

City of Grand Rapids

**NPDES Municipal Separate Storm
Sewer System (MS4)
Illicit Discharge Elimination Plan**

**Prepared for:
The Lower Grand River Watershed**

**August 1, 2013
Project Nos. G120878**

fTC&h

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engineers • scientists • architects • constructors

**CITY OF GRAND RAPIDS
KENT COUNTY, MICHIGAN**

ILLCIT DISCHARGE ELIMINATION PLAN

**PREPARED FOR:
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LIST OF ABBREVIATIONS/ACRONYMS

BMP	Best Management Practice
City	City of Grand Rapids
GVMC	Grand Valley Metropolitan Council
IDEP	Illicit Discharge Elimination Plan
KCDC	Kent County Drain Commissioner
KCRC	Kent County Road Commission
LGRW	Lower Grand River Watershed
MDEQ	Michigan Department of Environmental Quality
MS4	Municipal Separate Storm Sewer Systems
OSDS	Onsite Sewage Disposal Systems
PEAS	Pollution Emergency Alert System
PEP	Public Education Plan
SSOs	Sanitary Sewer Overflows
SWPPI	Stormwater Pollution Prevention Initiative

1.0 INTRODUCTION

This Illicit Discharge Elimination Plan (IDEP) has been prepared in accordance with the requirements of the General Permit Application for Storm Water Discharges from Municipal Separate Storm Sewer Systems (MS4) subject to watershed plan requirements. The IDEP is intended to prohibit and effectively eliminate illicit discharges to the MS4.

The IDEP is being implemented by the City of Grand Rapids (City) under a cooperative program administered by the Grand Valley Metropolitan Council (GVMC) and involving the county agencies and other municipal units participating in the Watershed Approach.

The IDEP includes the following section headings:

- IDEP goals
- Legal authority
- Outfall and discharge point maps and lists
- Identification and elimination of existing illicit discharges
 - Locating problem areas
 - Finding the source of illicit discharges
 - Removing/correcting illicit connections
- Minimizing seepage from septic systems and sanitary sewers
- Spill response procedures
- Preventive measures
- Documentation and reporting

2.0 IDEP GOALS

- Find, prioritize, and eliminate illicit discharges and illicit connections identified during dry-weather screening activities.
- Minimize infiltration of seepage from sanitary sewers and onsite sewage disposal systems (OSDS) into the MS4.
- Establish the legal authority for the community to eliminate illicit discharges found entering the MS4.
- Maintain a map of the MS4, point sources, and stormwater outfalls.
- Establish a system to document and report information regarding the IDEP including complaints, outfall screening, and illicit connections found and removed.
- Determine a method to evaluate the effectiveness of the illicit discharge elimination activities based on the watershed goals.

3.0 LEGAL AUTHORITY - IDEP ORDINANCES

Local ordinances, the Michigan Plumbing Code of 2000, the Michigan Drain Code of 1956, Michigan Act 451, and the Federal Clean Water Act provide the basic legal tools to implement the IDEP. Local ordinances effectively prohibit illicit connections and discharges; allow surveillance, monitoring, and inspections when needed; and provide enforcement authority and penalties.

An ordinance (or other regulatory mechanism where an ordinance is not feasible or appropriate) to effectively prohibit illicit discharges into the MS4 has been adopted by the following participating communities in the Lower Grand River Watershed (LGRW).

Participating Communities with an IDEP Ordinance

Community	Illicit Discharge and Connection Ordinance Adoption Date
Allendale Charter Township	May 10, 2004
Cascade Charter Township	June 23, 2004
East Grand Rapids, City of	September 19, 2005
Ferrysburg, City of	September 7, 2004
Georgetown Charter Township	August 12, 2002
Grand Haven, City of	February 5, 2007
Grand Rapids Charter Township	January 6, 2004
Grand Rapids, City of	July 2001
Grandville, City of	September 26, 2005
Hudsonville, City of	December 14, 2004
Kentwood, City of	October 24, 2004
Kent County Administration and Drain Commissioner	Regulatory mechanism in place
Kent County Road Commission	Regulatory mechanism in place
Plainfield Charter Township	November 6, 2000
Rockford, City of	August 8, 2005
Sparta, Village of	September 13, 2004
Spring Lake, Village of	January 16, 2006
Walker, City of	March 28, 2003
Wyoming, City of	October 3, 2005

The City's ordinance:

- Regulates the contribution of pollutants to the City's MS4.
- Prohibits illicit discharges, including the direct dumping or disposal of materials, into the City's MS4.
- Establishes the authority to investigate, inspect, and monitor suspected illicit discharges into the City's MS4.
- Requires elimination of illicit discharges and connections into the City's MS4.

The Kent County Road Commission (KCRC) and the Kent County Drain Commissioner (KCDC) do not have ordinance authority; however, both agencies have regulatory mechanisms to address illicit discharges.

The KCDC has broad authority to control water pollution in county drains provided by the state Drain Code of 1956. The following are pertinent excerpts.

The Michigan Drain Code states:

Sec. 423. (1) A person shall not continue to discharge or permit to be discharged into any county drain or intercounty drain of the state any sewage or waste matter capable of producing in the drain detrimental deposits, objectionable odor nuisance, injury to drainage conduits or structures, or capable of producing such pollution of the waters of the state receiving the flow from the drains as to injure livestock, destroy fish life, or be injurious to public health.

(10) Failure to comply with any of the provisions of this section subjects the offender to the penalties described in section 602.

Sec. 602. If any person shall willfully or maliciously remove any section or grade stake set along the line of any drain, or obstruct or injure any drain, he shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding \$100.00 and the costs of prosecution, or in default of the payment thereof, by imprisonment in the county jail not exceeding 90 days.

The KCRC has limited authority under state law to control water pollution in statutory road right-of-ways. When evidence of an illicit discharge to a KCRC ditch or drain is found, and voluntary correction is not forthcoming, the KCRC will contact the appropriate agency, depending on the nature of the illicit discharge, and work with the KCDC, Kent County Health Department, local unit of government, local policing authority and/or the Michigan Department of Environmental Quality (MDEQ) to require elimination. The MDEQ has broad authority to control pollution, either directly or indirectly, to waters of the state provided by Act 451 of 1994.

A summary of indicators typically used to detect certain illicit discharges is included in Appendix 1.

4.0 **OUTFALL AND DISCHARGE POINT MAPS AND LISTS**

The map and list of outfalls and discharge points are kept updated, showing the location of all outfalls and discharge points the City owns and the names and locations of all surface waters of the state that receive stormwater runoff from the City's MS4. The list includes a discrete identification number, description of the location of the outfall or discharge point, the name of the receiving water or other owner of MS4, the latitude and longitude, and the prioritization given to that point for screening purposes. Newly discovered outfalls and discharge points will be identified in the Progress Report.

The map is kept on GIS at the City's offices and is available for review upon request. A copy of the current list of outfalls and discharge points is included in Appendix 2.

5.0 TRAINING

City employees, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection, will receive training on recognition and reporting of illicit discharges and connections. This will be accomplished through the IDEP training as identified in Appendix 2D of the Stormwater Pollution Prevention Initiative (SWPPI). Examples of training mechanisms identified in the SWPPI include the review of a Water Pollution Report Form with employees for recording and reporting suspected illicit discharges and an article to be distributed to employees (Appendix 3).

Field personnel will be provided additional training prior to conducting Dry-Weather Screening. Training will include health and safety, documentation and reporting procedures, and visual and olfactory outfall screening procedures. This will be accomplished by hands-on training by a professional engineer or other qualified individual for the field personnel by spring 2013. Additional training will be provided for activities associated with sampling, identifying, and eliminating the source of unauthorized discharges and illicit connections. This will be accomplished, where needed, by hands-on training for the field personnel or by training-the-trainer as appropriate.

6.0 IDENTIFICATION AND ELIMINATION OF EXISTING ILLICIT DISCHARGES

The field work to identify and eliminate illicit discharges and illicit connections will be completed in three steps. The initial step involves *Locating Problem Areas* and will focus on dry-weather screening stormwater outfalls for evidence of illicit discharges. The process is illustrated in Figure 1. The second step will be *Finding the Source* of any illicit discharges and will involve tracing illicit discharges through the stormwater drainage system to the source of the discharge or the illicit connection. This process is illustrated in Figure 2. The final step consists of *Removing/Correcting Illicit Connections*, which will require facilities to disconnect illicit connections and may require enforcement pursuant to existing ordinances and follow-up inspections. Information and test results are recorded on a data sheet, included as Figure 3.

6.1 LOCATING PROBLEM AREAS

Locating the presence of unauthorized discharges will be conducted during the permit cycle using the following techniques:

- Priority areas for detecting non-stormwater discharges will be identified. All permitted outfalls and discharge points will be placed into one of the following priority groups.
 - **High Priority** - Previously unsampled outfalls to waters of the state
 - **Medium-High Priority** - Outfalls to waters of the state with TMDLs
 - **Medium Priority** - Outfalls to waters of the state without TMDLs
 - **Medium-Low Priority** - MS4 to MS4 changes in commercial/industrial areas
 - **Low Priority** - MS4 to MS4 changes in residential areas

All High Priority and Medium-High Priority outfalls will receive dry-weather screening during the permit cycle. All others will be investigated upon reports of suspected illicit discharges .

- Preferably, dry-weather screening will not commence until at least 48 hours after any rainfall event, but may commence if less than 0.1 inch of rain occurred during the previous 48 hours. Optionally, the field crew will attempt to identify known legitimate dry-weather discharges prior to conducting the field work. Dry-weather screening of all outfalls and MS4-MS4 discharge points will be completed in accordance with the following, and as illustrated as a flowchart in Figure 1:
 - Locate outfall/discharge point, complete data sheet with site information.
 - If new outfall/discharge point, assign identification number and mark location on map.
 - If flow apparent, test discharge with field kit for temperature, pH, ammonia, and surfactants, collect additional sample if necessary, and record flow information and test results on data sheet. Readily observable sources of flow to the storm sewer will be noted. For example, landscape

irrigation may be misdirected onto impermeable surfaces or irrigation runoff may be entering the drainage system.

- Assign follow-up prioritization
 - Immediate - report to appropriate agency when discharge found, agency to follow up within one week.
 - High - notify stormwater manager, follow up within 30 days.
 - Low - notify stormwater manager, conduct visual observations within 3 months.
 - In follow-up visits, test flow again with field test kits. If test results still indicate follow up necessary, collect additional samples for lab analysis, if necessary, and follow steps in “Finding the Source” section below.
 - If no flow apparent, evaluate the areas for indicators of pollution, i.e. the presence of algae, unusual vegetative growth, staining, bacterial sheens, or debris.
 - If indicators show a sign that pollution may exist, assign follow-up prioritization.
 - Immediate - report to appropriate agency when discharge found, agency to follow up within one week to check for dry-weather flow.
 - High - notify stormwater manager; follow up within 30 days to check for dry-weather flow.
 - Low - notify stormwater manager, conduct visual observations within 3 months for dry-weather flow.
 - In follow-up visits, if flow present, test with field test kits. If test results indicate follow up necessary, collect additional samples for lab analysis, if necessary, and follow steps in “Finding the Source” section below. If no flow is present on immediate or high priority sites, proceed to steps in “Finding the Source” section below.
 - If no dry-weather flow is present and no indication that pollution may exist, close outfall file.
 - If the outfall is submerged or otherwise unsafe to approach, the next available and safe location upstream from the outfall will be screened.
- The results of the Dry-Weather Screening will be ranked according to the guide in Table 1 and then used to locate problem areas and prioritize the locations for finding the source:
 - **Immediate** - If, in the opinion of the field crew, immediate action to address the dry-weather flow is indicated, the field crew will inform the stormwater program manager, or the appropriate agency if health or safety is a concern, record the incident, and ensure that the agency investigates the site within one week. Table 2 is a list of the current stormwater program managers and their contact information.
 - **High** - If flow is present and test results indicate follow up is necessary, but it does not appear to be of immediate concern, the stormwater manager will be notified and follow up will be pursued within 30 days. If flow is again present, field crews will use field test kits to confirm results, and begin conducting dry-weather screening at accessible points upstream of the discharge until a potential source is found.

