City of Berea, KY

Illicit Discharge Detection and Elimination (IDDE) Plan

February 2024

Contact:

Amanda Haney, Interim MS4 Coordinator
City of Berea, KY
212 Chestnut Street
Berea, KY 40403
(859) 986-8528
ahaney@bereaky.gov

Matthew Thomas, GIS Technician
City of Berea, KY
212 Chestnut Street
Berea, KY 40403
(859) 986-8528
mthomas@bereaky.gov

Background

Berea, population 15,539 (2020), is in Madison County, Kentucky, south of the county seat of Richmond. Incorporated in 1890, Berea was named in 1854 by Rev. John Fee and is known for Berea College and for being the "Folk Arts and Crafts Capital of Kentucky". For a community of its size Berea has a significant number of industries with an employment base that includes over 3,500 jobs in manufacturing. It's a very fast-growing community and in 2010 became covered under the Phase II Municipal Separate Storm Sewer System (MS4) program regulated and administered by the Kentucky Division of Water (KDOW) through the Kentucky Pollutant Discharge Elimination System (KPDES) program.

Water quality is very important to the citizens of Berea. It identifies as a progressive, small-college town with an emphasis on eco-tourism and environmental enhancement projects such as Berea College's Ecovillage. Berea has a pedestrian-friendly culture supported by miles of bike trails, sidewalks and regularly holds 5K-walks and 10K-runs. Many of the trails are along the larger streams in the area. The importance of high-quality surface water is greater in Berea than most other communities, as its potable water source is a series of reservoirs east of the City.

Berea is in the Kentucky River watershed, with the center of town being on top of a hill. The city drains to three separate watersheds: Silver Creek, Brushy Fork (a tributary of Silver Creek) and Walnut Meadows Branch (a tributary of Paint Lick Creek). Silver Creek, Brushy Fork, and Paint Lick Creek are all on the current 303(d) list of impaired streams, but the impaired stream reach of Brushy Fork is upstream of the city and the other two reaches are well downstream of the city. In all three cases the listed causes of impairment are agricultural in nature, and not implicitly related to urban runoff.

During the past MS4 permit cycle the City has met the MS4 requirements but current efforts by City staff are focused on streamlining their compliance efforts to be more "useable" by City staff, which will increase their effectiveness. This document describes the City's current plan to address illicit discharges to the surface water systems of Berea. It is formatted in accordance with section 2.2.3(3) of KPDES General Permit No. KYG200000.

A. Procedures for Locating Priority Areas Likely to Have Illicit Discharges – The following describes the City of Berea's plan to meet this IDDE permit requirement:

    1. During the previous permit term City staff used their GIS-based mapping system, supplemented by field investigations, to locate all "major outfalls" as required by the permit. During this new permit term, the City will complete mapping of the entire surface drainage system and illustrate additional major outfalls as defined in the new permit.
    2. The three major watersheds (Silver Creek, Brushy Fork, and Walnut Meadows Branch) and their sub watersheds will be delineated on the mapping, with color coding to assist in the management of field investigations, mapping, and IDDE investigations.
    3. A land use mapping overlay will be included in the mapping, to aid in prioritizing field assessments.

4. Priority areas will include industrial, commercial, and high-density residential areas, and lower-density residential areas with relatively high percentages of rentals. The City's current stormwater manual, currently being revised, includes the following generic list of "hot spots". This list will be used as a guide in the specific priority area designations prepared for Berea. City public works and codes enforcement staff will be involved in the prioritization, adding their significant local knowledge to the process.

    - Commercial:
        - animal care services
        - building materials
        - commercial vehicle wash facilities
        - convenience stores
        - laundries and dry cleaners
        - lawn care companies
        - automotive fueling stations
        - nurseries and garden centers
        - petroleum wholesalers
        - restaurants
        - outdoor materials storage areas
        - shopping centers
        - new/used car sales
        - hotel/motels
        - vehicle maintenance and repair
    - Industrial:
        - Industrial facilities
        - recycling centers and scrap yards
        - warehouses
    - Institutional:
        - cemeteries
        - churches
        - colleges
        - office parks
        - hospitals
        - schools
        - golf courses
    - Municipal:
        - composting facilities
        - fleet storage and school bus depots
        - landfills/solid waste facilities
        - local streets and storm drains
        - pesticide use in rights-of-way
        - public works yards
        - water and wastewater treatment plants
    - Transport-related:
        - car lots

