in Monroe County	Concrete Washout Areas
				60 letters mailed to active Rule 5's	Winter Stabilization

e) MS4 personnel responsible for plan review, inspection, and enforcement of construction activities shall receive, at a minimum, annual training addressing appropriate control measures, inspection protocol, and enforcement procedures. Identify training provided to MS4 personnel responsible for these activities during this reporting period.

Dana Wilkinson, MS4 Assistant	Terry Quillman, MS4 Coordinator	Connie Griffin, MS4 Assistant
Hendrick's County Contractors' Workshop 1/9/2018	Drainage School 8/22/2018	MS4 Stormwater Pollution Prevention Plan Review Training 8/29/2019
Monroe County Contractors' Workshop 3/20/2018	INAFSM Annual Conference 9/5-9/7 2018	INAFSM Conference 9/18-9/20 2019
INAFSM Inspectors' Group 4/11/2018	LTAP Stormwater Drainage Conference 2/6/2019	MS4 Compliance and Enforcement Certified Inspector 9/19-9/20 2019
MS4 Annual Meeting 5/14 & 5/15 2018	INAFSM Conference 9/18-9/20 2019	INAFSM Inspector Group 10/29/2019
IN Water Resources Association 6/27-6/28 2018	LTAP Stormwater Drainage Conference 2/6/2020	Stormwater 1 to earn certification as a Qualified Compliance Inspector Of Stormwater 1.4 CEUs and 14 PDH's 12/9/19- 12/29/19

INAFSM Inspectors' Group 8/8/2018	Contractors Training Monroe County 2/11/2020	LTAP Stormwater Drainage Conference 2/6/2020
IN Farm Bureau Drainage School 8/22/2018		Contractors Training Monroe County 2/11/2020
INAFSM Annual Conference 9/5-9/7 2018		Stormwater 1 Illicit Discharge and Detection and Elimination .25 CEUs and 2.5 PDH's 6/19/2020-9/8/20
		INAFSM Conference 11 Credits 9/16-9/18 2020
		Christopher Burke Concrete Washout Challenges Panel Discussion 1 PDH 10/22/20

f) Identify updates or revision to the stormwater construction ordinance or other regulatory mechanism made during this reporting period.

Stormwater Services has not updated technical standards or a construction ordinance during the reporting period. (2021 Stormwater Services revising ordinances to meet new requirements of the Construction General Permit and Technical Standards.)

g) Other:

PART I: POST-CONSTRUCTION STORMWATER RUN-OFF CONTROL – MINIMUM CONTROL MEASURE

21. List the best management practices for post-construction stormwater run-off control identified in your SWQMP Part C and then respond to the following:

a) Identify progress made towards development and implementation of each BMP in the SWQMP including timetables and measurable goals during this reporting period.

MCM 5 Activity 1

Develop post-construction inspection form.

The form has 12 inspection items, which includes inspection observations, detention pond inspection information, pond condition, structural components and plan of action.

The plan of action check list consists of property owner notification concerning non-compliant issues, maintenance requirements with repair timeframe, and routine/follow-up inspection schedule. Please see appendix a pages 88-89 for the complete form.

MCM 5 Activity 2

Conduct at least 3 post-construction inspections per year.

MS4 Assistant began post construction inspections in June of 2019 after the database of issued NOI's was prepared. Phone calls were placed to older Rule 5 sites to check NOT status and conduct post construction inspections.

Total post construction inspections conducted in 2018- No information found.

Total post construction inspections conducted in 2019- 1

Total post construction inspections conducted in 2020- 10

2018		2019		2020	
		City Church for all Nations	7/16	The Lakes Renaissance Rentals Howard Lake Modification & Stream Restoration	2/12
				AB Biotechnologies INR10N847	3/3
				AB Biotechnologies INR10J685	3/3
				Weddle Brothers Construction	3/4
				Wayport Pet Resort	3/4
				Oliver Winery	3/12
				Whippoorwill Hill	5/29
				Great West	6/18
				Duncan Supply	8/25
				Menards	10/22
Total		Total	1	Total	10

MCM 5 Activity 3

Develop and maintain a GIS map for private structural BMPs throughout the permit term that are to be regulated.

2018-2020

Stormwater Services has started a BMP list of private structural BMPs and 18 are on the list. The list is comprised of the following private BMPs, please see table below.

Site Name	Facility Type/Name	Site Address (Bloomington, IN)	Owner Address
Clear Creek Homes	Detention Pond	N Oard Rd	2403 W 3 rd St
Clear Creek Homes	Rain Garden	N Oard Rd	2403 W 3 rd St
Journey Baptist Church	Bio-retention	3240 S Rogers	3240 S Rogers
Lakes Neighborhood	Basin 1	3051 Sare Rd	3051 Sare Rd
Lakes Neighborhood	Basin 2	3051 Sare Rd	3051 Sare Rd
Lakes Neighborhood	Basin 3	3051 Sare Rd	3051 Sare Rd
Highland Park Estates	Pond #1	W Cheryl Dr	1900 S Liberty Dr

Highland Park Estates	Pond #2	W Cheryl Dr	1900 S Liberty Dr
Highland Park Estates	Pond #3	W Cheryl Dr	1900 S Liberty Dr
Highland Park Estates	Pond #4	W Cheryl Dr	1900 S Liberty Dr
Anne Fields Event Facility	Bio-swale #1	6075 S Fairfax	8565 S Strain Ridge Rd
Anne Fields Event Facility	Bio-swale #2	6075 S Fairfax	8566 S Strain Ridge Rd
Anne Fields Event Facility	Bio-swale #3	6075 S Fairfax	8567 S Strain Ridge Rd
William Oliver Residence	Pond	2600 W Delap	2600 W Delap
Duncan Supply	Bio-retention	1204 N Loesch Rd	910 N Illinois St
Monroe County Humane Association	Bio-retention	791 S Fieldstone	PO Box 1334
Lakeview Apostolic Church of Jesus Christ	Bio-retention	3510 W SR 46	1475 E Moffet Lane
Robinson Industrial Park Lots 17, 18 & 19	Bio-retention	5138-5116 S Commercial St	5110 S Commercial St

MCM 5 Activity 4

MS4 Assistant and MS4 Coordinator to attend at least two conferences during each permit cycle dealing with long-term water quality practices.

The following chart identifies conferences attended and dates.

Dana Wilkinson, MS4 Assistant 2018	Terry Quillman, MS4 Coordinator 2018-2020	Connie Griffin, MS4 Assistant 2019-2020
MS4 Annual Meeting 5/14 & 5/15 2018	Drainage School 8/22/2018	INAFSM Conference 9/18-9/20 2019
INAFSM Annual Conference 9/5-9/7 2018	INAFSM Annual Conference 9/5-9/7 2018	LTAP Stormwater Drainage Conference 2/6/2020
	LTAP Stormwater Drainage Conference 2/6/2019	INAFSM Conference 11 Credits 9/16-9/18 2020
	INAFSM Conference 9/18-9/20 2019	
	LTAP Stormwater Drainage Conference 2/6/2020	

MCM 5 Activity 5

Conduct at least 1 HOA presentation on post-construction BMPS per year.

No workshops were conducted for HOA's during the reporting period, although in 2020, 5 videos were produced by the MS4 Assistant, since in-person outreach efforts were canceled due to Covid in 2020.

The videos are posted on Stormwater Quality web page and are short in duration and provide home owners information on stormwater, common tips for handling leaves, washing vehicles, and more. The videos are titled:

- Stormwater Overview,
- Stormwater Tips for Property Care,
- Rain Gardens,
- Best Management Practices,
- Erosion Control

MCM 5 Activity 6

Create HOA database for major subdivisions, contact info, etc.

A database was created which identified 50 HOA's in the MS4 area. The list includes the names of the HOA President and addresses. The work sheet is located in the Annual Report Information Excel Database.

MCM 5 Activity 7

Edit and adopt updated Ch. 761 Drainage ordinance standards.

2019-2021

Stormwater Services has been working with Christopher Burke and the Monroe County Attorney on updating our department's ordinances. Our technical standards, in the Drainage Ordinance, is reviewing several issues to bring the code up to date.

Monroe County has identified critical drainage basins, which will have more restrictive release rates for new development and redevelopment projects. Instead of matching pre- and post-development peak discharges as required by Chapter 761, projects in these critical drainage basins will be required to meet set release rates: 0.45 cfs/acre for Q100 and 0.25 cfs/acre for Q10.

Terry Quillman conducted a study showing how this would affect projects by comparing discharge rates for sample basins. He found that these more stringent rates would require approximately 50% more storage volume than detaining to the pre-development Q10 peak rate.

The Drainage Board approved these release rates for the critical drainage basins in their October 2020 meeting. This is meant to serve as a temporary regulation while we complete the new Stormwater Management Ordinance and Technical Standards, which will address climate concerns, current standards being used by the industry, adding review fees, and the new Construction General Permit updates from IDEM.

Our timeframe is to get the new ordinance and technical standards completed and passed in 2021.

MCM 5 Activity 8

Develop and research interest for specific Post-Construction Workshops for local designers and landscape groups.

A Post-Construction presentation was conducted in the spring of 2020 at our annual Contractor's Workshop. The presentation title was Green BMPs: "Sustainable Post-Construction Stormwater Management and Erosion Control", presented by Katherine Zaiger from Eco Logic.

After the workshop was over we presented the attendees with a survey. A few of the comments are below and identify an interest for creating a second workshop with these topics as the main focus.

- More information about Green Infrastructure and Low Impact Development
- More like the presentation "Sustainable Post-Construction Stormwater Management and Erosion Control", presented by Katherine Zaiger from Eco Logic
- Topics on BMPs, less about specific local permit process
- Anything that brings forward new data regarding future trends

b) Describe implementation problems encountered and changes due to ineffectiveness or infeasibility during this reporting period.

Monroe County SWMB and residents living in residential subdivisions are very interested and concerned about permanent stormwater infrastructure on their properties, adjacent to their properties or within drainage easements and common areas.

Developing a program that handles private infrastructure, especially within defunct or non-established HOA neighborhoods will be challenging.

The County is not responsible for maintaining private infrastructure. If an O & M Manual is in place, or the plat/drainage easement spells out maintenance agreements, then the County can enforce on property owners to legally enforce the necessary repairs. No matter the age of the subdivision, the stormwater system has to work as designed. The County can also conduct the required work and bill the property owner, but that too would not be the answer for most.

Educating property stake holders is the most accepted approach. We know there is an interest with contractor's to see and hear more information on Green Infrastructure (GI) and Low Impact Development (LID), so Stormwater Services will work toward implementing a program during the next reporting cycle.

Stormwater Services has gone through a few changes during the reporting cycle, such as staff turnover and less hours and availability from interns, cancellations of events and updating our Ordinances and increasing our Stormwater Fee. With these items nearing resolution, we anticipate more time to focus on the new regulatory requirements and establishing a program to benefit Monroe County residents.

c) Describe program implementation partnerships and explain successes and barriers.