- **Low** - If flow is present but test results indicate the discharge is most likely exempt, (groundwater for example), the site will be observed within 3 month to determine if conditions have changed and repeat testing is warranted.
- **None** - No follow up is needed.
- A field form will document the results of outfall screening and testing. A copy of the form is included as Figure 3. A separate form will be utilized for each visit.
- Any new or additional stormwater outfalls or discharge points will be reported in the next Progress Report.
- An illicit discharge reporting process (telephone, email, or other method) has been implemented. A system to log reports, assign them for follow-up, and document results of investigations is included in the process. Experience has shown that the most reliable reports come from municipal personnel; however, this reporting process has been coordinated with the Public Education Plan (PEP) in order to encourage the public to observe and notify county or local governmental units when illegal dumping or illicit discharges are suspected. The Community Reporting Forms are included in Appendix 3.
- The City's schedule for completing the dry-weather screening is consistent with the screening priority identification of their outfalls and discharge points as identified in Appendix 2.

6.2 FINDING THE SOURCE

The field investigation necessary to find the source of illicit discharges will be completed based on the results of the efforts in *Locating Problem Areas*. The process is illustrated in a flowchart in Figure 2.

Sites identified during the initial investigation that pose a significant and immediate health or environmental problem (immediate priority) will be brought to the attention of the stormwater program manager (Table 2), at the time the discharge is detected, and the appropriate agency or department; such as the Kent or Ottawa County Health Department, an adjacent community, or the MDEQ. The appropriate agency may provide useful information or assistance for the follow-up investigation within one week. Additional sample collection and laboratory analysis for parameters such as, fluoride, copper, phosphorus, ammonia, nitrite, nitrate, and *E. coli* will be considered, depending on the land use and suspected source of the illicit discharge.

The process for tracing illicit discharges that do not pose a significant and immediate health or environmental problem (high priority) to their source will be based on factors such as whether the area is known to have high bacteria problems or vulnerability to bacterial contamination, significant industrial or commercial development, dense housing without sanitary sewer connections, public notification or complaints, and the sensitivity of the receiving stream.

The exact procedure for tracking the illicit discharge will depend on the particular facts of each incident. Generally, if the discharge can be tracked by direct visual observation, the responsible party will be contacted and required to eliminate the discharge. If the source is not obvious, then manhole to manhole observations will be made to identify the source until the responsible party is identified and contacted.

If the source is still not identified through upstream investigations, more sophisticated means will be utilized such as:

- Televising the storm sewers or dye testing premises in the vicinity of a suspected illicit connection.
- Investigation of permissible point sources located upstream of outfalls with documented dry-weather flow.
- Investigation of complaints, reports, or notification of suspected illicit discharges.
- Distribution of letters to residents and businesses alerting them to the problem that is under investigation and soliciting their assistance in finding the source of an illicit discharge.
- A building-by-building evaluation where a potential illicit connection has been isolated to a small area.

If a low priority outfall was found to have similar test results in 3 months, the stormwater program manager will follow the steps outlined above to find the source and determine if the source of flow is exempt or requires the responsible party to be notified and the discharge eliminated.

If the source of an illicit discharge is traced to an MS4 owned by another permittee, the upstream stormwater program manager will be notified within one week of detection unless the severity of the discharge warrants immediate action. The stormwater program managers of all participating communities of the LGRW that own discharge points entering another MS4 have agreed to coordinate tracking and eliminating illicit discharges in these situations. The agreement is included as Appendix 4. Notification will consist of a phone call or email to the upstream MS4 stormwater program manager. The notification will include identifying the date and location where the suspected illicit discharge was detected and any other information about the discharge that will assist with the identification of its source. The notification will be recorded and supplemented by transmittal of the IDEP Dry-Weather Screening Data Sheet. The upstream MS4 stormwater program manager will then process the following steps outlined above.

The continuous communication between the City's stormwater program manager, the field crew, and other agencies during the investigation will ensure appropriate and timely actions are taken to find the source of an illicit discharge.

6.3 REMOVING/CORRECTING ILLICIT DISCHARGES AND CONNECTIONS

Those responsible for illicit connections will be notified to correct the problem. The property owner will be required to implement appropriate best management practices (BMPs) to eliminate the potential for illicit discharges, according to the City's ordinance or regulatory mechanism. A follow-up inspection will be conducted to ensure the correction is satisfactorily completed. Persons responsible for illicit discharges,

including spill or dumping incidents, will be investigated and required to pursue reasonable clean-up. Where appropriate, they will be required to demonstrate taking measures to ensure that similar incidents will not occur. All illicit discharges should be eliminated as soon as practical taking into consideration the pollution potential of the discharge, the cost of elimination, and the measures needed to eliminate the discharge. Appropriate fines, penalties, and litigation will be considered.

7.0 MINIMIZING SEEPAGE FROM SEPTIC SYSTEMS AND SANITARY SEWERS

The City will coordinate its IDEP with the local health department to assist in mitigating problems with failing OSDS. An OSDS found during the implementation of the IDEP to be infiltrating into a MS4 will be referred to the local health department.

A formal complaint is recorded when the local health department is informed that a septic system is in a state of failure. The field sanitarian responsible for that area visits the site to verify the condition of the septic system. The homeowner is ordered to pump the septic tank, apply for a septic permit, and correct the situation in a timely manner if a public health hazard is determined to exist. Failure to comply with an order from the local health department can result in monetary penalties and/or condemnation of the dwelling as unfit for human habitation. The property owner will be encouraged to connect to the sanitary sewer where feasible. If sanitary sewers are not available, short- and long-term solutions for sewage disposal will be determined.

The City will continue to conduct a preventative maintenance program on its wastewater collection and stormwater systems according to their SWPPIs. The maintenance may involve routine cleaning and/or television inspections that provide good assessments of pipe conditions and locates sites needing repairs. The City will correct any sanitary system deficiencies identified in order to minimize exfiltration and seepage of sewage into the groundwater or stormwater drainage system. The potential for seepage from sanitary sewers into the stormwater drainage system will be investigated in the process of *Finding the Source* of illicit discharges. Sanitary sewer overflows (SSOs) or cross connections to a storm sewer will be corrected as soon as possible or in accordance with a state compliance action.

8.0 SPILL RESPONSE PROCEDURES

Reports by the public or City personnel of spills or suspicious discharges will be pursued by trained individuals. Persons responsible for illicit discharges, including spill or dumping incidents, will be investigated and compelled to pursue reasonable clean-up. Where appropriate, they will be required to demonstrate taking measures to ensure similar incidents will not occur. Appropriate fines, penalties, and litigation will be considered.

If a spill or suspicious discharge is found or reported, the stormwater program manager will be notified and initial information will be gathered. Records will be maintained regarding the incident from the first report to resolution. The Community Reporting Form is included in Appendix 3. Based on the initial information the stormwater coordinator will assess the severity of the situation. All reports will be considered an emergency until it is determined to be a non-emergency. Therefore, the Emergency Procedure will be implemented until the stormwater program manager determines that the incident is a non-emergency, at which point the Non-Emergency Procedure will be implemented.

The MDEQ supports the appropriate participation of its employees in emergency response activities for the purpose of protecting public health and the environment. In general, the MDEQ employees do not serve as "first responder" personnel. Rather, the MDEQ staff serve as technical consultants to, and coordinate their activity with, an on-scene incident commander, usually the local fire chief and/or a responsible party. Staff may serve as technical consultants either at the site of the emergency or by telephone or other means of communication.

Emergency Procedure

- 1) Is public safety at immediate risk? If yes, notify law enforcement and report to National Response Center.
- 2) Notify and solicit aid from other nearby or affected agencies, e.g. County Drain Commissioner and Road Commission. Engage Environmental Response Contractor, if needed.
- 3) If caused by Municipal Operations, report to the MDEQ District Office or Pollution Emergency Alert System (PEAS) if afterhours. If it is a Part 5 Rules material (oil causing visible sheen or >50 pounds of salt or listed pollutants over certain amounts), also report to 9-1-1.
- 4) If consistent with personnel safety, attempt to track the spill to its source. Gather more detailed and accurate information. Engage the responsible party. Attempt to persuade responsible party to take primary responsibility for preventing further damage and to initiate clean-up.
- 5) Attempt to stop the discharge through cooperation with responsible party or by utilizing internal resources or environmental response contractor.
- 6) Attempt to block the flow of pollutants to prevent further damage and to facilitate capture of spilled material.
- 7) Consider environmental monitoring to measure damage.

- 8) Clean up spilled material. Dispose as hazardous waste or liquid industrial waste.
- 9) Prepare written report to the MDEQ District Office within 10 days. Send a copy to the local health department.
- 10) Consider requiring the responsible party to implement procedures or to install facilities to ensure the incident does not occur again.
- 11) Consider civil and/or criminal actions.

Important Phone Numbers

MDEQ Grand Rapids District Office - (616) 356-0500
 MDEQ PEAS 1-800-292-4706 (calls from out-of-state 1-800-373-7660)
 National Response Center - 1-800-424-8802 or www.nrc.uscg.mil/nrchp.html
 Kent County Drain Commissioner - (616) 336-3688
 Ottawa County Drain Commissioner - (616) 994-4530

Potential Environmental Response Contractors

(Inclusion here does not imply any approval or any endorsement or qualifications; contacts are provided for convenience in an emergency only. Communities are encouraged to select a contractor before an emergency situation occurs.)

Young's Environmental Cleanup, Inc. Grand Rapids Area Office 4990 West River Drive, NE Comstock Park, MI 49321 Phone: (616) 785-3374 Fax: (616) 785-3401 24 hr: 1-800-4Youngs (496-8647) http://www.youngsenvironmental.com/	Plummer's Environmental Services, Inc. 10075 Sedroc Industrial Drive Byron Center, MI 49315 Toll Free: 1-800-878-3996 Office: 1-616-877-3930 Fax: 1-616-877-3937 www.plummersenvironmental.com/index.aspx
K&D Industrial Services, Inc. Corporate Offices Romulus, MI 48174 (734) 722-8922 Fax: (734) 729-8220 Grand Rapids Branch 2629 Prairie Road Wyoming, MI 49519 (616) 784-8900 Fax: (616) 534-5782 http://kdigroup.com/	Valley City Environmental Service 1040 Market Avenue, SW Grand Rapids, MI (616) 235-1500 Fax (616) 235-9507 24 hr Emergency Spill Response Numbers Please call 800.678.7035 / 616.235.1500 http://www.valleycities.com/

Non-Emergency Procedure

- 1) Determine a level of urgency based on the nature of the spill and likely impact on health, safety, and environment.
- 2) If consistent with personnel safety, attempt to track the spill to its source. Gather more detailed and accurate information. Engage the responsible party. Attempt to persuade responsible party to take primary responsibility for preventing further damage and to initiate clean-up.
- 3) Report to the MDEQ District Office, or PEAS if after business hours.
- 4) Determine if internal resources are sufficient or if an Environmental Response Contractor is needed.
- 5) Attempt to stop the discharge through cooperation with responsible party or by utilizing internal resources or environmental response contractor.
- 6) Attempt to block the flow of pollutants to prevent further damage and to facilitate capture.
- 7) Clean up spilled material. Dispose as hazardous waste or liquid industrial waste.
- 8) Prepare written report to the MDEQ District Office within 10 days.
- 9) Consider requiring the responsible party to implement procedures or to install facilities to ensure the incident does not occur again.

9.0 DOCUMENTATION AND REPORTING

Progress Reports will be submitted to the MDEQ on the implementation status of the IDEP. The report will cover all of the decisions, actions, and results performed as part of the IDEP during the previous reporting period. The Progress Report will include:

- Documentation of actions taken to eliminate illicit discharges.
- For significant illicit discharges, a list of pollutants of concern, the estimated volume and load discharged, and the locations of the discharge into both the separate storm sewer system and the receiving water.
- The status of the program to minimize seepage from sanitary sewers and onsite sewage disposal systems into the separate storm sewer system.
- Updated outfall mapping.
- A schedule for elimination of illicit connections that have been identified, but have yet to be eliminated.
- An evaluation of the effectiveness of the IDEP program. The evaluation will include:
 - An evaluation of the effectiveness of the detection methods used based on the number of illicit discharges detected.
 - An estimated quantification of the number of discharges prevented or eliminated.
 - An estimated quantification of the volume of illicit flow eliminated.
 - An assessment of the effectiveness of the program overall.