- railroad stations and associated maintenance facilities
- roadway maintenance facilities
- trucking companies and distribution centers
- large parking lots

B. Procedures for Field Assessment Activities – The City will follow the procedures described below to perform routine field investigations and search for evidence of illicit discharges:

1. Perform dry-weather screening of at least 20 percent of major outfalls per year, so that all major outfalls are inspected within a 5-year period. High priority areas and/or outfalls that showed previous evidence of non-stormwater discharges may be candidates for more frequent inspections.
2. Sub watersheds on the stormwater system map will be color-coded to indicate outfalls that are to be inspected each calendar year.
3. A standardized inspection form like the one attached to this document will be used for the routine inspections.
4. Inspections shall be visual and indicators of pollutants such as the following will be noted: odor, oil sheen, discoloration, and a high degree of siltation or aquatic plant growth. The City will modify the inspection protocols from time to time to increase their effectiveness.
5. If apparent pollutants are present during the inspections, the procedures described below in sections D through G will be followed.
6. Assessment tracking will be done with a GIS-based system for easy access to the compiled data.
7. Through a partnership with the Kentucky Watershed Watch, annual sampling will occur at various sites throughout the City, as assigned by this organization, to monitor water quality. If testing uncovers non-stormwater discharges, refer to section G for the source removal procedure.

C. Protocols for Public Reporting of Spills / Discharges – To date Berea has encouraged its citizens to report suspected illicit discharges with an online Stormwater Complaint Form via OpenGov. This form can be found at bereaky.gov/gis. For the public reporting process to be effective the City will complete the following in this permit term:

1. Publicize the procedure and encourage reporting as part of their MCM 1 (public education) and MCM 2 (public involvement) efforts.
2. Maintain and update the Stormwater Complaint Form as appropriate.
3. Update internal policies and educate City staff on illicit discharge reporting, as many public works and public utilities are near Stormwater facilities during their routine workdays.
4. Coordinate with Berea College staff and students for volunteer efforts in water quality investigations.

D. Report Investigation Procedures – Once suspected illicit discharges are brought to the attention of City staff, either through their routine field assessments or from reports, the process described below will be followed to investigate the reports:

1. Reports go to the City of Berea Codes and Planning Department (contact information is listed on the cover page).
2. Each report will be investigated within 24 hours or the next business day.
3. Urgent / emergency issues that may be immediate threats to the public or aquatic environment will be reported to one or more of the following:
   i. 911
   ii. Berea Fire Department
   iii. Madison County Emergency Management Agency- EMA/CSEPP at (859) 624-4787
   iv. KY DEP / ERT- Environmental Response Team at http://dep.ky.gov/Pages/ERT.aspx, (800) 928-2380 or (502) 564-2380
   v. KY EM- Emergency Management (HAZMAT Spills) at https://kyem.ky.gov/Preparedness/Pages/HazardousMaterials.aspx, (800) 255-2587 (Duty Officer, KY State EOC)
   vi. EPA NRC- National Response Center at https://www.epa.gov/pesticide-incidents/how-report-spills-and-environmental-violations#report, (800) 424-8802
4. The source of the suspected pollutant discharge will be traced to its source using the procedures listed in (F) below.
5. The party responsible for the illicit discharge will be identified.
6. Non-stormwater discharges are prohibited by Ordinance 24-14, and City staff will classify the violating discharge as a code violation or criminal activity.

E. Timeframes for Investigation and Removal of Illicit Discharge:

1. Investigate reports within one business day.
2. Report to Public Works Director and Codes Administrator by the following business day.
3. Report to the City Administrator if the illicit discharge is considered serious.
4. Develop a source removal / enforcement plan within one week of the initial report.
5. Timeframe for the removal of the illicit discharge depends on the results of E(4).
6. Removal timeframe will vary from one day for a simple removal or in response to a discharge considered to be an emergency, to 1 month for discharges considered to be less threatening to the environment and with a more challenging coordination required with the responsible party.