Since contractor's and home owners are both interested in LID and GI we anticipate shifting our focus to educating this group with our limited time and resources. We have private sector commercial businesses, which are interested in sharing their information, products and services as well as consulting firms.

Stormwater Services will work on pulling these groups together during the next permit cycle: HOAs, private property homeowners, MCSWCD mini-grant program information, an annual workshop and disseminating information on Facebook, County's Web Site and PSA's on radio stations.

d) MS4 area personnel responsible for implementation of the post-construction minimum control measure shall receive, at a minimum, annual training. Identify training provided for this minimum control measure during this reporting period.

Please see table below of annual training concerning post-construction.

Dana Wilkinson, MS4 Assistant	Terry Quillman, MS4 Coordinator	Connie Griffin, MS4 Assistant
Hendrick's County Contractors' Workshop 1/9/2018	Drainage School 8/22/2018	MS4 Stormwater Pollution Prevention Plan Review Training 8/29/2019
Monroe County Contractors' Workshop 3/20/2018	INAFSM Annual Conference 9/5-9/7 2018	INAFSM Conference 9/18-9/20 2019
MS4 Annual Meeting 5/14 & 5/15 2018	LTAP Stormwater Drainage Conference 2/6/2019	MS4 Compliance and Enforcement Certified Inspector 9/19-9/20 2019 - Successful BMP Maintenance: Guiding Property Owner Compliance in Birmingham, ALA, Heather Williams
INAFSM Annual Conference 9/5-9/7 2018	INAFSM Conference 9/18-9/20 2019	LTAP Stormwater Drainage Conference 2/6/2020 - Challenging BMP's and how best to install/monitor Doug Wolf, IDEM - Why are BMPs so Hard to Install & Maintain Moderator, Tim Haley, Latitude Indiana Jim Blazek – D2 Land and Water

		Rob Cochran – Atlas Excavating Toni Cecil – Muncie Sanitary District Ronnie Boehm – IDEM
	LTAP Stormwater Drainage Conference 2/6/2020	Contractors Training Monroe County 2/11/2020 “Sustainable Post-Construction Stormwater Management and Erosion Control”, presented by Katherine Zaiger from Eco Logic
	Contractors Training Monroe County 2/11/2020	INAFSM Conference 11 Credits 9/16-9/18 2020 - James Emerick Indiana Department of Transportation Robert Page Group Director, HNTB Corporation Wednesday, Sep 16 02:00 PM - 02:50 PM Bryan Christopherson Flood Mitigation Specialist, Floodproofing.com Wednesday, Sep 16 03:00 PM - 03:50 PM Brandon Vatter Senior Manager, Raftelis Samantha Brown Senior Consultant, Raftelis <u>INDOT Detention Practices</u> Stormwater Breakout Session Attendee This session is sponsored by D2 Land & Water Resource. This presentation will focus on lessons learned from both INDOT and a consultant's perspective on providing runoff quantity control through the use of detention and retention basins on INDOT projects. We will discuss how INDOT requirements have evolved over the years and provide representative examples of what works and what doesn't work to provide runoff quantity control. The presentation will discuss requirements of a detention submittal and provide examples of projects which have received approvals over the past year. Additionally, the presentation will discuss how INDOT and their partners work with ...

e) Identify updates or revisions to the post-construction stormwater ordinance or other regulatory mechanism made during the reporting period.

2021- In process

f) Other:

PART J: MUNICIPAL OPERATIONS POLLUTION PREVENTION AND GOOD HOUSEKEEPING – MINIMUM CONTROL MEASURE

22. List the best management practices for municipal operations pollution prevention and good housekeeping identified in your SWQMP Part C and respond to the following:

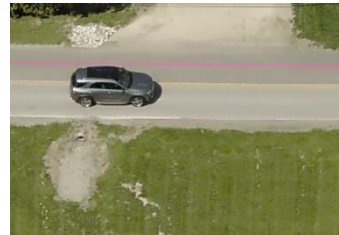
a) Identify progress made towards development and implementation of each BMP in the SWQMP including timetables and measurable goals during this reporting period.

MCM 6 Activity 1

Coordinate with field crews to develop roadside vegetation plan, particularly stabilization needs after ditching work.

The former MS4 Assistant worked with the field crews concerning stabilization after ditching. Quillman pointed out two areas in particular, which the field crews incorporated erosion control blanket/seeding and rip rap and that their stabilization techniques were improving.

- 755 E Rhoer Rd.



Before 2017 Aerial Image After 2020 Aerial

- 1479 W Eagleview Dr



MCM 6 Activity 2

Update Facility SWPPPs once per permit cycle or as needed.

SWPPPs written and implemented in 2017: Monroe County Highway Maintenance Facility and Karst Farm Park Maintenance Facility. Minor revisions took place in January 2021 to update contact information. With two new members in the MS4 Coordinator and MS4 Assistant positions we'll revisit the current documents during the next permitting cycle to see if revisions and updates are needed.

MCM 6 Activity 3

Stormwater staff to learn and incorporate updated Cartegraph asset management software into daily work.

The former MS4 Assistant and the interns at that time used the Cartegraph asset software. When the license renewal needed updated the MS4 Coordinator at that time reduced the number of licenses to reduce the cost of the program. Currently, we have one staff member

that maintains the database, but with new changes in administration may change things in the future to allow both MS4 Coordinator and MS4 Assistant to incorporate the software into daily work.

MCM 6 Activity 4

Update drainage plan to include additional structural BMPs at Highway Maintenance facility to incorporate future flush hydrant and clean out area for VAC truck and Street Sweepers.

The Monroe County Highway Garage Stormwater Quality BMP Project, permit number INRA04847, active permit dates 1/15/20-1/14/2025, was completed in late 2020. The project documentation can be viewed on IDEM's nSite.

The project constructed a series of water quality BMPs to treat stormwater runoff from the Monroe County Highway Garage facility. The BMPs include a sand filter, forebay, and water quality retention pond.

MCM 6 Activity 5

Investigate cost of cover for Karst Farm Park garage dumpster.

Andy French is the County's new Park Superintendent. During the quarterly facility inspection 1/16/2021 several items were discussed in the 2017 SWPPP. The dumpster cover has not been implemented during the reporting period. His current schedule for trash pick-up is every 3 weeks and during tournaments at the park he has the dumpster emptied once a week.

Since Mr. French and the MS4 Assistant have started quarterly inspections the dumpster cover will be re-visited during the next permit cycle and annual training.

MCM 6 Activity 6

Develop new employee training document for HR.

Stormwater Services currently has a brochure "Citizens Guide to Monroe County's Stormwater Program" and a video was produced "Stormwater Overview". The video explains what is a MS4, as well as introduction material to understanding stormwater.

Stormwater Services provides training to Highway Garage employees/stormwater crew annually, but a discussion with HR hasn't transpired between the new MS4 Assistant, so I'm not aware of Stormwater Services being introduced during the hiring process for employees not dealing directly with our services.

MCM 6 Activity 7

MS4 Assistant to continue providing annual employee trainings for Highway Maintenance facility and Karst Farm Park employees.

12/10/18 Karst Farm Park employees and Highway Garage/Stormwater Crew training. No training was conducted in 2019 and 2020. (Power Point Presentation)

January 2021 Highway Garage/Stormwater Crew training. (Pre-test, booklet review, post-test).

Scoring Results 2021

Employees	10 Question Pre-Test, average score	10 Question Post-Test, average score	Score Improved (from pre-test to post-test)	Score Decreased (from pre-test to post-test)	Score Stayed the Same (from pre-test to post-test)
44	8.54	8.77	11	5	28

Stormwater Services saw a 2.7% increase in scoring with the 44 employees. Questions which were missed the most-

- Is stormwater in Monroe County treated at a waste water treatment plant?
- Are the indoor drains in the garage discharged to the on-site detention pond?
- What does MS4 stand for?

By the results, and reviewing employee time in Monroe County Highway Garage or Stormwater Crews, these are relatively new employees. We had 28 employees which stayed the same from pre to post test scores with 23 of those 28 employees scoring a 9 or 10 on both pre and post tests.

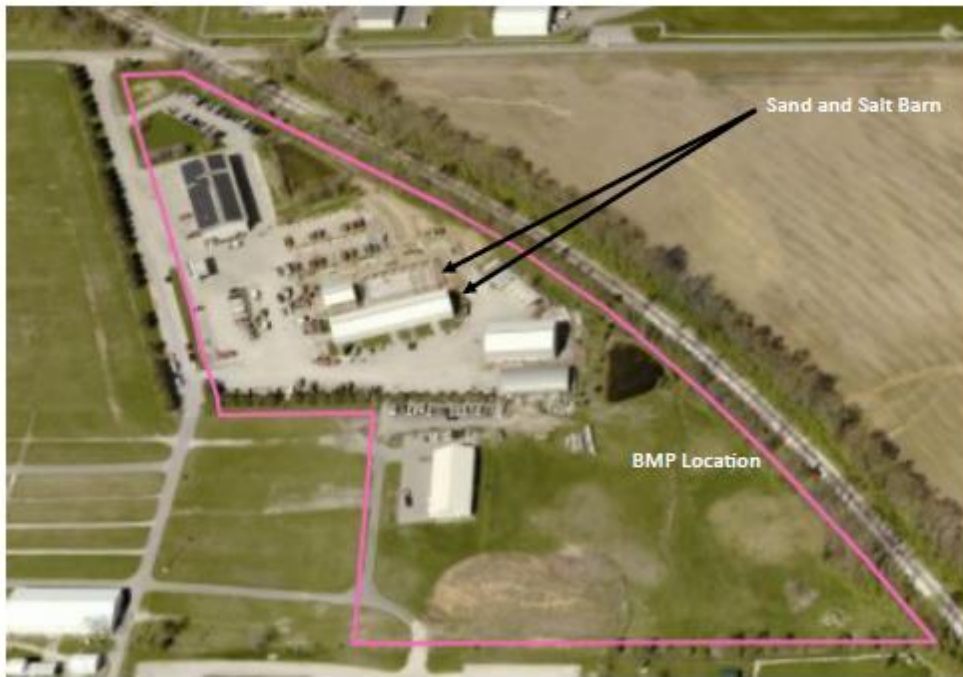
A test results document was provided and test scores to the Highway Garage Supervisor to share with the staff, and the booklet items were each laminated to be displayed for staff viewing. Prior to the next reporting period Stormwater Services will provide training to facility workers at the Highway Garage and Karst Farm.

b) Describe implementation problems encountered and changes due to ineffectiveness or infeasibility as it relates to pollution prevention and good housekeeping at MS4 owned and operated facilities during this reporting period.

Scheduling training for the Highway Garage/Stormwater Crew and Karst Farm will be conducted independently. The training conducted in 2021 did not require a meeting space or computers/equipment. All materials were printed so small groups could take the tests and review the booklet in 15 to 20 minutes. This annual training was well received by the Highway Garage Supervisor.

c) Identify stormwater BMPs installed or initiated at MS4 owned and operated facilities.