The goal of the program is to have a drainage system with no illicit discharges.

Figures

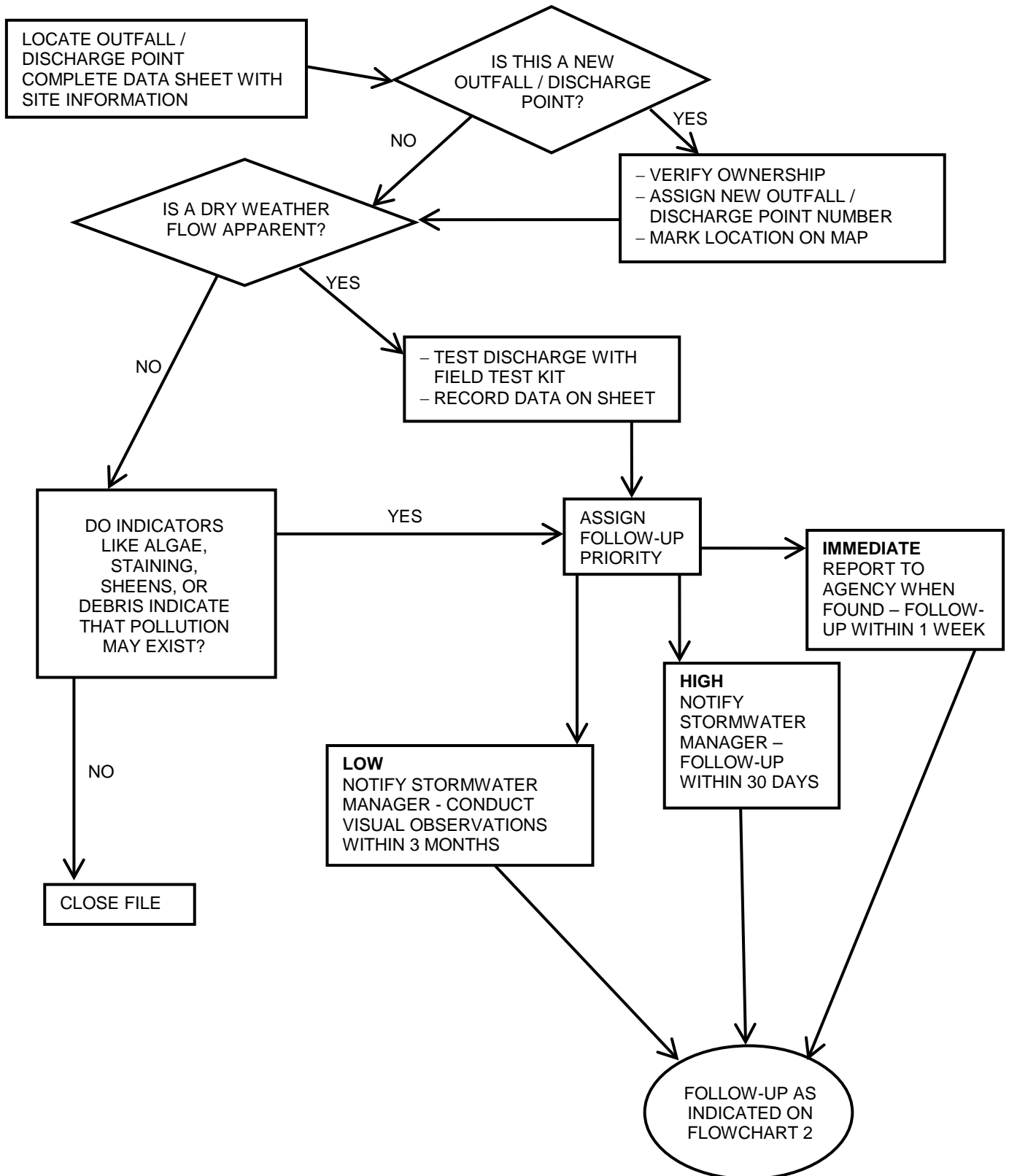


FIGURE 1: LOCATING PROBLEM AREAS

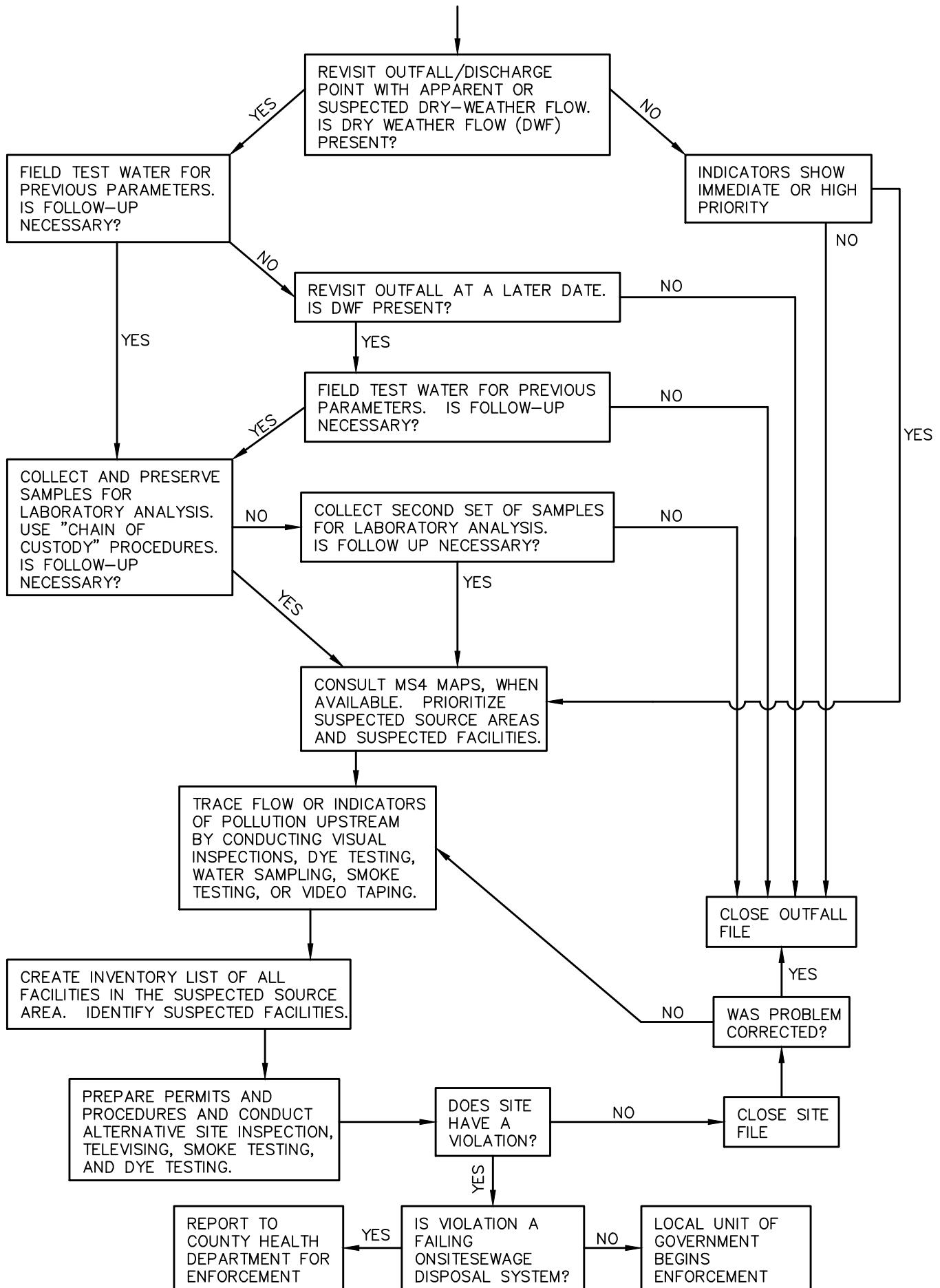


FIGURE 2: FINDING THE SOURCE

IDEP DRY WEATHER SCREENING DATA SHEET



GENERAL

Outfall ID

Date _____ Time _____ Air Temp _____ °F Receiving Water _____
 Crew Name _____ Date of Last Rain _____ Clear/Sunny
 Photograph # _____ Partly Cloudy
 GPS Coordinates _____ °N _____ °W (decimal degrees) Overcast

TYPE OF OUTFALL

Material & Size

(in) Concrete (in) PVC
 (in) RCP (in) Metal
 (in) CMP (in) Clay
 (in) CPP (ft) Ditch
 (in) Other-describe below _____

Condition

Like New
 Good
 Broken
 Impaired

Flow Observations

(in) Depth of flow in outfall
 Standing water in pipe, no flow
 Trace, insufficient to quantify
 Dry, no water present

If evidence of Illicit Connection, describe below _____

FLOW OBSERVATIONS (skip if no water present in outfall)

Odor None Musty Sewage Rotten Egg Gasoline Oil Other**
Color Clear Light Brown Dark Brown Green Grey Black Other**
Turbidity Clear Slightly Moderate Highly Opaque Other**
Floatables None Trash Sewage Foam Oil Sheen Other**

OUTFALL AREA OBSERVATIONS

Deposits/Stains None Mineral Sediment Oily Grease Other**
Vegetation None Normal Excessive Algae Other**
Debris None Tissue Other**
 **If Other, include comments _____

OTHER OBSERVATIONS NEAR OUTFALL

Pollution Source Debris/Trash Construction Runoff Road Crossing
 Septic System Streambank Erosion Gully Erosion
 Upland Source Tile Outlet Other**
Stream Bottom Cobble/Gravel Sand (coarse) Muck/Silt (fine)
 Hardpan (solid clay) Artificial Other**
 **If Other, include comments _____

FIELD TEST KIT ANALYSES

Parameter	Value	Units
pH	_____	SU
Surfactants	_____	H, M, L, or None
Ammonia	_____	mg/L
Temperature	_____	°F

OTHER ANALYSES

Parameter	Value	Units	Parameter	Value	Units
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Follow Up None High Priority Other - explain _____
 Low Priority Immediate _____ Additional information on attached sheet

Comments

Check if more comments are on the back

Figure 2

Tables

Table 1 - Field Testing Results Evaluation Guidelines

Parameter	Test Range	None	Low	High	Immediate
Temperature °F	32-100	44 - 75	40 - 43 or 76 - 85	32 - 39 or 86 - 99	<32 or >100
pH	0-14	6 - 9.5	5 - 6 or 9.5 - 10.5	4 - 5 or 10.5 - 11	<4 or >11
Surfactants	detect presence	none	low or medium	high	
Ammonia ppm	0-6	0 - 1	1 - 3	3 - 6	>6