F. Illicit Discharge Tracing Procedure – Suspected illicit discharges will be traced to their sources by City staff following the process described below:

1. City staff will conduct an Initial site investigation to determine if pollutant source is readily apparent.
2. If the source is not obvious upon initial inspection the staff will review the drainage system mapping and plan their field investigations.
3. Visual investigations will proceed upstream from the identified discharge to each significant drainage system junction to identify the reach where the discharge apparently enters the system.
4. Staff will visually inspect each structure in the identified reach, from downstream to upstream, to determine the specific connection point if possible.
5. Dye testing may be necessary if the specific pollutant source in not apparent.
6. Collection of water samples may be necessary to further identify pollutant and/or responsible party.
7. All sample collections will be transported to Venture Laboratories in Lexington, KY to test for applicable contaminations.
8. City staff will document the tracing procedure, and note any lessons learned that may improve the process.

G. Source Removal Procedure – The City has a well-defined enforcement process in their stormwater ordinance, and the relevant sections of that ordinance are copied below. The following is a summary of the steps to be taken by the City to remove illicit discharges from their system.

1. Internal notifications will be made to Public Works, the Codes Department, and City Administrator of the type and severity of the discharge along with the apparent responsible party.
2. The City will implement the removal / enforcement plan described in E(4) above.
3. Verbal and written notice will be given to the responsible party with removal requirements and required timeframe.
4. Follow-up inspections, NOVs, and enforcement will be in accordance with applicable sections of the City's Stormwater Ordinance (sections 34.110 and 34.400 through 34.407).
5.

H. IDDE Program Evaluation Procedures – City staff will conduct the following procedure to evaluate the IDDE program and track all IDDE-related activities:

1. Track the numbers and outcomes of illicit discharges detected through routine City inspections and through reports from the public. Outcomes will consist of classifications of the discharges, responsible parties, actions taken to remove the discharges, and effectiveness of the removals.
2. Track the routine inspections to confirm that all major outfalls are inspected in the required timeframe.
3. Track public comments and feedback on the process of reporting and correcting illicit discharges.

4. Provide feedback to members of the public and City staff who report suspected illicit discharges.
5. Make updates on the IDDE program an agenda item on staff meetings on a minimum of a monthly basis.
6. Create a website link to an IDDE program summary, with success stories, thanking the public for their assistance.
7. Provide annual reports to the Council (in addition to KDOW).
8. Evaluate the IDDE program on an annual basis and incorporate improvements as needed.

Attachments

- Field inspection form

OUTFALL INSPECTION

OUTFALL ID							
Control Type	Unknown	Structural	Non-Structural				
Description	Arched	Box culvert	Circular	Ditch	Eliptical	Weir	
Material	Aluminum	CMP	Concrete	RCP	Steel	Earthen	
Priority Status	Low	Medium	High	NA			
Drainage Class	LDR	HDR	LC	HC	LI	HI	
Diameter	_____	in / ft					
Width	_____	**Height**	_____				
Stenciled	Yes / No						
FIELD INSPECTION							
Primary Inspector							
Secondary Inspector							
Date	_____						
Time	_____						
Inspection Type	Initial	Return	Dry Weather Screening				
Time Since Last Precipitation:		**hours**	**Quantity:**		**in**	**Type:** Rain / Snow	
Condition Assessment							
Overall	Excellent	Good	Fair	Poor	NA		
Flow	Open	Plugged	Inhibited	NA			
Structural	Normal	Cracking	Corrosion				
Hydrologic Function	Normal	Excessive	Indeterminent	NA			
Water Level	Dry	Low	Normal	High	Very High	NA	
Vegetation Present	Yes / No						
Debris Present	Yes / No	Est Vol	_____	pick up / dump truck loads			
NOTES							
Flow Observed	Yes / No						
Color	Clear	Green	Brown	Orange	Gray	Red	Other
Odor	Chlorine	Fuel/Oil	Rancid/Sour	Sewage	Rotten eggs / sulpher	Other	NA
Stains	Oily	Flow Line	Paint	Oyher			
Biological	algae						
Miscellaneaous							
Floatables	None	Oils	Sheen	Garbage/ Trash	Sewage	Suds	Other
Sedimentation	None	1 - 3"	3 - 6"	6 - 12"			
Turbidity	Clear	Slight Cloudiness	Cloudy	Opaque	Suspended Solids	NA	
Inspection Result	Pass	Fail					
Schedule Re-Inspection	2015 Passed	2012 Damaged OF	2011 IDD detected				

CMP Corregated Metal Pipe
RCP Reinforced Concrete Pipe
LDR Low Density Residential
HDR High Density Residential
LC Light Commercial
HC High Commercial
LI Light Industrial
HI High Industrial