The project constructed a series of water quality BMPs to treat stormwater runoff from the Monroe County Highway Garage facility. The BMPs include a sand filter, forebay, and water quality retention pond. Please see site map of pre-development and current photos on page 39-41.



Behind Sand and Salt Barn





d) Identify and describe appropriate stormwater training provided to MS4 employees. Employees are required to have a minimum training once per year.

The County employee training conducted on 9/13/20 used the “Stormwater Overview” video presentation and 21 employees participated that work in the Highway Department, Health Department, Planning and Tech Services.

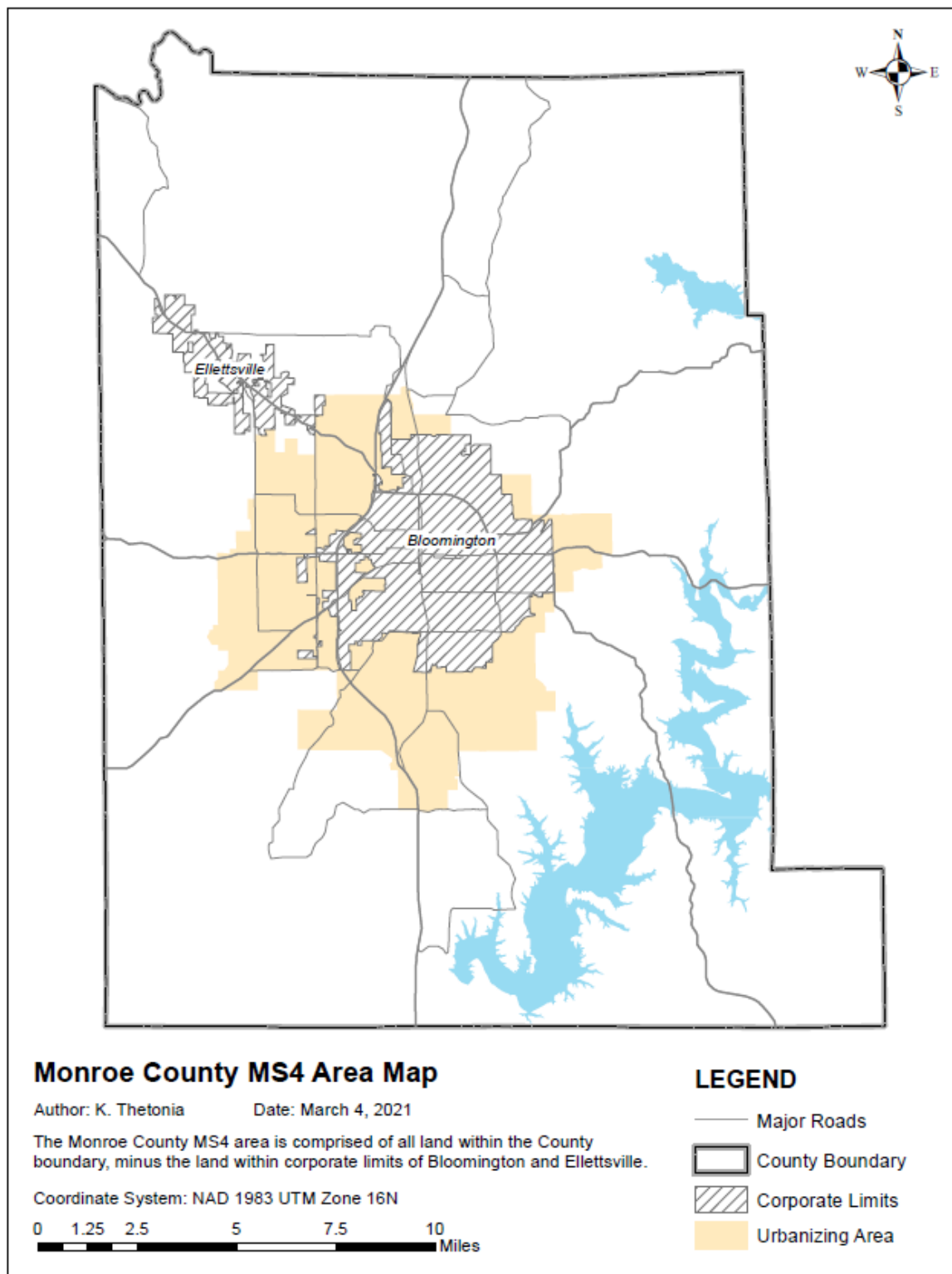
Scoring Results 2020 8.81% Increase in Improvement

Employees	10 Question Pre-Test, average score	10 Question Post-Test, average score	Score Improved (from pre-test to post-test)	Score Decreased (from pre-test to post-test)	Score Stayed the Same (from pre-test to post-test)
21	9.19	10	11	0	10

e) Other:

Appendix A

1) Monroe County MS4 Area Map	43
2) Monroe County Education Programs	44-57
3) Monroe County Stormwater Agreement with U.S. Geologic Survey	58-61
4) MOU MCSWCD and Mini Grant Information	62-63
5) Monroe County Outfall Map and Information	64-67
6) SOP Illicit Discharge Monroe County Stormwater Services	68-71
7) Inspection Photos Fullerton and Gordon Pike Reconstruction	72-84
8) Contractors Workshop Survey	85-87
9) Post-Construction Inspection Form	88-89



Education Outreach and Participation

Dana Wilkinson, MS4 Assistant//Connie Griffin, MS4 Assistant

Monroe County Highway Department Stormwater Services

2018-2020

Monroe Lake Shoreline Cleanup 66 people attended	10/7/2018
Monroe County Fall Festival Education Day, interactive booth how land use can affect flooding, water quality and community planning	9/21/2018
The Friday Zone, Episode 1912 Flooded, staff participated on the show. Thanks The Friday Zone for having us on your show! You can see the whole show here: https://www.youtube.com/watch?v=TQgKZAPmknU	11/8/2018
Leonard Springs Nature Days educating about natural resources	11/19/2018
Monroe County Erosion and Sediment Control Workshop	3/19/2019
Garden Fair	4/2/2019
BugFest	6/22/2019

Facebook	9/4, 9/7, 9/10, 9/11, 9/19, 9/21, 9/22, 9/25, 10/4, 10/9, 10/11, 10/23, 10/24, 10/25, 10/26, 10/28, 11/1, 11/2, 11/3, 11/8, 11/9, 11/12, 11/14, 11/15, 11/19, 12/3, 12/4, 12/7, 12/8, 12/10, 12/15, 12/18,	32 Posts
Event	2019	
Facebook	1/11, 1/22, 1/24, 1/29, 1/30, 2/1, 2/6, 2/7, 2/8, 2/20, 2/21, 2/28, 3/1, 3/6, 3/11, 3/12, 3/15, 3/16, 3/17, 3/18, 3/19, 3/20, 3/21, 3/22, 3/25, 3/26, 4/2, 4/3, 4/11, 4/12, 4/17, 4/22, 4/26, 5/1, 5/4, 5/6, 5/9, 5/21, 6/12, 6/18, 6/21, 6/24	42 Posts
Event	2020	
Facebook	4/16, 7/13, 8/18, 8/19, 8/20	5 Posts

SNAYL Day, Sustaining Nature and Your Land Day \$500.00 financial support	SNAYL Day is an outreach of Monroe County - Identify and Reduce Invasive Species (MC-IRIS) to help landowners gain the knowledge and skills to create resilient native habitat that is free of invasive species.	5/18/2019
Bug Fest financial support \$500.00	This event is a collaboration of Bloomington Parks and Recreation, Monroe County Parks and Recreation, The Wonder Lab Museum, Purdue Extension office, and Hilltop Gardens at Indiana University.	6/22/2019
2020 MCSW Calendar, Passed out at MC 4H Fair (Distribution 1445 out of 1500), other distribution Building, Planning, Parks and Rec, Family Services, Court House, Master Gardener Presentation, visitors center, MCSWD, court building, tech services and health dept.	Featured local photographs and information about stormwater. Booth was maintained by CG and 2 Interns, we provided 2020 calendars, rain garden brochures, received some complaints and questions about our program and local stormwater issues.	June 29-July 7, 2019
Peden Farm Children's Festival, 5,000 in attendance	Dana partnered with SWCD and tabled with SW information and the Plinko board.	9/26/2019
Master Gardener Presentation 50 people in attendance	50 people in attendance, they have their monthly meeting and then a guest speaker.	10/2/2019
Monroe Lake Shore Cleanup, financial support \$1,623.27	66 People removed trash from the shoreline, we paid for the 8 pontoon rentals and food for the barbeque.	10/6/2019
2020 Contractors Workshop 54 were in attendance	This event was co-sponsored by MCSWS, COB and the MS4 Partnership of Indiana. All presented topics about Rule 5, soils, requirements, bio retention, and permits. The presentations were then viewable on the SW Services webpage.	2/11/2020

2021 Stormwater Calendar Contest 11 Children participated. Cash, calendars and prizes were awarded. 500 calendars were distributed to the public, contest winners, Visitors Center, Court House, Showers Building Visitors, Building Dept. and Planning Department. 27 Schools in Monroe County were contacted.	Children participated in creating the 2021 calendar with their art. The theme was Waste No Water	Advertised 12/29/19 and winners announced 5/15/20
Purdue Extension Service Rain Garden Presentation	I presented rain garden presentation by zoom.	4/30/2020
EVENTS CANCELED DUE TO COVID-19: SNAYL Day, Bug Fest, 4H Fair, Monroe County Fair held in Ellettsville and Peden Farm Children's Festival.		
Monroe County Environmental Commission	MC Education Program was presented to the commission by Zoom.	8/12/2020
City of Bloomington Environmental Commission	Kriste Lindberg and Connie spoke briefly to discuss Stormwater for Homeowners Series	8/20/2020
Posted Stormwater for Home Owners series September 2020	Stormwater Services posted the videos to You Tube, stormwater overview rec 39 views (51 views 2/19/21), tips for property care 13, (18 views 2/19/2021) rain gardens 13, (2/19/21 -16 views) and erosion control 3, (8-views 1/19/2021) and BMP's 4 views, (8 views 1/19/21)	9/1/2020
Sept 2020 using stormwater Overview Video as training tool for county employees, Pre and Post test results	21 Monroe County Staff participated including Planning Department, Health Department, Highway Department and Tech services. 11 People improved score on tests and 9 scored the same.	Ended 11/30/20
Concrete Company Training Concrete Washout Areas	I mailed out 36 letters to concrete companies. I included with the letter, EPA information, In SW Manual and 2021 Stormwater Calendar.	10/13/2020

Limestone Industry Training	Mailed outreach letter to 12 Limestone companies in Monroe County. Track out was the key focus.	10/20/2020
Sent 27 2021 Calendars to Monroe County Schools, 2021 Calendars to make them aware of the 2022 Contest Stormwater Matters.	25 Letters and 2021 calendars were mailed out to local MC schools. The letter was sent in c/o art teachers. It discussed 2022 contest Stormwater Matters. 45.00 in postage, 62.50 in calendar cost=107.50 total cost	11/30/2020
Critical Drainage Area Map Information Sent to contractors	26 Letters mailed	12/2/2020