Table 2 – Storm Water Program Managers

Permittee	Storm Water Program Manager	Telephone Email
Allendale Charter Township	Mr. Jerry Alkema, Township Supervisor	(616) 895-6295 ext. 12 jerryalkema@allendale-twp.org
Cascade Charter Township	Mr. Steve Peterson Township Planner	(616) 949-1500 speterson@cascadetwp.com
East Grand Rapids, City of	Mr. Ken Feldt, Public Works Director	(616) 940-4817 kfeldt@eastgr.org
Ferrysburg, City of	Mr. Craig Bessinger, City Manager	(616) 842-5803 cbessinger@ferrysburg.org
Forest Hills Public Schools	Mr. Ron Boezwinkle, Director of Operations	(616) 493.8780 rboezwin@fhps.net
Georgetown Charter Township	Mr. Mike Hatkowski, Operations Coordinator	(616) 662-2800 mhatkowski@georgetown-mi.gov
Grand Haven, City of	Mr. William Hunter, Director of Public Works	(616) 855-5809 bhunter@grandhaven.org
Grand Rapids Charter Township	Mr. RJ Versluys Deputy Chief	(616) 361-7391 bversluys@grandrapidstwp.org
Grand Rapids, City of	Ms. Carrie Rivette Project Engineer	(616) 456-3057 crivette@grcity.us
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Hudsonville, City of	Mr. Dutch Besteman, Public Works Superintendent	(616) 669-0200 ext. 1424 dbestema@hudsonville.org
Kent County Drain Commissioner and Admin.	Mr. Douglas Spote, Deputy Drain Commissioner	(616) 336-3688 Doug.Spote@Kentcountymi.gov
Kent County Road Commission	Mr. Wayne Harrall, Director of Engineering	(616) 242-6914 wharrall@kentcountyroads.net
Kentwood, City of	Mr. Ronald Woods, Director of Public Works	(616) 554-0824 woods@ci.kentwood.mi.us
Plainfield Charter Township	Mr. Rick Solle, Director of Public Services	(616) 363-9660 soller@plainfieldchartertp.org
Rockford, City of	Mr. Jamie Davies, Public Services Director	616-893-0938 jdavies@rockford.mi.us
Sparta, Village of	Mr. Miles Ring, DPW Superintendent	(616) 262-7901 dpwdept@spartami.org
Spring Lake, Village of	Ms. Chris Burns Village Manager	(616) 842-1393 ext. 1002 christine@springlakevillage.org
Walker, City of	Ms. Bonnie Broadwater, Engineering Programs Coordinator	(616) 791-6327 bbroadwa@ci.walker.mi.us
Wyoming, City of	Mr. Aaron Vis, Environmental Services Inspector	(616) 261-3593 avis@wyomingmi.gov

Appendix 1

Appendix 1

Excerpts from

Illicit Discharge Detection and Elimination - A Guidance Manual for Program Development and Technical Assessments

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Ammonia

Ammonia is a good indicator of sewage, since its concentration is much higher there than in groundwater or tap water. High ammonia concentrations may also indicate liquid wastes from some industrial sites. Ammonia is relatively simple and safe to analyze. Some challenges include the tendency for ammonia to volatilize (i.e., turn into a gas and become non-conservative) and its potential generation from non-human sources, such as pets or wildlife.

Boron

Boron is an element present in the compound borax, which is often found in detergent and soap formulations. Consequently, boron is a good potential indicator for both laundry wash water and sewage. Preliminary research from Alabama supports this contention, particularly when it is combined with other detergent indicators, such as surfactants (Pitt, IDDE Project Support Material). Boron may not be a useful indicator everywhere in the country since it may be found at elevated levels in groundwater in some regions and is a common ingredient in water softeners products. Program managers should collect data on boron concentrations in local tap water and groundwater sources to confirm whether it will be an effective indicator of illicit discharges.

Chlorine

Chlorine is used throughout the country to disinfect tap water, except where private wells provide the water supply. Chlorine concentrations in tap water tend to be significantly higher than most other discharge types. Unfortunately, chlorine is extremely volatile, and even moderate levels of organic materials can cause chlorine levels to drop below detection levels. Because chlorine is non-conservative, it is not a reliable indicator, although if very high chlorine levels are measured, it is a strong indication of a water line break, swimming pool discharge, or industrial discharge from a chlorine bleaching process.

Color

Color is a numeric computation of the color observed in a water quality sample, as measured in cobalt-platinum units (APHA, 1998). Both industrial liquid wastes and sewage tend to have elevated color values. Unfortunately, some "clean" flow types can also have high color values. Field testing by Pitt (IDDE Project Support Material) found high color values associated for all contaminated flows, but also many uncontaminated flows, which yielded numerous false

positives. Overall, color may be a good first screen for problem outfalls, but needs to be supplemented by other indicator parameters.

Conductivity

Conductivity, or specific conductance, is a measure of how easily electricity can flow through a water sample. Conductivity is often strongly correlated with the total amount of dissolved material in water, known as Total Dissolved Solids. The utility of conductivity as an indicator depends on whether concentrations are elevated in “natural” or clean waters. In particular, conductivity is a poor indicator of illicit discharge in estuarine waters or in northern regions where deicing salts are used (both have high conductivity readings). Field testing in Alabama suggests that conductivity has limited value to detect sewage or wash water (Pitt, IDDE Project Support Material). Conductivity has some value in detecting industrial discharges that can exhibit extremely high conductivity readings. Conductivity is extremely easy to measure with field probes, so it has the potential to be a useful supplemental indicator in subwatersheds that are dominated by industrial land uses.

Detergents

Most illicit discharges have elevated concentration of detergents. Sewage and washwater discharges contain detergents used to clean clothes or dishes, whereas liquid wastes contain detergents from industrial or commercial cleansers. The nearly universal presence of detergents in illicit discharges, combined with their absence in natural waters or tap water, makes them an excellent indicator. Research has revealed three indicator parameters that measure the level of detergent or its components-- surfactants, fluorescence, and surface tension (Pitt, IDDE Project Support Material). Surfactants have been the most widely applied and transferable of the three indicators. Fluorescence and surface tension show promise, but only limited field testing has been performed on these more experimental parameters. Methods and laboratory protocols for each of the three detergent indicator parameters are reviewed in Appendix F2.

E. coli, Enterococci and Total Coliform

Each of these bacteria is found at very high concentrations in sewage compared to other flow types, and is a good indicator of sewage or septage discharges, unless pet or wildlife sources exist in the subwatershed. Overall, bacteria are good supplemental indicators and can be used to find “problem” streams or outfalls that exceed public health standards. Relatively simple analytical methods are now available to test for bacteria indicators, although they still suffer from two monitoring constraints. The first is the relatively long analysis time (18-24 hours) to get results, and the second is that the waste produced by the tests may be classified as a biohazard and require special disposal techniques.

Fluorescence

Laundry detergents are highly fluorescent because optical brighteners are added to the formula to produce “brighter whites.” Optical brighteners are the reason that white clothes appear to have a bluish color when placed under a fluorescent light. Fluorescence is a very sensitive indicator of the presence of detergents in discharges, using a fluorometer to measure fluorescence at specific wavelengths of light. Since no chemicals are needed for testing, fluorometers have minimal safety and waste disposal concerns. Some technical concerns do limit the utility of fluorescence as an indicator of illicit discharges. The concerns include the presence of fluorescence in non-illicit flow types such as irrigation water, the considerable variation of fluorescence between different detergent brands, and the lack of a readily standard or benchmark concentration for

optical brighteners. For example, Pitt (IDDE Project Support Material) measured fluorescence in mg/L of Tide™ brand detergent, and found the degree of fluorescence varied regionally, temporally, and between specific detergent formulations. Given these current limitations, fluorescence is best combined with other detergent indicators such as surfactants. Appendix F3 should be consulted for more detailed information on analytical methods and experimental field testing using fluorescence as an indicator parameter.

Fluoride

Fluoride is added to drinking water supplies in most communities to improve dental health, and normally found at a concentration of two parts per million in tapwater. Consequently, fluoride is an excellent conservative indicator of tap water discharges or leaks from water supply pipes that end up in the storm drain. Fluoride is obviously not a good indicator in communities that do not fluoridate drinking water, or where individual wells provide drinking water. One key constraint is that the reagent used in the recommended analytical method for fluoride is considered a hazardous waste, and must be disposed of properly.

Hardness

Hardness measures the positive ions dissolved in water and primarily include magnesium and calcium in natural waters, but are sometimes influenced by other metals. Field testing by Pitt (IDDE Project Support Material) suggests that hardness has limited value as an indicator parameter, except when values are extremely high or low (which may signal the presence of some liquid wastes). Hardness may be applicable in communities where hardness levels are elevated in groundwater due to karst or limestone terrain. In these regions, hardness can help distinguish natural groundwater flows present in outfalls from tap water and other flow types.

pH

Most discharge flow types are neutral, having a pH value around 7, although groundwater concentrations can be somewhat variable. pH is a reasonably good indicator for liquid wastes from industries, which can have very high or low pH (ranging from 3 to 12). The pH of residential wash water tends to be rather basic (pH of 8 or 9). The pH of a discharge is very simple to monitor in the field with low cost test strips or probes. Although pH data is often not conclusive by itself, it can identify problem outfalls that merit follow-up investigations using more effective indicators.

Potassium

Potassium is found at relatively high concentrations in sewage, and extremely high concentrations in many industrial process waters. Consequently, potassium can act as a good first screen for industrial wastes, and can also be used in combination with ammonia to distinguish wash waters from sanitary wastes. (See Chapter 12). Simple field probes can detect potassium at relatively high concentrations (5 mg/L), whereas more complex colorimetric tests are needed to detect potassium concentrations lower than 5 mg/L.

Surface Tension

Surfactants remove dirt particles by reducing the surface tension of the bubbles formed in laundry water when it is agitated. Reduced surface tension makes dirt particles less likely to settle on a solid surface (e.g., clothes or dishes) and become suspended instead on the water's surface. The visible manifestation of reduced surface tension is the formation of foam or bubbles on the water surface. Pitt (IDDE Project Support Material) tested a very simple procedure to

measure surface tension that quantifies the formation of foam and bubbles in sample bottles. Initial laboratory tests suggest that surface tension is a good indicator of surfactants, but only when they are present at relatively high concentrations. Section F3 provides a more detailed description of the surface tension measurement procedure.

Surfactants

Surfactants are the active ingredient in most commercial detergents, and are typically measured as Methyl Blue Active Substances (or MBAS). They are a synthetic replacement for soap, which builds up deposits on clothing over time. Since surfactants are not found in nature, but are always present in detergents, they are excellent indicators of sewage and wash waters. The presence of surfactants in cleansers, emulsifiers and lubricants also makes them an excellent indicator of industrial or commercial liquid wastes. In fact, research by Pitt (IDDE Project Support Material) found that detergents were an excellent indicator of “contaminated” discharges in Alabama (i.e., discharges that were not tap water or groundwater). Several analytical methods are available to monitor surfactants. Unfortunately, the reagents used involve toluene, chloroform, or benzene, each of which is considered hazardous waste with a potential human health risk. The most common analysis method uses chloroform as a reagent, and is recommended because it is relatively safer when compared to other reagents.

Turbidity

Turbidity is a quantitative measure of cloudiness in water, and is normally measured with a simple field probe. While turbidity itself cannot always distinguish between contaminated flow types, it is a potentially useful screening indicator to determine if the discharge is contaminated (i.e., not composed of tap water or groundwater).

Table 39: Indicator Parameters Used to Detect Illicit Discharges

Parameter	Discharge Types It Can Detect				Laboratory/Analytical Challenges
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Ammonia	●	⊙	○	⊙	Can change into other nitrogen forms as the flow travels to the outfall
Boron	⊙	⊙	○	N/A	
Chlorine	○	○	○	⊙	High chlorine demand in natural waters limits utility to flows with very high chlorine concentrations
Color	⊙	⊙	○	⊙	
Conductivity	⊙	⊙	○	⊙	Ineffective in saline waters
Detergents – Surfactants	●	●	○	⊙	Reagent is a hazardous waste
<i>E. coli</i> Enterococci Total Coliform	⊙	○	○	○	24-hour wait for results Need to modify standard monitoring protocols to measure high bacteria concentrations
Fluoride*	○	○	●	⊙	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	⊙	⊙	⊙	⊙	
pH	○	⊙	○	⊙	
Potassium	⊙	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	⊙	⊙	○	⊙	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.
 ⊙ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter
 ○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water
 N/A: Data are not available to assess the utility of this parameter for this purpose.
 Data sources: Pitt (this study)
 *Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and washwater.

Appendix 2

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
C1	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12774798.49	543284.2973	MEDIUM LOW
C10	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776865.55	541113.5197	MEDIUM LOW
C11	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776793.01	541068.0269	MEDIUM LOW
C12	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776797.14	541075.2437	MEDIUM LOW
C13	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777309.35	540252.1703	MEDIUM LOW
C14	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777309.35	540252.1703	MEDIUM LOW
C15	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777408.38	540133.8107	MEDIUM LOW
C16	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777429.72	539834.1391	MEDIUM LOW
C17	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777710.36	539701.875	MEDIUM LOW
C18	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	LDR	12777715.57	539700.5107	LOW
C20	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	LDR	12778056.42	539817.3994	LOW
C22	COLDBROOK CREEK	GR to State/KCDC	YES	YES	NO	SD-OS	12778860.37	539858.332	MEDIUM
C23	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-OS	12778945.19	539681.3106	MEDIUM LOW
C26	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12779363.48	539105.3437	LOW
C27	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12779385.95	539093.2181	LOW
C28	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12779387.45	539092.4079	LOW
C29	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12779698.7	538932.9337	LOW
C30	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12779713.81	538925.8341	LOW
C32	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780032.99	538785.5501	LOW
C33	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780032.99	538785.5501	LOW
C34	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780346.06	538679.1798	LOW
C35	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780656.13	538626.8239	LOW
C36	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780682.55	538624.0949	LOW
C37	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12781346.19	538631.5187	MEDIUM LOW
C38	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12781351.5	538631.9899	MEDIUM LOW
C39	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12781735.52	538675.4102	MEDIUM LOW
C40	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12777425.55	539835.9306	MEDIUM LOW
C42	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776694.57	541819.0735	MEDIUM LOW
C43	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12780039.72	538783.5316	LOW
C44	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12775990.4	543043.9609	LOW
C45	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783620.72	534678.5301	LOW
C46	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782504.29	536473.4801	LOW
C47	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12775904.77	543128.5824	MEDIUM LOW
C48	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783170.75	535894.4365	LOW
C49	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	TBA	12782625.83	537486.6493	MEDIUM LOW
C5	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12775501.68	543051.3302	MEDIUM LOW
C51	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782505.75	536753.5745	LOW
C52	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782495.9	535970.1001	LOW
C53	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783295.81	535867.221	LOW

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IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
C54	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	LDR	12778000.3	539703.6794	LOW
C55	COLDBROOK DRAIN SOUTH	GR to KCDC	NO	NO	NO	LDR	12782622.43	536964.35	LOW
C56	COLDBROOK CREEK	GR to State/KCDC	YES	NO	NO	TBA	12782624.84	538520.4117	HIGH
C59	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	MDR	12782649.39	535907.49	LOW
C6	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-IT	12776408.28	542012.0555	MEDIUM LOW
C60	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783651.34	534682.2997	LOW
C61	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12775038.05	543359.0734	MEDIUM LOW
C62	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	MDR	12781090.12	538608.2928	LOW
C63	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783170.75	535894.4365	LOW
C64	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782504.29	536473.4801	LOW
C65	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776853.36	541106.8702	MEDIUM LOW
C66	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783999.95	534679.5684	LOW
C67	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	TBA	12782628.16	538256.7741	MEDIUM LOW
C68	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	TBA	12782623.01	537077.6602	MEDIUM LOW
C69	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12783659.05	534683.5648	LOW
C7	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776442.1	541962.1219	MEDIUM LOW
C70	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-OS	12779069.79	539454.5788	MEDIUM LOW
C71	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782639.47	535908.4552	LOW
C72	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12775073.58	543358.5789	MEDIUM LOW
C73	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	SD-OS	12776864.61	541781.4398	MEDIUM LOW
C74	COLDBROOK SOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12782628.99	537947.8233	LOW
C8	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	LDR	12776759.44	541799.0883	LOW
C9	COLDBROOK CREEK	GR to KCDC	NO	NO	NO	TCC	12776795.22	541072.9107	MEDIUM LOW
CC10	CARRIER CREEK BRANCH	GR to KCDC	NO	NO	NO	MDR	12780077.03	542319.08	LOW
CC11	CARRIER CREEK BRANCH	GR to State/KCDC	YES	NO	NO	MDR	12780077.03	542319.08	HIGH
CC25	CARRIER CREEK BRANCH	GR to State/KCDC	YES	NO	NO	SD-OS	12779111.19	542663.2364	HIGH
CC26	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-NOS	12782700.5	542240.7398	MEDIUM LOW
CC27	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12782679.34	542241.2247	LOW
CC28	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12781826.24	542050.2498	LOW
CC29	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12780510.1	541967.6698	LOW
CC30	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12780948.82	541956.2999	LOW
CC31	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12778052.35	542742.3454	LOW
CC32	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12777428.82	542688.5293	LOW
CC33	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12782266.01	542250.6997	LOW
CC34	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12780510.1	541967.6698	LOW
CC34.1	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12776770.92	542702.4539	LOW
CC35	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12776770.92	542702.4539	LOW
CC36	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12781826.24	542050.2498	LOW
CC37	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12781388.12	542061.2002	LOW

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IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
CC38	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12781388.12	542061.2002	LOW
CC39	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12782266.01	542250.6997	LOW
CC40	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12778052.35	542742.3454	LOW
CC41	HOUSEMAN AVENUE DRAIN	GR to KCDC	NO	NO	NO	LDR	12780981.31	542096.0205	LOW
CC42	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12780948.82	541956.2999	LOW
CC43	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	MDR	12776519.83	542708.453	LOW
CC44	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12777428.82	542688.5293	LOW
CC45	COLDBROOK-CARRIER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-NOS	12782700.5	542240.7398	MEDIUM LOW
CC8	CARRIER CREEK BRANCH	GR to State/KCDC	YES	YES	NO	SD-OS	12778731.99	542643.6244	MEDIUM
CC9	CARRIER CREEK BRANCH	GR to State/KCDC	YES	YES	NO	SD-OS	12778759.73	542648.0751	MEDIUM
CN10	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to State/KCDC	YES	YES	NO	SD-IT	12787286.82	539511.2145	MEDIUM
CN13	WARING DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12788274.36	541017.1969	MEDIUM
CN14	WARING DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12789104.85	541763.2988	MEDIUM
CN24	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12789014.92	539559.6798	MEDIUM
CN25	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to State/KCDC	YES	YES	NO	SD-IT	12789237.68	540053.8839	MEDIUM
CN3	CORDUROY CREEK DRAIN	GR to State/KCDC	YES	NO	NO	SD-IT	12783505.1	538903.1182	HIGH
CN30	WARING DRAIN	GR to State/KCDC	YES	YES	NO	SD-PRD	12788293.69	543405.3599	MEDIUM
CN37	COLDBROOK CREEK NO. 2 DRAIN	GR to State/KCDC	YES	NO	NO	SD-IT	12790460.78	540439.7962	HIGH
CN39	COLDBROOK CREEK	GR to MDOT	NO	NO	NO	LDR	12782242.48	539802.4828	LOW
CN40	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12786800.51	539361.838	MEDIUM LOW
CN41	UNNAMED DRAIN	GR to KCDC	NO	NO	NO	LDR	12791427.49	541377.7053	LOW
CN42	UNNAMED DRAIN	GR to KCDC	NO	NO	NO	LDR	12791707.47	542065.9342	LOW
CN45	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12793731.28	543501.4799	MEDIUM
CN46	COLDBROOK NORTH	GR to State	YES	NO	NO	SD-IT	12785954.38	540515.0282	HIGH
CN47	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12788577.7	540083.3006	MEDIUM LOW
CN49	COLDBROOK CREEK NORTH NO. 2 DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12788572.41	540125.1627	MEDIUM LOW
CN6.1	COLDBROOK CREEK	GR to State/KCDC	YES	YES	NO	SD-IT	12785230.15	539480.1491	MEDIUM
CS20	COLDBROOK SOUTH DRAIN	GR to State/KCDC	YES	YES	NO	SD-IC	12785997	535447.6801	MEDIUM
CS21	COLDBROOK SOUTH DRAIN	GR to State/KCDC	YES	YES	NO	SD-IC	12786847.65	535405.1212	MEDIUM
CS23.1	WATERS DRAIN	GR to KCDC	NO	YES	NO	LDR	12787646	535552.584	LOW
CS23.2	WATERS DRAIN	GR to KCDC	NO	YES	NO	LDR	12787646	535552.584	LOW
CS25	WATERS DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12788312.17	535519.6486	MEDIUM
CS27	WEST LAKE	GR to State	YES	YES	NO	LDR	12792078.23	536072.273	MEDIUM
CS30	HEUKELS DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12793864.27	538084.4002	MEDIUM
CS33	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12790042.21	536678.9135	MEDIUM
CS34	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12790057.24	537013.1896	MEDIUM
CS35	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12789451.98	537339.8681	MEDIUM
CS36	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12789378.77	537348.5041	MEDIUM
CS37	WEST LAKE	GR to State	YES	YES	NO	LDR	12790902.64	537207.8742	MEDIUM

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
CS38	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12795956.53	526439.73	MEDIUM
CS39	WESTBORO LAKE	GR to State	YES	NO	NO	LDR	12790518.24	536508.6128	HIGH
CS39.1	WATERS DRAIN	GR to KCDC	NO	NO	NO	LDR	12789419.07	536718.829	LOW
G1	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12764262.97	530452.3511	MEDIUM-HIGH
G1.1	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12764647.2	530525.3081	MEDIUM-HIGH
G1.3	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12767018.42	530907.6335	MEDIUM-HIGH
G1.4	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12767768.26	531121.7379	MEDIUM-HIGH
G10	GRAND RIVER	GR to State	YES	YES	YES	CC	12773168.26	536048.096	MEDIUM-HIGH
G111	GRAND RIVER	GR to State	YES	YES	YES	CC	12773321.25	536840.6643	MEDIUM-HIGH
G119	GRAND RIVER	GR to State	YES	YES	YES	CC	12773379.98	537452.8913	MEDIUM-HIGH
G12	GRAND RIVER	GR to State	YES	YES	YES	CC	12773352.47	537122.1096	MEDIUM-HIGH
G142	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773666.45	540081.4008	MEDIUM-HIGH
G147	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774107.62	545167.7616	MEDIUM-HIGH
G148	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774105.99	545418.2956	MEDIUM-HIGH
G155	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774147.16	547504.7386	MEDIUM-HIGH
G161	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774536.14	550682.2484	MEDIUM-HIGH
G162	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774533.47	550700.9356	MEDIUM-HIGH
G164	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12775163.29	555046.9856	MEDIUM-HIGH
G165	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12776323.68	555743.8486	MEDIUM-HIGH
G166	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12776520.63	556009.6215	MEDIUM-HIGH
G167	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12776750.81	556339.4647	MEDIUM-HIGH
G168	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12767138.08	531706.691	MEDIUM-HIGH
G17	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12772913.62	537664.0936	MEDIUM-HIGH
G19	GRAND RIVER	GR to State	YES	YES	YES	CC	12773490.72	538496.3792	MEDIUM-HIGH
G2	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12770178.08	532321.6391	MEDIUM-HIGH
G21	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773055.73	538553.6228	MEDIUM-HIGH
G214	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12772909.37	537527.4686	MEDIUM-HIGH
G216	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12772903.24	537467.3206	MEDIUM-HIGH
G22	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773086.57	539602.5825	MEDIUM-HIGH
G224	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773152.03	540533.0042	MEDIUM-HIGH
G23	GRAND RIVER	GR to State	YES	YES	YES	CC	12773573.94	539345.7237	MEDIUM-HIGH
G24	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773611.96	539733.8757	MEDIUM-HIGH
G25	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773115.13	539905.7202	MEDIUM-HIGH
G26	GRAND RIVER	GR to State	YES	YES	YES	CC	12773618.3	539934.4101	MEDIUM-HIGH
G269	GRAND RIVER	GR to State	YES	YES	YES	CC	12772410.45	535651.7394	MEDIUM-HIGH
G27	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773803.29	541395.825	MEDIUM-HIGH
G279	GRAND RIVER	GR to State	YES	NO	YES	SD-OS	12774933.76	541424.1962	HIGH
G279.1	GRAND RIVER	GR to MDOT	NO	NO	YES	SD-OS	12774751.08	535120.2056	MEDIUM LOW
G28	GRAND RIVER	GR to State	YES	YES	YES	TCC	12773338.64	542068.923	MEDIUM-HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
G280	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774791.71	537444.6913	MEDIUM LOW
G281	GRAND RIVER	GR to MDOT	NO	NO	YES	CC	12774751.08	535120.2056	MEDIUM LOW
G282	GRAND RIVER	GR to MDOT	NO	NO	YES	CC	12775104.44	535157.009	MEDIUM LOW
G283	GRAND RIVER	GR to State	YES	YES	YES	LDR	12777346.24	554876.5468	MEDIUM-HIGH
G284	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12773079.74	528881.083	MEDIUM-HIGH
G285	GRAND RIVER	GR to State	YES	YES	YES	LDR	12761679.29	536481.7359	MEDIUM-HIGH
G286	GRAND RIVER	GR to State	YES	YES	YES	LDR	12761706.14	542847.2899	MEDIUM-HIGH
G287	GRAND RIVER	GR to State	YES	NO	YES	SD-IT	12768813.59	531600.6728	HIGH
G289	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773451.08	536782.7732	MEDIUM LOW
G290	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773455.71	536782.3502	MEDIUM LOW
G291	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773587.03	536770.3584	MEDIUM LOW
G292	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773764.45	536754.2899	MEDIUM LOW
G293	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773816.22	536728.9292	MEDIUM LOW
G294	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773856.09	536697.0603	MEDIUM LOW
G295	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773895.48	536665.5824	MEDIUM LOW
G296	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774045.03	536544.5945	MEDIUM LOW
G297	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774158.87	536447.6514	MEDIUM LOW
G298	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774581.41	536742.4453	MEDIUM LOW
G299	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774600.87	536741.8396	MEDIUM LOW
G30	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12773911.09	542120.2199	MEDIUM-HIGH
G300	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774644.43	536740.7102	MEDIUM LOW
G301	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774686.1	536740.2002	MEDIUM LOW
G302	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774708.29	536739.9202	MEDIUM LOW
G303	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774877.71	536736.8773	MEDIUM LOW
G304	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774930.21	536735.8002	MEDIUM LOW
G305	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774989.36	536734.5902	MEDIUM LOW
G306	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12775039.12	536732.265	MEDIUM LOW
G307	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774525.86	536581.7347	MEDIUM LOW
G308	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774544.12	536566.7766	MEDIUM LOW
G309	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774573.56	536542.6612	MEDIUM LOW
G310	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774601.41	536519.8414	MEDIUM LOW
G311	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774616.97	536507.0974	MEDIUM LOW
G312	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774630.18	536496.2794	MEDIUM LOW
G313	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774676.88	536458.0193	MEDIUM LOW
G314	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774681.99	536453.83	MEDIUM LOW
G315	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774794.98	536358.9572	MEDIUM LOW
G316	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774830.23	536329.6747	MEDIUM LOW
G317	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774846.52	536316.1487	MEDIUM LOW
G318	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774858.08	536306.5539	MEDIUM LOW