Monroe County Parks and Recreation
Cathy Meyer, Naturalist

6/6/2018	Master Naturalist	24 Adults in attendance
3/5/2018	Goose Pond/Harmony	24 Elementary school children in attendance
3/19/2018	Amphibians/Harmony	24 Elementary school children in attendance
3/26/2018	Frogwatch Workshop/Karst Park	18 Adults in attendance
3/28/2018	Mascatatuck Field Trip	24 Elementary school children in attendance
4/3/2018	Frogwatch Workshop/Karst Park	8 Adults in attendance
4/4/2018	Frogs/Mascatatuck NWR	23 people in attendance
4/10/2018	Leonard Springs Nature Day/University	117 Elementary school children in attendance
4/16/2018	Hoosier River Watch BHSN	7 Elementary school children in attendance
4/26/2018	Hoosier River Watch BHSN	4 Second Graders in attendance
4/30/2018	Hoosier River Watch BHSN	4 Second Graders in attendance
5/9/2018	Leonard Springs Nature Day/Grandview/Marlin	89 Elementary students
5/11/2018	Pond Life/Unionville	32 Pre-K
5/15/2018	Leonard Springs Nature Day/Lakeview	82 Elementary
5/16/2018	Leonard Springs Nature Day/Binford	140 Elementary

5/24/2018	Creek Life/Childs	72 Pre-K
6/29/2018	Water Education/Ind. Water Resources Assn.	12 Adults
9/11/2018	Leonard Springs Nature Day Clear Creek/Arlington	92 Elementary Students
9/18/2018	Leonard Springs Nature Day Highland Park, Unionville	72 Elementary Students
9/26/2018	Water Field Trip/BHSN	100 Second Graders
10/2/2018	Leonard Springs Nature Day	78 Elementary Students
10/15/2018	Master Naturalists	10 Adults
10/16/2018	Leonard Springs Nature Day Templeton, Fairview	98 Elementary Students
10/23/2018	Leonard Springs Nature Day/Childs	73 Elementary Students
10/30/2018	Leonard Springs Nature Day Grandview/Marlin	95 Elementary Students
2/18/2019	Frogwatch/Karst	
2/26/2019	GoosePond Day Trip	
3/6/2019	Frog Talk Muscatatuck NWR	
3/28/2019	Adopt a Stream Bloomington Parks	
4/2/2019	Leonard Springs Nature Days	6
4/9/2019	Leonard Springs Nature Days	6
4/16/2019	Leonard Springs Rain Date	6
4/16/2019	Cikana Fish Hatchery/Master Naturalists	
6/3/2019	Karst Commons Hoosier River Watch	
6/4/2019	Boat Trip MCPR	
6/10/2019	Hoosier River Watch	
8/17/2019	Leonard Springs Nature Days	
9/24/2019	Leonard Springs Nature Days	
10/1/2019	Leonard Springs Nature Days	
10/8/2019	Leonard Springs Nature Days	
11/25/2019	Edgewood Jr. High Watersheds	
<i>No Naturalist in this position so no reporting for 2020. Position Now Filled: Autumn Brunelle</i>		

Lake Monroe Watershed//Friends of Lake Monroe
Maggie Sullivan, Watershed Coordinator

Event	Date
Watershed Sampling Blitz	4/24/2020
Adopt a Shoreline Cleanup Day	5/14/2020
Adopt a Shoreline Cleanup Day	6/11/2020
Watershed Sampling Blitz	9/18/2020
Adopt a Shoreline Cleanup Day	9/24/2020
Adopt a Shoreline Cleanup Day	10/18/2020
Adopt a Shoreline Cleanup Day	11/15/2020



Friends of Lake Monroe
Water Quality Education in Monroe County
Fall 2018 – Fall 2020

Friends of Lake Monroe is a nonprofit dedicated to improving and protecting water quality in Lake Monroe. The member-based organization offers opportunities for volunteers to engage in water quality monitoring, gather for social events, collect trash at the lake, and learn about issues that impact water quality in Lake Monroe. Friends of Lake Monroe has sponsored several educational events and initiatives as well as providing information through their website, newsletter, and social media.

In November 2019, the organization received funding from IDEM under a 319 grant to begin development of a watershed management plan for Lake Monroe. One requirement is to provide public education and outreach about nonpoint source pollution, which frequently includes stormwater issues. Here is a list of events and presentations from fall 2018 through fall 2020 that connect directly to storm water education in Monroe County.

Approximate total number of community participants in events and talks: 441

Events

- Spring 2019 – worked with City of Bloomington Utilities and a Harmony School classroom to develop a “School of Fish” exhibit teaching about water conservation and water protection. About 30 attendees.
- Spring 2019 – held an educational session with Bloomington High School South teaching about water quality and making fish bracelets. About 20 attendees.
- June 2019 – worked with City of Bloomington Utilities to host “WATER: A Celebration – Water Activities To Educate Residents” with a series of events including an art walk, a concert, a panel discussion, and a family festival. About 100 attendees.
- November 2019 – co-hosted a community forum in Bloomington to hear concerns about water quality in Lake Monroe. About 60 attendees.
- September 2020 – hosted a Watershed Blitz where volunteers collected water samples from 88 stream sites draining into Lake Monroe. As part of their training, volunteers learned about water quality issues including pollution from stormwater runoff carrying sediments, bacteria, fertilizers, and other pollutants. About 70 attendees.

Presentations about Watershed Management Plans and Nonpoint Source Pollution

- Friends of Lake Monroe Public Meeting – September 14, 2019. About 30 attendees.
- Friends of Lake Monroe Public Meeting – January 15, 2020. About 20 attendees.
- Presentation to Bloomington Environmental Commission – February 20, 2020. About 12 attendees.
- Friends of Lake Monroe Public Meeting – July 15, 2020. About 6 attendees.
- Presentation to Bloomington Rotary Club – July 29, 2020. About 30 attendees.
- Presentation to Bloomington Utilities Service Board – August 3, 2020. About 15 attendees.
- Presentation to Monroe County Stormwater Board – August 13, 2020. About 8 attendees.
- Presentation to Lakeview Elementary School – November 2, 2020. About 30 attendees.

Monroe County Soil and Water Conservation District
Martha Miller, District Manager

Soil and Water Conservation District		
Martha Miller, District Manager		
Monroecsoil@gmail.com	-	
812-334-4325		
Event	Description	Date
Children's Farm Festival at Peden Farm	Erosion display showing how stormwater causes erosion in various situations.	2018
National FFA Natural Resources Project Judge	Teams of 4-5 members from across the nation, representing their home state, are given an environmental issue or "hot topic" and they have to work together to come up with a solution and prepare to present their finding in 1 hour. They have to know in advance about erosion, Stormwater, soil health, etc.	2018
Friends of Lake Monroe Steering Committee Advisory Role		2018
Conducted site visits to discuss flooding concerns, erosion control issues, etc. all ultimately addressing stormwater.		2018

Began the video series “People of Monroe County” in an effort to bring more visibility to those people practicing good conservation in Monroe County all address Stormwater in some fashion.		
Presentation at IU about water quality, watersheds, etc. and assisted students in an advanced program to conduct a windshield survey of the Salt Creek watershed.		2019
Friends of Lake Monroe Steering Committee Advisory Role		2018
Spring tree give-a-way to encourage native plantings that directly impact stormwater runoff and erosion control. (Monroe County employees)		2019
Conducted site visits to discuss flooding concerns, erosion control issues, etc. all ultimately addressing stormwater.		2019
Raingarden program held by the Purdue Extension Service; promoted their event.		2019
Booth space at the Monroe County 4-H Fair promoting soil health, water quality and conservation of all natural resources.		2019
Bloomington City Hall. Erected display for one month, featuring soil health, water quality and conservation of all natural resources and stormwater.		2019
Children's Farm Festival at Peden Farm	Erosion display showing how stormwater causes erosion in various situations.	2019

Published a book titled "A Seriously Silly Story of a Waterdrips Journey". Provided free copies to Monroe County teachers, students, parents and educators while supplies last.	This book addresses the direct impact of humans on stormwater and how stormwater travels as part of the water cycle.	2019
Started working on a demonstration garden at Deitmer Park to address cover crop and the roles they play in stormwater.		2020
Friends of Lake Monroe Steering Committee Advisory Role		2020
Spring tree give-a-way to encourage native plantings that directly impact stormwater runoff and erosion control. (Monroe County employees)		2020
Launched the Critical Area Seeding Project	Education outreach about the importance of having a living cover on the land to reduce soil erosion due to stormwater.	2020
Launched the completed and printed book "A Seriously Silly Story of a Waterdrips Journey".		2020
Revamped the video series to be more encompassing to various areas of conservation. In 2021 it will move from "The People of Monroe County" to "The Nature Files – Uncovering the World of Conservation" and the focus will shift from only including people to focusing on a wider variety of conservation subjects throughout the year.		2020
Stormwater Projects Map/Mini Grant Program		2020



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Serving Indiana as a leader in green communities

March 1, 2021

NOTE: Regarding 2020, program and event cancellations due to COVID-19 began in March 2020. From March 2020 on, the District has been modifying its offerings to be compatible with online schooling. Few teachers were able to incorporate those into this year's curricula since it was a period of adjustment for them as well.

During 2018-2020 from November 2018-November 2020 (TWO YEARS) 165 programs serving 3,918 students and 28 teachers were presented in the MCCSC schools, additionally, 1 program at Harmony School reaching 5 staff, and 19 programs reaching 1,050 students at RBBSC with 6 teachers). Total: 4,968, 184 programs. Beginning in 2018, presentations selected by teachers were limited to 5 in an attempt to allow other schools to reserve programs and have time to work on cultivating green businesses. In the past, a series of 9 sessions was most commonly chosen for each school. During this reporting time period, the majority of elementary teachers chose 5 in a series. The more than 30 sessions offered are listed on gogreendistrict.com under Education/For Teachers with state standards noted. Standards include English Language Arts, Literacy, Science, Social Studies, Economics, Health and Wellness, Family & Consumer Science and more. Sessions include different aspects of the District's mission in Citizen Science. Included in every presentation verbally and via handouts are suggestions for active environmental stewardship for students, teachers, and parents. Presentations are given to preschool through adults and they are held year round. Day camps, clubs, and other community organizations are also served.

Comcast's Cable TV is a prime source in educating the public about District services and how they can be earth stewards. Comcast Cable TV reaches more than 37,000 people across multiple stream platforms and cable television subscribers in Monroe County and adjacent counties. During this period, **9 new 30 second cable television infomercials** were produced that relate to stormwater: three general recycling, two composting, two litter and hazards, and two on climate change. Commercials rotate with other commercials we have. Cable TV infomercials are a part of a series of commercials (46) that teach the public basic earth care and are part of the District's advertising campaign. The District rotates the airing of the 30 second District infomercials from our District library. Comcast's Weather Crawl, is also regularly used throughout the year for messages related to stormwater.