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
G319	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774871.43	536295.4619	MEDIUM LOW
G32	GRAND RIVER	GR to State	YES	YES	YES	TCC	12773576.41	543846.0351	MEDIUM-HIGH
G320	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774884.97	536284.2205	MEDIUM LOW
G321	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774217.98	536840.535	MEDIUM LOW
G322	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774255.54	536808.8464	MEDIUM LOW
G323	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774271.78	536795.2901	MEDIUM LOW
G324	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774294.96	536775.9396	MEDIUM LOW
G325	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774310.32	536763.1237	MEDIUM LOW
G326	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774317.43	537092.5448	MEDIUM LOW
G327	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774328.63	537092.6429	MEDIUM LOW
G328	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774670.22	537085.1863	MEDIUM LOW
G329	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12774321.53	537443.5709	MEDIUM LOW
G33	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774143.14	544355.0508	MEDIUM-HIGH
G330	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773954.06	537595.7431	MEDIUM LOW
G331	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773957.52	537723.4848	MEDIUM LOW
G332	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773957.55	537727.0101	MEDIUM LOW
G333	GRAND RIVER	GR to KCDC	NO	NO	YES	CC	12773956.89	537760.0192	MEDIUM LOW
G35	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774108.83	545154.9898	MEDIUM-HIGH
G36	GRAND RIVER	GR to State	YES	YES	YES	TCC	12773520.42	545101.0501	MEDIUM-HIGH
G38	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774148.49	547496.7298	MEDIUM-HIGH
G39	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774190.1	548187.1494	MEDIUM-HIGH
G4	GRAND RIVER	GR to State	YES	YES	YES	CC	12771730.02	533863.2608	MEDIUM-HIGH
G40	GRAND RIVER	GR to State	YES	YES	YES	TCC	12773518.49	547849.0423	MEDIUM-HIGH
G42	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774216.29	549063.8302	MEDIUM-HIGH
G43	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774242.73	549073.0137	MEDIUM-HIGH
G44	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774457.5	550047.4299	MEDIUM-HIGH
G45	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774958.95	550935.5247	MEDIUM-HIGH
G46	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12775473.69	554013.8222	MEDIUM-HIGH
G47	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12777133.65	556863.2943	MEDIUM-HIGH
G48	GRAND RIVER	GR to State	YES	YES	YES	TBA	12777212.05	557162.5191	MEDIUM-HIGH
G5	GRAND RIVER	GR to State	YES	YES	YES	CC	12772027.43	534382.4898	MEDIUM-HIGH
G50	GRAND RIVER	GR to State	YES	YES	YES	LDR	12777496.17	557871.3898	MEDIUM-HIGH
G51	GRAND RIVER	GR to State	YES	YES	YES	LDR	12777628.86	558785.6928	MEDIUM-HIGH
G54	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12774346.46	551710.5498	MEDIUM-HIGH
G55	GRAND RIVER	GR to State	YES	YES	YES	TCC	12774106.18	545466.8268	MEDIUM-HIGH
G57	GRAND RIVER	GR to State	YES	YES	YES	CC	12772674.83	536061.9219	MEDIUM-HIGH
G58	GRAND RIVER	GR to State	YES	YES	YES	CC	12772846.29	536542.4199	MEDIUM-HIGH
G59	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12769430.65	532497.8956	MEDIUM-HIGH
G6	GRAND RIVER	GR to State	YES	YES	YES	CC	12772748.79	535400.7175	MEDIUM-HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
G60	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12769442.06	532497.1595	MEDIUM-HIGH
G61	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12769453.42	532496.2382	MEDIUM-HIGH
G62	GRAND RIVER	GR to State	YES	YES	YES	SD-OS	12762554.31	528707.7175	MEDIUM-HIGH
G63	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12763904.53	530304.7282	MEDIUM-HIGH
G64	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12765233.4	530589.4848	MEDIUM-HIGH
G66	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12765980.69	530702.1711	MEDIUM-HIGH
G67	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12766693.53	530848.3148	MEDIUM-HIGH
G68	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12766898.2	530848.315	MEDIUM-HIGH
G70	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12767588.74	531065.4419	MEDIUM-HIGH
G72	GRAND RIVER	GR to State	YES	YES	YES	SD-IT	12767944.68	531222.0582	MEDIUM-HIGH
G78	GRAND RIVER	GR to State	YES	YES	YES	CC	12771666.1	533717.2389	MEDIUM-HIGH
G80	GRAND RIVER	GR to State	YES	YES	YES	CC	12771842.29	533925.4673	MEDIUM-HIGH
G81	GRAND RIVER	GR to State	YES	YES	YES	CC	12771933.06	534210.224	MEDIUM-HIGH
G82	GRAND RIVER	GR to State	YES	YES	YES	CC	12771879.67	534039.37	MEDIUM-HIGH
G85	GRAND RIVER	GR to State	YES	YES	YES	CC	12771997.13	534318.7875	MEDIUM-HIGH
G86	GRAND RIVER	GR to State	YES	YES	YES	CC	12772038.06	534397.0957	MEDIUM-HIGH
G89	GRAND RIVER	GR to State	YES	YES	YES	CC	12772114.59	534500.32	MEDIUM-HIGH
G9	GRAND RIVER	GR to State	YES	YES	YES	CC	12772471.73	535579.2005	MEDIUM-HIGH
G91	GRAND RIVER	GR to State	YES	YES	YES	CC	12772192.9	534589.3065	MEDIUM-HIGH
G95	GRAND RIVER	GR to State	YES	YES	YES	CC	12772442.06	534929.2348	MEDIUM-HIGH
H10	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12759460.89	537581.8679	MEDIUM
H2	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12759471.52	537309.0746	MEDIUM
H3	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12759630.96	541028.53	MEDIUM
H6	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12759500.03	539076.8973	MEDIUM
H8	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12758149.86	538773.9252	MEDIUM
H8.5	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12758072.08	538104.15	MEDIUM
H9	HOGADONE CREEK	GR to State	YES	YES	NO	LDR	12757347.26	537537.3825	MEDIUM
HD1	HEYBOER DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12780553.42	509561.76	MEDIUM LOW
HD2	HEYBOER DRAIN	GR to State	YES	YES	NO	SD-IT	12781851.87	510988.7993	MEDIUM
I1	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12772637.64	547371.3022	MEDIUM
I10	INDIAN MILL CREEK	GR to State	YES	YES	NO	TCC	12769796.27	548309.1955	MEDIUM
I11	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12769786.26	548366.0395	MEDIUM
I12	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12769360.55	548487.9701	MEDIUM
I13	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12769299.98	548528.0653	MEDIUM
I16	BRANDYWINE CREEK	GR to State/KCDC	YES	YES	NO	LDR	12764581.01	549098.4663	MEDIUM
I18	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12761376.66	547966.4687	MEDIUM
I19	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12761373.02	547918.9317	MEDIUM
I2	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12772612.01	547386.8373	MEDIUM
I20	INDIAN MILL CREEK	GR to State	YES	NO	NO	SD-IT	12769795.25	548366.3529	HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
I22	ELMRIDGE ESTATES DRAIN	GR to KCDC	NO	NO	NO	LDR	12758572.05	551384.9002	LOW
I23	INDIAN MILL CREEK	GR to State	YES	NO	NO	SD-IT	12772417.01	547524.2172	HIGH
I3.1	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12768049.97	548884.8839	MEDIUM
I4	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12771956.31	547751.2092	MEDIUM
I5	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12771976.3	547759.0695	MEDIUM
I6	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12771859.51	547801.5702	MEDIUM
I7	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12771593.04	547868.1024	MEDIUM
I8	INDIAN MILL CREEK	GR to State	YES	YES	NO	SD-IT	12771818.7	547787.5698	MEDIUM
I8.1	INDIAN MILL CREEK	GR to State	YES	YES	NO	TCC	12771542.27	547798.4363	MEDIUM
I9	INDIAN MILL CREEK	GR to State	YES	YES	NO	TCC	12769821.46	548300.7755	MEDIUM
IW8	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12756711.93	547874.0238	MEDIUM
L1	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12778853.2	556410.0462	MEDIUM
L10	LAMBERTON CREEK DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12781729.62	555176.178	MEDIUM
L11	LAMBERTON CREEK DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12782892.9	554981.9571	MEDIUM
L12	LAMBERTON CREEK DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12782892.9	554981.4504	MEDIUM
L13	LAMBERTON CREEK DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12785566.68	554045.6868	MEDIUM
L16	LAMBERTON CREEK	GR to State/KCDC	YES	YES	NO	MDR	12783666.65	555210.9123	MEDIUM
L17	LAMBERTON CREEK	GR to KCDC	NO	NO	NO	MDR	12785160.61	554912.3264	LOW
L18	NORTHBEND DRAIN	GR to KCDC	NO	NO	NO	LDR	12785920.74	551965.5439	LOW
L19	LAMBERTON CREEK	GR to State	YES	NO	NO	LDR	12779772.78	554625.2822	HIGH
L2	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12778847.27	556426.8694	MEDIUM
L3	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12779183.27	556296.9397	MEDIUM
L4	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12779090.76	556251.0798	MEDIUM
L5	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12779834.74	555478	MEDIUM
L6	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12780120.58	555548.1498	MEDIUM
L8	LAMBERTON CREEK	GR to State/KCDC	YES	YES	NO	LDR	12780293.35	555599.7839	MEDIUM
L8.1	LAMBERTON CREEK	GR to State/KCDC	YES	YES	NO	LDR	12780332.33	555586.3296	MEDIUM
L8.2	LAMBERTON CREEK	GR to State/KCDC	YES	YES	NO	LDR	12780459.28	555431.8365	MEDIUM
L9	LAMBERTON CREEK	GR to State/KCDC	YES	YES	NO	LDR	12781662.15	555195.2081	MEDIUM
LH1	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784992.72	544409.3501	LOW
LH2	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784336.29	544567.6802	LOW
LH3	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784663.85	544413.53	LOW
LH4	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784336.29	544567.6802	LOW
LH5	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784663.85	544413.53	LOW
LH6	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12784992.72	544409.3501	LOW
LH7	LEONARD HEIGHTS	GR to KCDC	NO	NO	NO	LDR	12785314.15	544209.0903	LOW
LL10	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773619.5	536767.3955	MEDIUM LOW
LL11	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773669.58	536762.8677	MEDIUM LOW
LL12	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774023.28	536563.0797	MEDIUM LOW

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
LL13	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773616.73	536767.6463	MEDIUM LOW
LL14	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774727.28	536416.7274	MEDIUM LOW
LL15	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775115.22	535898.8392	MEDIUM LOW
LL16	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774791.71	537444.6913	MEDIUM LOW
LL17	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773953.71	537444.229	MEDIUM LOW
LL18	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775090.82	537416.7013	MEDIUM LOW
LL19	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775100.54	537384.9729	MEDIUM LOW
LL2	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774038.45	536550.1717	MEDIUM LOW
LL20	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774518.23	537448.2558	MEDIUM LOW
LL21	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773953.46	536763.1531	MEDIUM LOW
LL22	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774240.06	536379.4359	MEDIUM LOW
LL23	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773947.66	537057.8744	MEDIUM LOW
LL24	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775121.92	536348.187	MEDIUM LOW
LL25	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775115.22	535898.8392	MEDIUM LOW
LL26	LOUIS-LYON DRAIN	GR to MDOT	NO	NO	NO	CC	12775089.08	537946.0434	MEDIUM LOW
LL7	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12773924.58	536642.3399	MEDIUM LOW
LL8	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12774490.03	536690.6729	MEDIUM LOW
LL9	LOUIS-LYON DRAIN	GR to KCDC	NO	NO	NO	CC	12775057.86	536731.3893	MEDIUM LOW
LP2	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12785955.16	555835.1265	MEDIUM
LP3	LAMBERTON LAKE	GR to State	YES	YES	NO	LDR	12785142.22	557431.5863	MEDIUM
LP4	LAMBERTON LAKE	GR to State	YES	YES	NO	LDR	12786282.57	556741.5055	MEDIUM
LP5	LAMBERTON LAKE	GR to State	YES	YES	NO	LDR	12786208.74	557114.1513	MEDIUM
LP6	LAMBERTON LAKE	GR to State	YES	YES	NO	LDR	12786891.23	557593.352	MEDIUM
LP7	EMERALD LAKE	GR to State	YES	NO	NO	SD-IT	12787389.96	556741.5055	HIGH
LP8	LAMBERTON CREEK	GR to State	YES	YES	NO	MDR	12785907.45	555632.5725	MEDIUM
LS1	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12784376.2	553290.5252	MEDIUM
LS10	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12788045.74	547429.8143	MEDIUM
LS11	UNNAMED WETLAND	GR to State	YES	YES	NO	MDR	12789153.84	546374.4175	MEDIUM
LS12	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12789129.32	545586.2761	MEDIUM
LS13	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12789441.71	545648.8388	MEDIUM
LS14	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12786636.28	548166.4811	MEDIUM
LS15	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12786913.31	547692.37	MEDIUM
LS16	LAMBERTON CREEK	GR to State	YES	YES	NO	MDR	12789542.84	547406.9941	MEDIUM
LS17	LAMBERTON CREEK	GR to State	YES	YES	NO	MDR	12789746.93	547383.8228	MEDIUM
LS18	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12790944.05	545514.3452	MEDIUM
LS19	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12784858.67	553408.4583	MEDIUM
LS2	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12784331.2	553085.4584	MEDIUM
LS21	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12785395.62	548396.5689	MEDIUM

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
LS22	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12784510.35	553411.1468	MEDIUM
LS23	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12790960.22	545789.2899	MEDIUM
LS24	RICHARDS FAIRPLAINS DRAIN	GR to KCDC	NO	NO	NO	LDR	12783143.75	549726.4395	LOW
LS26	LAMBERTON CREEK	GR to State	YES	NO	NO	LDR	12785101.23	548835.2145	HIGH
LS27	ABERDEEN HILLS NO.3	GR to KCDC	NO	NO	NO	LDR	12787128.59	550851.28	LOW
LS28	NORTHBEND DRAIN	GR to KCDC	NO	NO	NO	LDR	12785920.74	551965.5439	LOW
LS3	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12784340.74	552153.106	MEDIUM
LS4	LAMBERTON CREEK	GR to State	YES	YES	NO	SD-OS	12784661.96	551433.9381	MEDIUM
LS5	LAMBERTON CREEK	GR to State	YES	YES	NO	SD-OS	12785385.86	550335.4515	MEDIUM
LS7	LAMBERTON CREEK	GR to State	YES	NO	NO	MDR	12785109.52	548781.7267	HIGH
LS7.9	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12785100.05	548842.8301	MEDIUM
LS8	LAMBERTON CREEK	GR to State	YES	NO	NO	MDR	12785109.89	548779.3476	HIGH
LS9	LAMBERTON CREEK	GR to State	YES	YES	NO	LDR	12788010.05	547430.6149	MEDIUM
LW10	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781477.09	558899.3833	MEDIUM
LW11	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781562.75	558622.675	MEDIUM
LW12	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781655.88	558162.257	MEDIUM
LW13	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781897.15	558082.1107	MEDIUM
LW14	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781220.37	557386.4401	MEDIUM
LW15	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12781031.78	556722.308	MEDIUM
LW16	WELLS DRAIN	GR to KCDC	NO	NO	NO	LDR	12779946.17	557279.637	LOW
LW17	WELLS DRAIN	GR to KCDC	NO	NO	NO	LDR	12780311.68	557797.6911	LOW
LW18	WELLS DRAIN	GR to KCDC	NO	NO	NO	LDR	12780324.65	558451.8331	LOW
LW19	WELLS DRAIN	GR to KCDC	NO	NO	NO	LDR	12780440.04	558723.6891	LOW
LW2	SOFT WATER LAKE	GR to State	YES	YES	NO	LDR	12782579.83	557216.8332	MEDIUM
LW20	WELLS DRAIN	GR to KCDC	NO	NO	NO	LDR	12779003.86	557126.8967	LOW
LW6	SOFT WATER LAKE	GR to State	YES	YES	NO	MDR	12783983.63	558048.8514	MEDIUM
LW7	SOFT WATER LAKE	GR to State	YES	YES	NO	MDR	12783986.9	558049.1211	MEDIUM
LW8	UNNAMED WETLAND	GR to State	YES	YES	NO	LDR	12782582.29	558207.5169	MEDIUM
ME1	MAYNARD ESTATES DRAIN	GR to KCDC	NO	NO	NO	LDR	12752884.77	541542.5401	LOW
P11	PLASTER CREEK	GR to State	YES	YES	YES	SD-IT	12771332.55	521757.9111	MEDIUM-HIGH
P13	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12773932.07	519626.1838	MEDIUM-HIGH
P13.1	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12775311.11	519500.6934	MEDIUM-HIGH
P13.2	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12775318.24	519449.2011	MEDIUM-HIGH
P14	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12775320.15	519501.545	MEDIUM-HIGH
P15	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12775730.07	519216.434	MEDIUM-HIGH
P16	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12776116.57	519015.1307	MEDIUM-HIGH
P19	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12776557.28	518937.0303	MEDIUM-HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
P2	PLASTER CREEK	GR to State	YES	YES	YES	SD-IT	12769915.91	523621.6149	MEDIUM-HIGH
P20	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12776727.81	518957.38	MEDIUM-HIGH
P20.1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12776730.27	518948.0074	MEDIUM-HIGH
P21	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12777052.41	519003.0438	MEDIUM-HIGH
P21.1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12777417.43	519085.729	MEDIUM-HIGH
P22	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12777722.58	519101.8901	MEDIUM-HIGH
P23	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12777965.01	518821.3511	MEDIUM-HIGH
P24	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12778186.73	518940.2257	MEDIUM-HIGH
P25	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12779190.69	518413.6688	MEDIUM-HIGH
P26	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12779391.48	518157.97	MEDIUM-HIGH
P27	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12779564.53	517713.5774	MEDIUM-HIGH
P28	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12779357.26	517443.9556	MEDIUM-HIGH
P3	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12769990.4	523537.5767	MEDIUM-HIGH
P32	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12780855.12	516007.3606	MEDIUM-HIGH
P33	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12781339.37	515718.008	MEDIUM-HIGH
P34	PLASTER CREEK	GR to State	YES	YES	YES	SD-IT	12781628.66	516110.8554	MEDIUM-HIGH
P34.1	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12781355.83	516763.6746	MEDIUM-HIGH
P35	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12783655.83	516061.9999	MEDIUM-HIGH
P36	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12783443.21	515337.8796	MEDIUM-HIGH
P37	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12782444.89	514906.26	MEDIUM-HIGH
P38	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12782401.2	514429.5	MEDIUM-HIGH
P4	PLASTER CREEK	GR to State	YES	YES	YES	TBA	12770006.52	523518.2567	MEDIUM-HIGH
P4.1	PLASTER CREEK	GR to State	YES	YES	YES	SD-IT	12770009.56	523582.3888	MEDIUM-HIGH
P40	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12783606.93	514740.6009	MEDIUM-HIGH
P41	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12784533.58	514780.5097	MEDIUM-HIGH
P42	PLASTER CREEK	GR to State	YES	YES	YES	SD-OS	12785059.85	514801.0398	MEDIUM-HIGH
P43	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12785608.71	514718.1045	MEDIUM-HIGH
P44	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12785679.52	514769.2847	MEDIUM-HIGH
P45	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12785912.25	514038.6484	MEDIUM-HIGH
P46	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12786455.23	514085.1812	MEDIUM-HIGH
P47	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12786643.61	513144.27	MEDIUM-HIGH
P47.1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12787523.69	513179.1191	MEDIUM-HIGH
P48	PLASTER CREEK	GR to State	YES	YES	YES	SD-PRD	12787602.14	513920.9912	MEDIUM-HIGH
P49	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788294.95	514001.1302	MEDIUM-HIGH
P50	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788654.26	513519.0898	MEDIUM-HIGH
P51	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12789191.08	513698.777	MEDIUM-HIGH
P52	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12789253.98	513100.3099	MEDIUM-HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
P53	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12789013.48	512617.0502	MEDIUM-HIGH
P54	PLASTER CREEK	GR to State	YES	YES	YES	C	12782285.48	516673.5438	MEDIUM-HIGH
P6	PLASTER CREEK	GR to State/KCDC	YES	YES	YES	TBA	12770473.93	523054.8918	MEDIUM-HIGH
P7	PLASTER CREEK	GR to State/KCDC	YES	YES	YES	MDR	12770560.94	522820.4448	MEDIUM-HIGH
PB1	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12785614.27	515209.7785	MEDIUM-HIGH
PB15	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12788498.63	518140.045	MEDIUM-HIGH
PB16	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12788539.79	518364.074	MEDIUM-HIGH
PB17	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12788541.06	518364.5197	MEDIUM-HIGH
PB2	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12785613.03	515222.6102	MEDIUM-HIGH
PB2.1	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12785658.49	515215.8325	MEDIUM-HIGH
PB21	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12788778.41	519632.3681	MEDIUM-HIGH
PB23.1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788658.31	520554.7739	MEDIUM-HIGH
PB24	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788682.94	520549.8321	MEDIUM-HIGH
PB27	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12789332.27	520794.7778	MEDIUM-HIGH
PB28	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12790027.71	521152.6771	MEDIUM-HIGH
PB28.1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12790317.7	521404.5703	MEDIUM-HIGH
PB28.2	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12790331.13	521429.8815	MEDIUM-HIGH
PB28.3	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12789796.12	522096.9324	MEDIUM-HIGH
PB3	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12785670.15	515216.8006	MEDIUM-HIGH
PB33	PLASTER CREEK	GR to State/KCDC	YES	YES	YES	LDR	12788865.7	519545.4823	MEDIUM-HIGH
PB39	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12791416.87	519805.6383	MEDIUM-HIGH
PB47	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12792102.08	519470.4601	MEDIUM-HIGH
PB48	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to KCDC	NO	NO	YES	LDR	12787742.83	516408.9469	LOW
PB49	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to MDOT	NO	NO	YES	MDR	12797234.87	521001.8702	MEDIUM LOW
PB5	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12786281.19	515824.8801	MEDIUM-HIGH
PB50	BURTON-BRETON DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12788783.07	518656.5823	MEDIUM
PB7	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	LDR	12786942.16	516253.482	MEDIUM-HIGH
PB7.1	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	C	12786946.48	516662.7374	MEDIUM-HIGH
PB8	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	SD-NOS	12787866.7	517111.0498	MEDIUM-HIGH
PB9	BRETON-BURTON BRANCH OF PLASTER CREEK DRAIN	GR to State/KCDC	YES	YES	YES	C	12787761.74	517215.9354	MEDIUM-HIGH
PD1	PARIS DRAIN	GR to KCDC	NO	NO	NO	C	12785848.39	507025.3736	MEDIUM LOW
PD2	PARIS DRAIN	GR to State/KCDC	YES	NO	NO	MDR	12785650.16	506906.5802	HIGH
PD3	PARIS DRAIN	GR to KCDC	NO	NO	NO	C	12785919.27	507031.5573	MEDIUM LOW
PG5	UNNAMED WETLAND	GR to State	YES	YES	NO	SD-IT	12790169.46	516156.28	MEDIUM
PK1	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788372.09	511823.4823	MEDIUM-HIGH
PK2	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788207.97	511231.4366	MEDIUM-HIGH
PK3	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12788039.54	510872.4506	MEDIUM-HIGH