A WHCC Hoosier Country Radio series of environmental challenges and solutions airs during the year to educate citizens. The paid public service announcements target rural customers and focus on recycling, electronics recycling, hazardous materials recycling and bulky item disposal. Other local radio stations air a variety of 30 second District public service announcements, at no charge. Two stations that regularly air them at no cost to the District, some of which I record, are WCLS and WVNI, and sometimes a third station, (WFHB).

Other media and public relations outlets for the District in which water quality is also incorporated, include strategic social media. A library of videos on the **District's You tube channel and web site**, in addition to the Comcast commercials include segments on Friday Zone programs, shared videos on the industry, a Green Business series, and social media videos. A variety of District Facebook and Twitter posts throughout the year incorporate water quality.

Additional media and public relations outlets for the District which includes water quality includes **the District's web site at gogreendistrict.com** (news, information pertinent to Household Hazardous Waste collection). In addition, the Green Information bins at Rural Recycling Centers contain the **District GoGreen Guide**, and other earth care information. Guides are also available at the South Walnut Recycling Center for easy access to District services. Gogreen Guides are mailed upon request and are distributed periodically throughout the year at the public libraries, ReStore, and at the two branches of Area 10 Agency on Aging.

The following is a breakdown of organizations served with content related to stormwater from **November 2018-November 2020 reaching a total of: 6,552 people.**

SCHOOLS: Visits during the year typically include covering two and/or three grade levels of a classroom, not just one presentation. Ex: all 2nd grade classrooms, all 7th grade, or kg, 1st and 2nd grade levels at the school. This is a significant amount of students and teachers, especially for one educator. Programs do not include preparation time required to review programs, to adapt presentations to the group or time period and to copy handouts. Handouts are always provided. There are fun educational handouts (word searches, puzzles etc.) for students and handouts designed specifically for parents that present additional information and guidelines for families. Some are used in the classroom when I'm there, others, teachers use at other times, but all go home with the students. Students are excited about the handouts and teachers say they appreciate them as well. I have even had parents comment on the usefulness of the handouts. Although I have been in all schools in both MCCSC and RBBCSC, the following schools are regularly visited. Schools not regularly visited have access to free IU programs, have active science teachers, or academic performance rates that limit outside educational offerings. Middle Schools and High Schools have more testing pressures and more activities, and fewer outside visitors are welcomed.

PARTICIPATING SCHOOLS

Elementary:

COMMUNITY

IU SPEA 120 students, 1 faculty

Childs	La Casa Latino Cultural Center 25 K-7th
Marlin	graders, 5 adults
Rogers	Gentry Park Senior Living 13 Green Team
Highland Park	residents, 2 staff
Arlington	Wonderlab Day camp at University Ele 10
MCCSC Academy 100	2 nd and 3 rd graders
RBBCSC:	Endwright Center 5 seniors
Edgewood H.S. 180 students, 2 teachers	MCPL 10 adults
Edgewood Jr. High 412 students, 2 teachers	Monroe County Democrats 20
Edgewood Primary 45 2 teachers	IU Youth Env'tal Leadership Summit 21
Harmony School Walk through 5 teachers	students across the state
	IU School of Public Health 35
	Earth Hour Workshop 35 (composting)

TOTAL: 4,968 schools

TOTAL: 305 students, teachers, and other adults

- 3 -

INTERVIEWS/CONSULTATIONS	@18	TOTAL: 18
---------------------------------	------------	------------------

IU: SPEA, School of Business, Computer, Media

IDS Newspaper

<u>TOURS: South Walnut Recycling Center</u>	21 TOURS
--	-----------------

Owen County HEAD Start 18 3-5 yr olds, 2 teachers

Indiana University Students 17

St Charles Preschool Tour 27 preschoolers, 12 adults, 3 teachers

Home School Tour 23 K-3rd graders, 7 adults

Rep. Trey Hollingsworth plus 1 staffer

TOTAL: 111 students, teachers, and other adults

FAIRS:**TOTAL: 1,150****Students, teachers and other****adults**

Summit Science STEM Night 150 students and parents

BugFest at Hilltop Nature Garden Center 800 students and parents

Reality Fair at Edgewood Jr. High sponsored by Bloomington Chamber of Commerce 50 Jr.High students and teachers

Grandview STEM Night 150 students and parents

The mission of the District is to secure a healthier environment in south-central Indiana, by eliminating waste going to final disposal through reduction of source materials, reuse of reusable materials, and recovery of recyclable materials and by offering educational resources and programs; and by promoting sustainable materials practices throughout our communities. The District achieves this mission by working with Monroe County residents, businesses, and community organizations. The District provides the community with Citizen Science/Environmental Education in a variety of District curriculum offerings to students, teachers, and the community as this education is vital to the health of Monroe County and vital to the health of the earth.

ELISA K. POKRAL

Community Outreach Coordinator

Monroe County Solid Waste Management District

Ph: (812) 349-2020/2866 E-mail: epokral@mcswmd.org

Gogreendistrict.com



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Ohio-Kentucky-Indiana Water Science Center

OHIO
6460 Busch Boulevard, Suite 100
Columbus, Ohio 43229-1737

KENTUCKY
9818 Bluegrass Parkway
Louisville, Kentucky 40299-1906

INDIANA
5957 Lakeside Boulevard
Indianapolis, Indiana 46278-1996

December 16, 2019

Monroe County Stormwater
501 N Morton St
Bloomington, Indiana 47404

USGS Partner and Cooperator

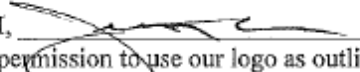
During recent years, there have been many incidents of improper use of copyrighted and/or trademarked imagery on USGS sites and products, including logos. The USGS will only allow usage of logos that have written permission from the organization directly. Some examples of usage include *(but are not limited to)* internal and public facing websites, PowerPoint presentations, and published reports/articles.

As a valued partner/cooperator, we want to proudly display your logo, however, we require written permission from your organization allowing the USGS to use your logo.

I would encourage you to send us an approved logo along with this written/signed permission.

The electronic version of the logo or an internet link can be emailed to mgriffin@usgs.gov

By signing this permission slip below, I am granting the USGS usage of the organizational logo on USGS sites and products.

I,  of the Monroe County Commission give the USGS permission to use our logo as outlined above.

Thank you for your continued support and we look forward to continuing our partnership into the future.

Sincerely,

JEFFREY
FREY

Jeffrey Frey
Acting Director

Digitally signed by
JEFFREY FREY
Date: 2019.12.16 20:08:24
-05'00'

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #:
Agreement #: 20NFJFA00000056
Project #: NF00GWQ
TIN #: 35-1732462

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of the January 1, 2020, by the U.S. GEOLOGICAL SURVEY, OKI Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the Monroe County Stormwater party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation the installation, operation, and maintenance of the South Fork Salt Creek streamgauge at Kurtz, Indiana and discharge measurements at the Maumee bridge (per attachment), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$8,000 by the party of the first part during the period
January 1, 2020 to December 31, 2021
- (b) \$18,500 by the party of the second part during the period
January 1, 2020 to December 31, 2021
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs,
in the amount of: \$0

Description of the USGS regional/national program: N/A
- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be
determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters
between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (<https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices>).

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #:
Agreement #: 20NFJFA00000056
Project #: NF00GWQ
TIN #: 35-1732462

9. Billing for this agreement will be rendered annually. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name: Jeff Woods
Supervisory Hydrologist
Address: 5957 Lakeside Blvd.
Indianapolis, IN 46278
Telephone: (317) 600-2762
Fax: (317) 290-3313
Email: jwoods@usgs.gov

Customer Technical Point of Contact

Name: Terry Quillman
MS4 Coordinator
Address: 501 N Morton St
Bloomington, Indiana 47404
Telephone: (812) 349-2499
Fax:
Email: tquillman@co.monroe.in.us

USGS Billing Point of Contact

Name: Damon Williams
Budget Analyst
Address: 5957 Lakeside Blvd.
Indianapolis, IN 46278
Telephone: (317) 600-2774
Fax: (317) 290-3313
Email: dlwilliams@usgs.gov

Customer Billing Point of Contact

Name: Terry Quillman
MS4 Coordinator
Address: 501 N Morton St
Bloomington, Indiana 47404
Telephone: (812) 349-2499
Fax:
Email: tquillman@co.monroe.in.us

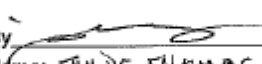
U.S. Geological Survey
United States
Department of Interior

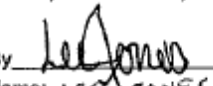
Monroe County Stormwater

Signature

JEFFREY
FREY
By:  Date: 12/16/2019
Name: Jeffrey Frey
Title: Acting Director

Signatures

By:  Date: 12/18/19
Name: JULIE THOMAS
Title: PRESIDENT, MONROE COUNTY COMMISSIONERS

By:  Date: 12/18/19
Name: LEO JONES
Title: VICE PRESIDENT, MONROE COUNTY COMMISSIONERS

By:  Date: 12-18-19
Name: Penny Githens
Title: Commissioner

Monroe County Stormwater
Attachment for 20NFJFA00000056
1/1/2020 to 12/31/2021

SURFACE WATER

SITE NUMBER & DESCRIPTION	FUNDS		
	USGS	COOP	TOTAL
03371600 S. FK. SALT CREEK AT KURTZ, IND.			
Full Range Streamflow Station	\$8,000	\$11,500	
Installation of Full Range Streamflow Station	\$2,000	\$6,500	\$26,000
TBD			
Discharge, Measurement		\$500	\$500
	Total:	\$8,000	\$18,500 \$26,500
GRAND TOTAL: \$8,000 \$18,500 \$26,500			

MEMORANDUM OF UNDERSTANDING
between the
Monroe County Stormwater Management Board (MCSMB)
and the
Monroe County Soil and Water Conservation District (MCSWCD)

The Parties to this Memorandum of Understanding (MOU) agree to the following:

Article 1: Purpose and Scope

To assist in programs and to expand education and outreach on issues critical to water quality and soil health in an effort to improve the overall health of Monroe County watersheds for the fiscal year 2021.

Article 2: Conditions and Arrangements

The MCSMB will provide the MCSWCD with \$35,000 to be spent for MCSWCD activities and items that further purposes the Monroe County Stormwater program and have been identified by MCSWCD representatives in communications to the MCSMB. The MCSWCD will act on behalf of the MCSMB and the County as a liaison to constituents by providing a substantial educational and outreach component for the County's Stormwater program. MCSWCD will accomplish this by applying the funds from the County Stormwater Utility Fund to cost share programs and educational outreach initiatives.

The MCSWCD will provide the MCSMB with a report on its expenditures of these funds. The reports will be presented at the May, September and January Stormwater Board meetings. The purpose of the expenditure reports is to keep the Stormwater Board, staff and the public informed of where the educational funds are being spent to satisfy the IDEM requirements for Rule 13.

Grant applicants will be limited to one grant award every three (3) years.

Any funds that are used for payroll expenditures is to only be used for the summertime part-time help for the education events.


Article 3: Timing

The MCSWCD will make all attempts to use appropriated funds from the Stormwater Utility Fund within the current fiscal year for implementation of programs and development of educational materials. If money from the Fund remains unused at the end of the current fiscal year, it will be returned to the MCSMB unless the MCSMB authorizes the MCSWCD to allocate it for expenditure in the next fiscal year.

Article 4: Future Cooperation

The MCSWCD will continue to work to support the goals of the MCSMB by expanding the capacity for outreach and education as funds become available.

Monroe County Stormwater
Management Board, member

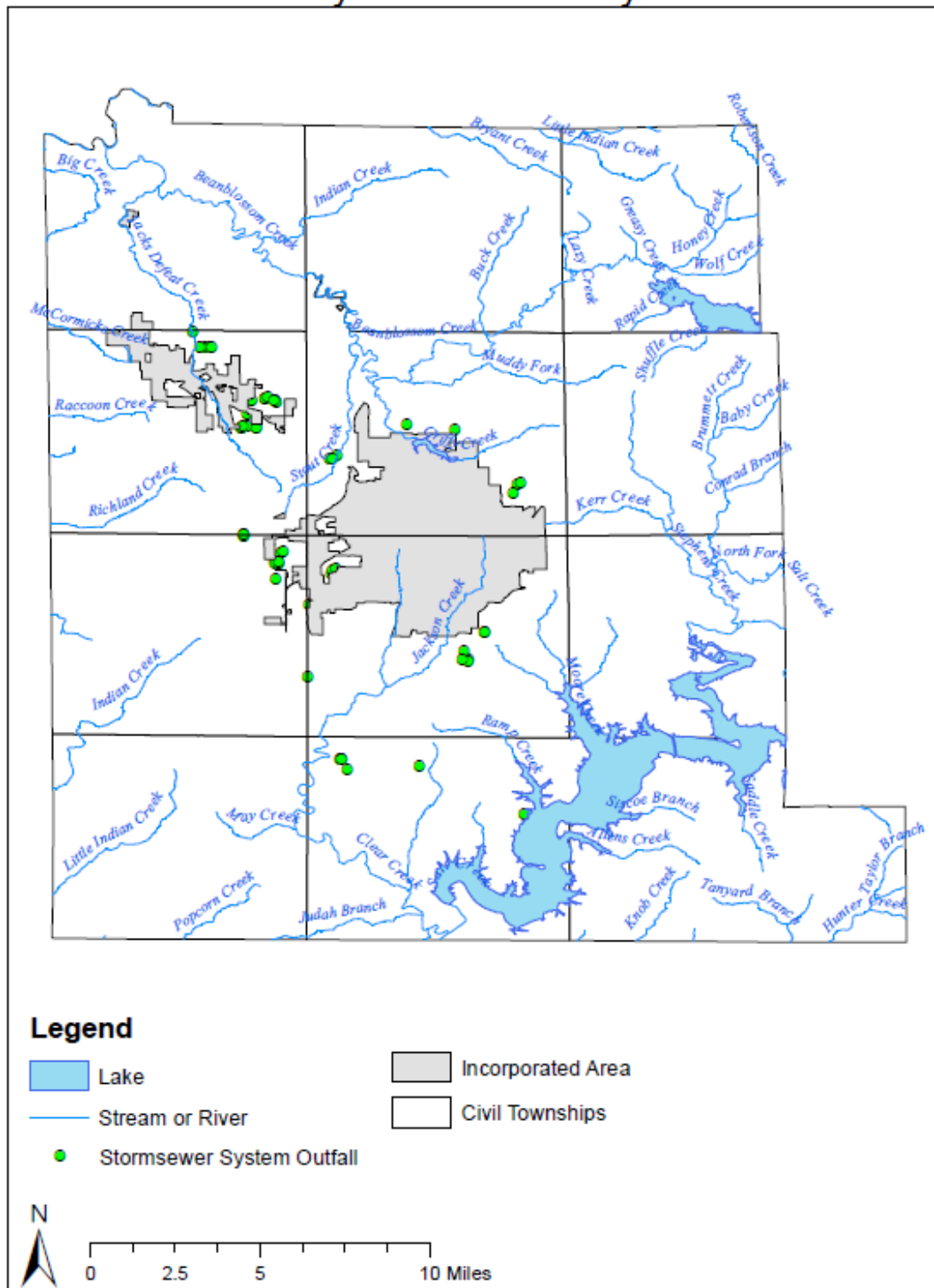

Monroe County Soil & Water Conservation
District, representative

December 29, 2020 / Dallas Conder, Board Chair

Yr Paid	Lname	Fname	Amt Paid	Reason
2020	Koeplin	Naomi	\$2,000.00	Rain Garden Installation to address flooding of basement area
2020	Blacketter	John	\$2,000.00	Grassed Waterway between property lines for Erosion Control
2020	Rombach	Cindy	\$2,000.00	Seawall Erosion/Breakdown Lake Lemon
2020	Shassberger	John	\$1,780.36	Field to Pastuer Conversion for Erosion Control
2020	Funkhouser	Roger	\$2,000.00	Pasture Erosion Control - Interseeding
2020	Funkhouser	Don	\$2,000.00	Pasture Erosion Control - Interseeding
2020	Dillion	Judy	\$967.32	Erosion - Raingarden Installed to control
2020	Ament	Fred	\$550.64	Erosion/Invasive Control for woodland area
2020	Fish	Judy	\$1,912.50	Invasive Control - Erosion Concern entire pastuer was overrun by Canadian Thistle
2020	McClary	Josh	\$1,500.00	Water Catchment System for the whole barn area
2020	Tirey	Mark	\$1,477.66	Erosion/Invasive Control for entire pasture area
2020	McNaughton	Patrick	\$2,000.00	Invasive Control
2020	Foggy Morning Glen		\$1,800.00	Erosion Control - pedestrain path to Monon Trail from subdivision

Yr Paid	Lname	Fname	Amt Paid	Reason
2020	Bergschneider	Cara	\$877.38	Erosion - due to deer population infestataive - Native Plants were planted
2019	Sycamore Land Trust		\$2,000.00	Grassed Waterway for gulley erosion concerns
2019	Creager	Cathryn	\$2,000.00	Referral from Stormwater - Erosion on back yard area
2019	Woodling	Robert	\$1,600.00	Erosion Control - rebuilding of water bar diversions due to heavy rains
2019	Richards	Stephanie	\$1,455.00	Invasive Control to stop/slow erosion on developed yard area
2019	Kerr	John	\$1,588.50	Repair trench and drain from back yard to inlet in paved area out front
2019	Turner	Suzanne	\$2,000.00	Erosion Control - efimeral gully
2019	Johnson	Anna Marie	\$1,029.85	Rain Garden Installation
2019	Frye	Carolyn	\$2,000.00	Rain Garden Installation - for erosion and poor soil health in developed yard
2019	Childers	Raymond	\$2,000.00	Heavy Use Area Pad Installation
2019	Dick	Travis	\$2,000.00	Heavy Use Area Pad Installation
2019	Butcher	George	\$853.48	Invasive Control for Erosion
			\$41,392.69	

Monroe County Stormsewer System Outfalls



<u>ID</u>	<u>Street</u>	<u>Notes Outfall Locations</u>	<u>Conveyance Type</u>
4	FERNWOOD DR		Pipe made of plastic materials
5	DOYLE AVE		Pipe made of concrete
15	DEANN DR	drain from retention basin	Pipe made of plastic materials
18	DEANN DR	drain from edge of detention basin	Pipe made of plastic materials
19	RIDGEWOOD DR	pipe from street drains to stream	Pipe made of concrete
20	AUTUMN CIR	pipe outlet to ditch	Unpaved ditch, dirt, mud, grass etc Ditch paved with riprap, paving stones
21	WEATHERS CT	metal pipe to ditch	
23	LOST MANS LN	black pipe into ravine, some dumping	Pipe made of plastic materials
24	LOST MANS LN	Mixed ditch, paved and dirt	Unpaved ditch, dirt, mud, grass etc
25	TRUESDEL DR	ditch from Truesdel south	Pipe made of plastic materials
26	DRESDEN DR	system of ditches behind houses	Pipe made of plastic materials
27	DRESDEN DR	system of ditches behind houses	Pipe made of plastic materials Ditch paved with riprap, paving stones
28	DRESDEN DR	system of ditches behind houses	
29	SUDBURY DR	drains from street over creek	Pipe made of plastic materials
31	SUDBURY DR	drains from near mail kiosk	Pipe made of plastic materials
32	SUDBURY DR	drainage channel from parking lot	Unpaved ditch, dirt, mud, grass etc
34	MATTHEWS DR	Stone culvert directly to creek	Unpaved ditch, dirt, mud, grass etc
35	MABELS WAY		
37	FOX CHASE RUN		Pipe made of plastic materials
38	FOX CHASE RUN	2 inlets directly drain into culvert multiple inlets into culvert; Validated location 6/10/19 ERH	Pipe made of concrete
40	CORDOVA PL		Pipe made of plastic materials
41	DOYLE AVE		
42	SUDBURY DR		Ditch paved with asphalt, concrete
46	CORDOVA PL	site too vegetated to photo 6/12/17	Pipe made of plastic materials
50	ROCKPORT RD	Unable to confirm location, high vegetation 8/5/19 - ERH	
51	BROOKWOOD DR		Pipe made of plastic materials
52	SELC CT	From inlet to culvert, drains downhill	Pipe made of plastic materials
53	ZIKES RD S	37 pipe into stream. 2.5 foot diam	Pipe made of plastic materials
54	SUNDAY DR	4 From overflow structure	Pipe made of plastic materials
55	SUNDAY DR	Pipe into stream	Pipe made of plastic materials
56	SUNDAY DR	Pipe into stream	Pipe made of plastic materials
59	HILLVIEW DR	culvert to ditch	Pipe made of steel or aluminum
60	GRAMERCY PARK DR	PVC piping	Pipe made of plastic materials
61	DEVONSHIRE LN	Two pipes from inlets	Pipe made of plastic materials
62	MABELS WAY	Inlets to culvert	Pipe made of steel or aluminum
63	CLEVE BUTCHER CT	internment stream	Pipe made of steel or aluminum
68	LIMESTONE DR	empties into ditch	Pipe made of steel or aluminum
69	MATTHEWS DR	pvc pipe directly into stream	Pipe made of plastic materials

70	MAPLE GROVE RD W	ditch to stream	Pipe made of steel or aluminum
71	MAPLE GROVE RD W	ditch to stream	Pipe made of steel or aluminum
72	RIDGEWOOD DR	pipe to concrete conveyance	Pipe made of steel or aluminum
73	BROOKWOOD DR	Ditch in residents yard, leads to stream	Unpaved ditch, dirt, mud, grass etc
74	BROOKWOOD DR	Next to large culvert	Pipe made of plastic materials
75	BROOKWOOD DR STONEBROOK		Pipe made of steel or aluminum
76	BLVD STONEBROOK		Pipe made of plastic materials
77	BLVD		Pipe made of plastic materials
78	BLUE BELL CT	Pipe to rip rap ditch	Pipe made of plastic materials
83	FOREST RIDGE DR		
84	KYLIE CT	Can't confirm due to high vegetation 6/20/19 - ERH & CH	
85	AMBER DR	Validated location 6/10/19 - ERH & CH	
86	CENTENNIAL DR		Pipe made of steel or aluminum
87	CENTENNIAL DR		Pipe made of steel or aluminum
88	CURRY PIKE		Pipe made of concrete
89	CURRY PIKE		Pipe made of concrete
90	GIFFORD RD		Pipe made of plastic materials
91	GIFFORD RD PROFILE		Pipe made of plastic materials
93	PARKWAY PROFILE		Pipe made of plastic materials
94	PARKWAY		
95	DANIELS WAY		
99	DANIELS WAY		
100	DANIELS WAY		
101	DANIELS WAY		
102	DANIELS WAY		
103	FIELDSTONE BLVD	Validated location 8/5/19 - ERH & CH	
104	THAT RD	Validated location 7/9/19 - ERH & CH	
105	ROGERS ST		
106	ROGERS ST GARRISON	Could not confirm, high vegetation 7/11/19 - ERH & CH	
107	CHAPEL RD	Validated location 8/7/19 - ERH & CH	
108	FAIRFAX RD	location validated 8/7/2019 ERH & CH	
	Total 69		

Table 1. Watersheds containing outfalls in unincorporated Monroe County.

Main Watershed	Number of Outfalls	Sub Watershed	Number of Outfalls
Bean Blossom	30	Buck Creek-Bean Blossom	5
		Jack's Defeat Creek-Bean Blossom Creek	22
		Stout Creek-Bean Blossom Creek	3
Lake Monroe-Salt Creek	1	Monroe Creek-Lake Monroe	1
Plummer Creek	2	Little Richland Creek-Richland Creek	2
Salt Creek	25	Jackson Creek-Clear Creek	12
		Little Clear Creek-Clear Creek	1
		May Creek-Clear Creek	12
	58		58

Table 2. Receiving streams of outfalls in unincorporated Monroe County.

Name of Stream	Number of Outfalls
East Fork Jackson Creek	6
East Fork Clear Creek	7
West Fork Clear Creek	4
Clear Creek	4
Little Clear Creek	1
Salt Creek	1
UNTs of Jack's Defeat Creek	20
Jack's Defeat Creek	1
Griffy Creek	2
Sinking Creek	8
Cave Creek	2
	56

Standard Operating Procedures (SOP) Illicit Discharge Monroe County Stormwater Services

Version: 1/19/2021

Reasons for Procedure

Monroe County Highway Department Stormwater Services has a NPDES permit to operate a MS4 issued by Indiana Department of Environmental Management. This permit authorizes Monroe County a permit to discharge stormwater from construction activities into surface waters of the State of Indiana.

In order to be in compliance with 327 IAC Articles 5 and 15 Monroe County has developed SOP for illicit discharge detection and elimination.

The SOP provides investigators with guidance and forms to ensure that consistent investigations occur for every known illicit discharge.

What is an illicit discharge by Monroe County Chapter 767 Ordinance- Any discharge, deposit, injection, spilling, leaking or placing into the Stormwater System by direct connection or otherwise that is not composed entirely of stormwater, except naturally occurring floatables, such as leaves or tree limbs. Sources of illicit discharges include (but are not limited to) sanitary wastewater, septic tank effluent, car wash wastewater, oil disposal, radiator flushing disposal, laundry wastewater, roadway accident spillage, yard waste, animal waste and bedding, and household hazardous wastes.

When is an illicit discharge considered eliminated?

Identification of Inspector and Clean-up Crew

Name	Phone/Cell	Email	Work Cell	Address
IDEM Spill Line	1-888-233-7745			
Kelsey Thetonia, Stormwater Services		Kthetonia@co.monroe.in.us	1-812-272-9217	
Connie Griffin, Stormwater Services	1-812-798-6758	Cgriffin2@co.monroe.in.us	1-812-272-7289	204 N Dayton St Worthington, IN 47471
Jason Moore, Stormwater Services		Jmoore@co.monroe.in.us	1-812-318-2739	
Health Department Penny Caudill	1-812-349-2543	Healthdept2@co.monroe.in.us		119 W 7 th St, Bloomington, IN

Health Administrator				
Heritage Environmental Services	1-877-436-8778			6510 Telecom Dr, Suite 400 Indianapolis, IN 46278
Monroe County Legal Department	1-812-349-2525	legal@co.monroe.in.us		100 W Kirkwood Ave Bloomington, IN 47404
Lisa Ridge, Highway Department Director	1-812-349-2555	lisajridge@co.monroe.in.us		501 N Morton Street, suite 216 Bloomington, IN 47404

Reporting Methods of Illicit Discharges

- Dry weather screening
- Regular inspections of Rule 6/Industrial Sites
- Complaint called in
- Survey Monkey reporting

Response and Initial Investigation within 2 business days of being notified

Determine the source of the discharge, remove connection if applicable, report the spill to IDEM's spill line, remove the illicit discharge as much as we can and/or hire out clean up.

Inspection Requirements/Locating Illicit Discharge

- Within 48 hours of illicit discharge being reported investigate illicit report

Forms for Documentation and Inspections

- [Illicit Discharge Inspection Form 1-19-2021.pdf](#)

Identify and Document Illicit Discharge

- Identify illicit discharge; method of identification
- Determine actions to take based on illicit discharge type
- Elimination procedure for type of illicit Discharge
- Document actions taken
- What is the source and location of the spill
- Is it continuous or intermittent
- Non-stormwater

Types of Illicit Discharge (not all types listed)

- Sanitary Sewage takes priority as well as endangering human life
- Improper disposal of auto and household chemicals
- Spills from roadway accidents or vehicle leaks
- Improper disposal of yard and pet wastes
- Construction site sediment
- Drilling operation waste
- Septic tank discharge and sanitary wastewater
- Chlorinated pool water
- Liquid waste

Methods of Clean-up Based on Type of Illicit Discharge

- Responsible party fixes the problem/source of the illicit discharge
- Monroe County hires a party to fix the problem of the illicit discharge
- Use kitty litter, sawdust, or absorbent on spills, then sweep up and place in a container and dispose of at MCSWD
- Surround with absorbent socks
- Call an environmental waste cleanup company

Contact Responsible Party

- Identify by complaint or reporting tools
- Investigate potential source locations
- Look up potential responsible party using ELEVATE
- Send written notice to responsible party and provide enforcement details

Internal Communication Written Response Notice of Violation

- Scan case file information and send file by email to staff members or Board members

Follow-up Inspections

- Ensure corrective measures have been taken and implemented
- If not contact the Board

Written Response Notice of Violation/Enforcement Actions Responsible Party/Appeal Process

- The responsible person has 30 days from the date of the issuance of a notice of violation to file an appeal with the Board
- Upon appeal of the NOV by a responsible person or upon the request of the Administrator the Board will conduct a hearing within 30 days of filing the appeal
- If the Board determines a violation has occurred, it may determine the amount of fines to be imposed upon the responsible person in an amount not to exceed \$2,500.00 for each initial violation and \$7,500.00 for each second or subsequent violation and/or issue orders to correct violation

- If the responsible party fails to pay the fine and/or abate the situation the Board may take legal action to obtain compliance with any order it issues

Follow-up Inspections

- Ensure corrective measures have been taken and implemented
- Confirm source of illicit discharge is no longer contributing or is a potential for danger to the public or environment/close case
- Document and photograph area and place in case file
- Notify all interested parties

Construction Equipment Accident 9/30/19

Report prepared by-

Connie Griffin, MS4 Assistant
501 N. Morton Street, Suite 216
Monroe County Highway Dept.
Bloomington, IN 47404
Phone: 812-349-2960
Email: cgriffin2@co.monroe.in.us

MS4 In contact with-

Chuck Wildt, Field Manager/American Structurepoint INC.
Phone: 317-710-5569
Email: CWildt@structurepoint.com
Tim Johnson- tjohnson@structurepoint.com

Email Timeline

9/19/19

Samantha Wickizer sent Connie Griffin an email describing the spill.
Attached: On-site evaluation for erosion and sediment control comments.

9/24/19

Connie Griffin contacts Chuck Wildt about 9/30/2019 corrective actions report to provide to IDEM. Notice of inspection 9/26/19.

Chuck Wildt contacted Connie Griffin, He admitted to not contacting Monroe County Highway Dept. or IDEM to report the spill.

9/26/19

Chuck WildT contacted Brent Foster and CC Connie Griffin on the required corrective actions.

Brent,

I met with Connie Griffin this morning to review the areas IDEM requested improvements on, we also reviewed the location where the fuel spilled took place. Connie is needing the report generated by the cleanup company.

She also requested the information be posted on the billboard easily readable with emergency contacts listed, that show who to contact and what steps are to be taken if a spill occurs again, she did not see this information on the billboard, in addition, note where Milestone has the Emergency Response Kit located.

Two areas of concern is the upstream and downstream areas at Str.120. It appears the upstream area where the spill took place needs the current rip rap removed, geotextile placed and rip rap placed back along with any additional rip rap that is needed to be in compliance.

On the Downstream end both of the pipes need to have the planned pipe anchors installed and rip rap installed for final acceptance. My opinion is to correct both locations with permanent features.

Embankment areas need to be fine graded and sod installed after HMA for the multi-use path is completed. I believe Milestone's schedule is to have HMA placed on next Tuesday and sod placed right after. Again, this will be permanent features in lieu of temporary seed and mulch.

(NW side of Clear Creek): Extend the filter berm to the east up to the bridge to prevent silt from running around the current erosion control feature into the creek.

These erosion control features need to be completed by 9/30/19 per the IDEM report. All measures taken also need to be sent to Connie Griffin no later than 9/29/19 to allow Connie time to prepare a response to IDEM.

Please let me know when Milestone will be working on correcting these issues so Tim Johnson or myself can be on site during the repair efforts.

If you have any questions please let me know.

Thanks,

Chuck Wildt

Field Manager

9025 River Road, Suite 200

Indianapolis, IN 46240

317.547.5580 [OFFICE](#)

317.710.5569 [CELL](#)

cwildt@structurepoint.com [WEB](#)



Location of Spill Site



S. Rogers and Gordon Pike Spill Site/Elevate GIS Monroe County

Photos and Inspection Findings 8-26-19 Photos taken by Connie Griffin



Area where spill took place 8/26/2019



Area where spill took place 8/26/2019



Area where spill took place 8/26/2019

Next photos outfall and creek location



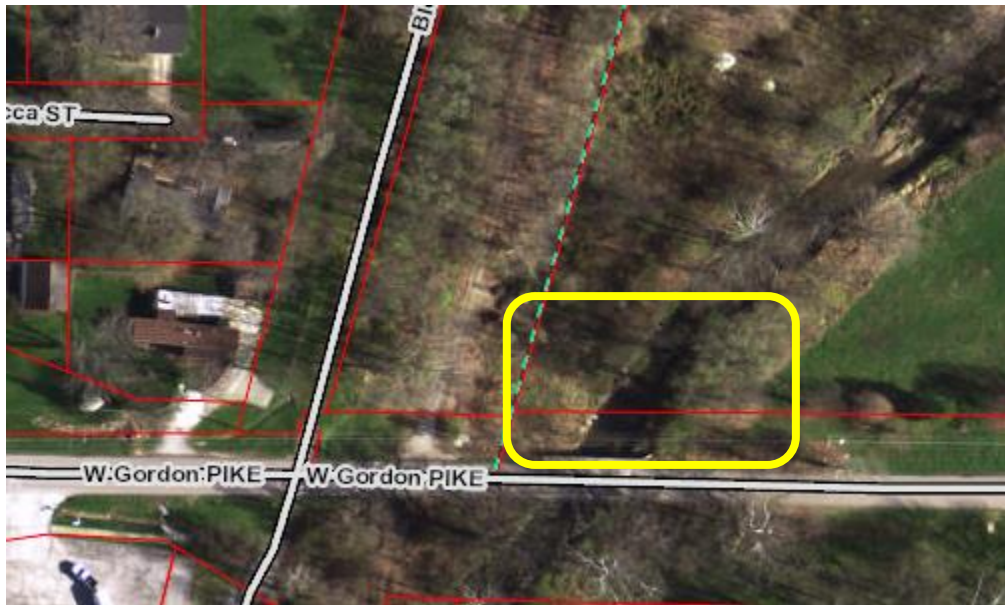








Next photos, north side









Qualitative Responses

Note: the number in front of the comment corresponds to the row number of the quantitative data for each respondent found in the *Survey Response* excel sheet.

The total response rate for those in attendance was approximately 60% ($31/52 = 0.596$).

What topics would you suggest for future presentations?

- 4. More info about GI and LID.
- 9. Example design & jobsite conditions to reinforce situations and proper BMP usage.
- 10. More like the presentation “Green BMPs: Sust. Post-Construction SWM & erosion Control.”
- 11. Contractor and SW professional talk about their actual working relationship through a project from start to finish.
- 14. Proper construction installation and maintenance of erosion control measures (silt fence, ponds, swales, rip-rap, etc.)
- 15. Construction phasing. BMPs.
- 16. On-site tours to view functioning BMPs.
- 19. Encountering contaminated soil during construction.
- 22. Whole topic integration.
- 29. Topics on BMPs. Less about specific local permit process.
- 30. Anything that brings forward new data regarding future trends.

Is there anything we could have done to make your experience easier or more convenient?

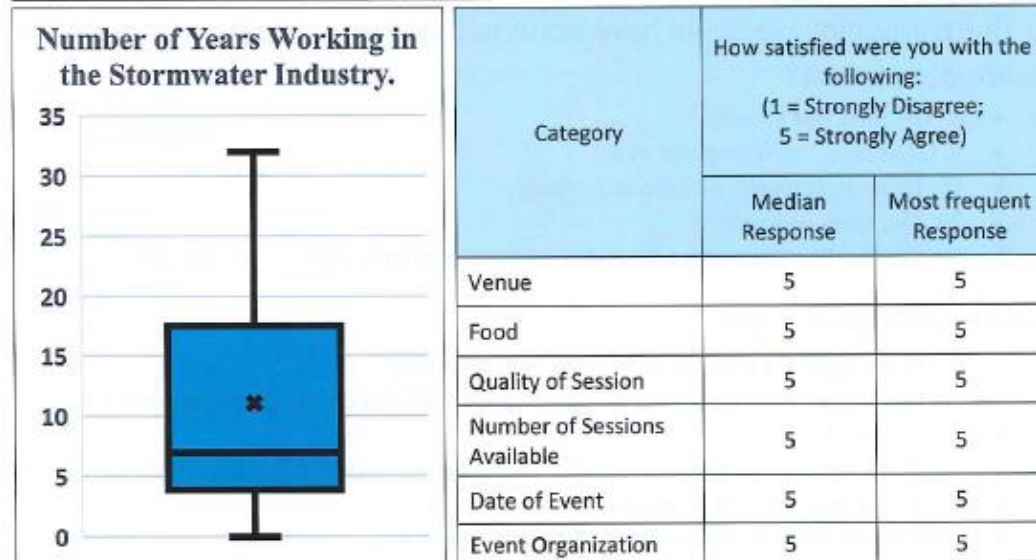
- 8. The food was yummy.
- 9. Good info – well prepared event.
- 10. Be more prepared with the technology.
- 29. The room was cold.
- 30. Seemed like there was a great deal of duplicated info. Aim for less of that.

Additional Comments?

- 6. Great range of topics and info for all in the industry.
- 10. Kat Zaiger, *Eco Logic*, was funny in a good way. Absent for presentations 1-5.
- 12. Excellent!
- 15. Construction Entrances. Discussion on public perception. Why nothing about safety?
- 16. Very happy the City is involved now.
- 30. Maybe consider compressing to half-day, depending on available content. Overall, well done ☺.

Quantitative Responses

Title of Presentation; Speaker	My time was well-served? (1 = Strongly Disagree; 5 = Strongly Agree)	
	Median Response	Most frequent Response
1. Conducting Business with MS4 Monroe County Stormwater Services; Connie Griffin	4	4
2. New Changes to Monroe County Stormwater Management Ordinance; Terry Quillman	4	5
3. Watersheds and Weather; Kristie Lindberg	4	4
4. Keynote; Reggie Korthals and Mary Atkins	5	5
5. IDEM Stormwater Program Updates; Ronnie Boehm	5	5
6. Monroe County Grading Permit Process; Anne Crecelius	4	5
7. Healthy Soils in Urban Development Soil Science Basics for Stormwater BMPs; Kelsey Thentonia	5	5
8. Grading Permit Process and On-Site inspections; Liz Carter and Emily Venesky	4	4
9. Green BMPs: Sustainable Post-Construction Stormwater Management and Erosion Control; Kat Zaiger	5	5



Hypothesis Testing

Next, I tested whether or not those who had been in the industry longer were reporting different ratings than those who had been in the industry fewer years.

- Null Hypothesis: There is not a difference between those who have been in the SW industry longer and their average rating of presentations.
- Alternative Hypothesis: There is a difference between those who have been in the SW industry longer and their average rating of presentations.

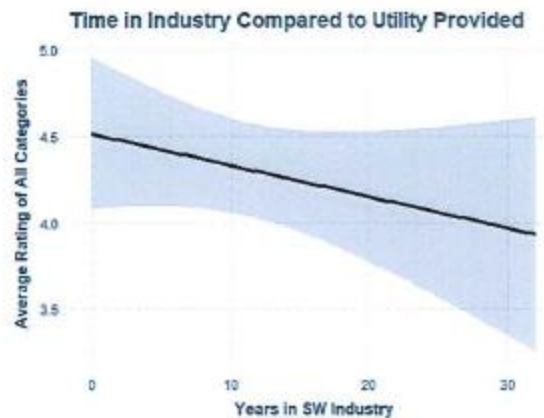


Figure 1 - NOT STATISTICALLY SIGNIFICANT

- The results of the F-test indicate that there is not enough evidence to reject the null hypothesis (P-value = 0.2). Therefore, we cannot conclude that there is a difference between the utility of the workshop and the years worked in the Stormwater industry for those who attended the workshop.
- I.E.: The workshop provides equal benefit for those who are new to the industry compared to those who have been in the industry for longer time-periods.

POST Construction BMP
Annual O&M Inspection
Monroe County MS4

A "BMP" (Best Management Practice)



Business or Subdivision name _____

12 Inspection Items	YES	NO	N/A
1. Is there a routine schedule for litter pick up around your grounds?			
2. Are garbage dumpsters accessible, secure, maintained and serviced?			
3. Are litter receptacles accessible, secure and maintained?			
4. Are the storm drains clean of debris and trash?			
5. Has there ever been any hazardous material poured into the storm drains? (oil, grease, soap, chemicals) If yes, call 812-349-2960 for reporting			
6. Are natural areas around the business or common areas maintained?			
7. Are there any damp or seep areas present with foul odors?			
8. Is there a detention pond on the property?			
9. If YES, is the detention pond maintained and inspected?			
10. Is there any erosion or bare soils present on the premises?			
11. Do employees or residents know how to report hazardous spills?			
12. Do you feel that the storm water that runs off the business or property is fit to enter the streams?			

Date Inspected ____/____/20____

Signature _____

Retain a copy for your records and file for five (5) years.

POST-Construction Detention/Retention Inspection

Purpose: The purpose of this form is to document the observations made during an inspection of Detention/Retention ponds.

Inspection Information

OUTFALL # _____ if applies

Pond Number: _____ Inspection Type: ☐ Initial ☐ Routine ☐ Follow-up

Pond location: _____

Inspector Name: _____ Date: _____ / _____ 20____

Property owner: _____ Contact: _____

Phone _____ E-mail: _____

Weather Conditions: ☐ Clear ☐ Cloudy ☐ Rain

Previous Rainfall: _____ inches. **TYPE POND:** **DETENTION** _____ **RETENTION** _____

Pond Condition

Is the detention area accessible for maintenance equipment? Yes No : _____

Does the pond show signs of settling, sloughing or other problems? Yes No: _____

Does the slopes or spillway show signs of erosion or instability? Yes No: _____

Is there evidence of animals that could contribute to pond instability? Yes No: _____

Does the grass need mowing? Yes No Are there areas that need to be grassed? Yes No

Does brush or debris need clearing, i.e. cattails, trees willows? Yes No

Is there an accumulation of trash, debris and/or litter to be removed? Yes No

Any signs of vandalism that could affect the pond performance? Yes No _____

Any signs of pollution in standing water? Yes No No standing water : _____

Abnormally high water level? Yes No Erosion at high water mark? Yes No : _____

Other comments: _____

Structural Components

Are to pipes/inlets going into or out of the pond clogged or obstructed? Yes No : _____

Is the outfall channel from the pond functioning appropriately and stable? Yes No _____

Is the inflow trickle channel working properly? Yes No : _____

Is the detention structure orifice or overflow obstructed? Yes No : _____

Are the frames and covers with the outfall channel in good condition? Yes No : _____

Other Comments: _____

Plan of Action

____ Notify property owner of the inspection by certified mail within two days of inspection.

____ Request an acknowledgement within 5 days of receipt of inspection report

____ Request a plan of action within two weeks of receipt of inspection report

____ Require maintenance noted within two months of receipt of inspection report.

____ Continue Normal Inspection Schedule