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
PK4	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12789013.67	510513.67	MEDIUM-HIGH
PK7	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12789623.15	509623.6743	MEDIUM-HIGH
PK8	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12790834.18	508337.5419	MEDIUM-HIGH
PK9	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12791006.72	508316.2298	MEDIUM-HIGH
PL1	PLASTER CREEK	GR to State	YES	YES	YES	C	12780344.11	517041.3456	MEDIUM-HIGH
PL10	PLASTER CREEK	GR to State/KCDC	YES	YES	YES	SD-OS	12783621.84	518976.9697	MEDIUM-HIGH
PL14	LARAWAY-BROOKLYN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12782789.98	518161.8784	MEDIUM
PL15	PLASTER CREEK	GR to KCDC	NO	NO	YES	LDR	12785600.16	520549.1604	LOW
PL15.1	LARAWAY-PLYMOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12786402.72	520750.8198	LOW
PL16	LARAWAY-PLYMOUTH DRAIN	GR to KCDC	NO	NO	NO	LDR	12786088.59	520755.156	LOW
PL8	LARAWAY-BROOKLYN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12782485.13	517809.1884	MEDIUM
PL9	LARAWAY-BROOKLYN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12782795.52	518166.1889	MEDIUM
PL9.9	PLASTER CREEK	GR to KCDC	NO	YES	YES	SD-OS	12783626.13	518750.4832	MEDIUM LOW
PM1	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12777727.7	547830.9901	LOW
PM2	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12777697.88	547859.1716	LOW
PM3	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12777697.88	547859.1716	LOW
PM4	PALMER-WOODMERE DRAIN	GR to KCDC	NO	NO	NO	SD-NOS	12781443.24	546211.1034	MEDIUM LOW
PM5	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12776166.99	548694.71	LOW
PM6	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12776157.2	547653.152	LOW
PM7	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12776831.48	548941.1109	LOW
PM8	PALMER SEPERATION DRAIN	GR to KCDC	NO	NO	NO	LDR	12775443.11	548667.8883	LOW
PS1	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12769874	525856.1235	MEDIUM LOW
PS11	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12771720.25	526263.4811	MEDIUM LOW
PS16	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12771867.74	526763.048	MEDIUM LOW
PS18	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12772498.61	526917.518	MEDIUM LOW
PS19	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12772890.34	526911.7636	MEDIUM LOW
PS2	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12769915.17	525822.3704	MEDIUM LOW
PS20	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12772890.34	526911.7636	MEDIUM LOW
PS22	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12773820.19	526888.2812	MEDIUM LOW
PS23	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784172.19	526523.44	LOW
PS24	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12783936.09	526389.4667	LOW
PS25	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12783425.07	526119.8536	LOW
PS26	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12782417.7	525736.4263	MEDIUM LOW
PS27	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12782441.81	525745.0269	MEDIUM LOW
PS28	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12781374.62	525368.3445	MEDIUM LOW
PS29	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12778108.42	525445.8999	MEDIUM LOW
PS3	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12770244.8	525768.2754	LOW

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
PS30	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12776839.99	525514.2952	MEDIUM LOW
PS31	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775829.41	525569.0652	MEDIUM LOW
PS32	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12787041.69	527677.4801	LOW
PS33	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784826.15	527025.9557	LOW
PS34	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784214.72	526547.2755	LOW
PS35	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12778441.97	525434.9705	MEDIUM LOW
PS36	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12778108.42	525445.8999	MEDIUM LOW
PS37	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12776157.19	525527.7802	MEDIUM LOW
PS38	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775989.67	525549.64	MEDIUM LOW
PS39	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12777443.71	525477.732	MEDIUM LOW
PS4	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12770679.51	525747.6088	LOW
PS40	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12776170.92	525527.5816	MEDIUM LOW
PS41	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12782066.33	525588.3901	MEDIUM LOW
PS42	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12779385.28	525405.0602	MEDIUM LOW
PS43	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12785932.04	527665.5299	LOW
PS44	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784289.09	526592.7148	LOW
PS45	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12780107.94	524813.9918	MEDIUM LOW
PS46	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12779377.62	525406.5116	MEDIUM LOW
PS47	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12785137.54	527163.137	LOW
PS48	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12783417.86	526115.9538	LOW
PS49	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12782798.68	525872.7358	MEDIUM LOW
PS5	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12771508.23	525720.4968	MEDIUM LOW
PS50	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12781382.61	525368.2197	MEDIUM LOW
PS51	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12777457.67	525473.491	MEDIUM LOW
PS52	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775556.4	525624.8742	MEDIUM LOW
PS53	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775144.36	525868.1215	MEDIUM LOW
PS54	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775260.5	525865.938	MEDIUM LOW
PS55	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12786158.1	527663.5702	LOW
PS56	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12783694.15	526264.4602	LOW
PS57	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12780102.07	524813.6099	MEDIUM LOW
PS58	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12778441.97	525434.9705	MEDIUM LOW
PS59	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12778764.89	525423.4235	MEDIUM LOW
PS60	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12785452.12	527323.6001	LOW
PS61	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12785137.54	527163.137	LOW
PS62	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784519.4	526731.7724	LOW
PS63	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784519.4	526731.7724	LOW
PS64	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12784157.25	526513.48	LOW

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
PS65	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	LDR	12783936.09	526389.4667	LOW
PS66	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	TBA	12779776.44	524809.679	MEDIUM LOW
PS66.1	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12782804.51	525874.5598	MEDIUM LOW
PS67	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12782441.81	525745.21	MEDIUM LOW
PS67.1	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775650.57	525590.473	MEDIUM LOW
PS68	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775144.36	525868.1215	MEDIUM LOW
PS69	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12781039.43	525179.2019	MEDIUM LOW
PS7	SILVER CREEK DRAIN	GR to State/KCDC	YES	NO	NO	SD-IT	12771508.23	525720.4968	HIGH
PS70	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12777777.7	525454.6947	MEDIUM LOW
PS71	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775316.75	525863.5402	MEDIUM LOW
PS72	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12775035.96	525911.6465	MEDIUM LOW
PS73	SILVER CREEK DRAIN	GR to KCDC	NO	NO	NO	SD-IT	12777443.71	525477.732	MEDIUM LOW
PV1	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12790008.62	511629.1008	MEDIUM-HIGH
PV2	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12790424.67	510911.8299	MEDIUM-HIGH
PV3	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12790938.33	510493.2201	MEDIUM-HIGH
PV4	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12789816.09	511760.4097	MEDIUM-HIGH
PV5	PLASTER CREEK	GR to State	YES	YES	YES	MDR	12790080.46	511617.2698	MEDIUM-HIGH
PV6	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12791152.55	509619.5103	MEDIUM-HIGH
PV7	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12791189.23	509478.6415	MEDIUM-HIGH
PV8	PLASTER CREEK	GR to State	YES	YES	YES	LDR	12792706.82	515692.1262	MEDIUM-HIGH
PW10	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-NOS	12801136.56	518479.4933	MEDIUM
PW11	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-PRD	12800786.32	518705.2432	MEDIUM
PW12	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-PRD	12800631.38	518823.8502	MEDIUM
PW13	LAKE EASTBROOK	GR to State	YES	YES	NO	MDR	12800994.79	519725.6566	MEDIUM
PW14	LAKE EASTBROOK	GR to State	YES	YES	NO	MDR	12800482.08	519693.1802	MEDIUM
PW18	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-NOS	12798568.43	519195.6979	MEDIUM
PW27	UNNAMED POND	GR to State	YES	YES	NO	MDR	12797553.47	522313.8198	MEDIUM
PW29	UNNAMED POND	GR to State	YES	YES	NO	SD-IC	12796411.71	522457.9382	MEDIUM
PW32	UNNAMED POND	GR to State	YES	YES	NO	MDR	12798284.08	519893.9962	MEDIUM
PW33	UNNAMED POND	GR to State	YES	YES	NO	C	12798253.52	519599.0341	MEDIUM
PW34	SADDLEBAG-MYLER AND MEDEMA BRANCH DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12798415.53	539836.4764	MEDIUM
PW35	SADDLEBAG-MYLER AND MEDEMA BRANCH DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12798210.9	540359.8003	MEDIUM
PW36	UNNAMED POND	GR to State	YES	NO	NO	MDR	12797352.65	520917.0602	HIGH
PW37	UNNAMED POND	GR to State	YES	NO	NO	MDR	12796032.49	520157.0099	HIGH
PW6	LAKE EASTBROOK	GR to State	YES	YES	NO	C	12798852.17	518745.3798	MEDIUM
PW7	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-NOS	12799544.51	518707.1245	MEDIUM
PW8	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-NOS	12799833.6	518711.5855	MEDIUM

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
PW9	LAKE EASTBROOK	GR to State	YES	YES	NO	SD-NOS	12801045.03	518430.6657	MEDIUM
R4	REEDS-BARLOW DRAIN	GR to State	YES	YES	NO	SD-PRD	12759342.19	547296.2952	MEDIUM
R6	UNNAMED STREAM	GR to State	YES	YES	NO	SD-PRD	12759323.49	548451.5388	MEDIUM
R7	UNNAMED STREAM	GR to State	YES	YES	NO	SD-PRD	12759402.18	548042.2406	MEDIUM
R8	UNNAMED STREAM	GR to State	YES	YES	NO	SD-PRD	12759495.24	547731.2732	MEDIUM
U1	US131	GR to MDOT	NO	NO	NO	SD-IT	12771189.49	523174.5077	MEDIUM LOW
W1	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12759244.7	550440.1601	MEDIUM
W10	WORDEN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12754873.76	547340.725	MEDIUM
W11	WORDEN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12755117.29	546346.4555	MEDIUM
W13	WORDEN DRAIN	GR to State/KCDC	YES	YES	NO	LDR	12754499.08	546018.4597	MEDIUM
W17	UNNAMED STREAM	GR to State	YES	YES	NO	LDR	12755857.03	549919.1986	MEDIUM
W18	UNNAMED STREAM	GR to State	YES	YES	NO	LDR	12755613.6	549932.0303	MEDIUM
W2	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12758851.66	550762.9699	MEDIUM
W20	WORDEN-7TH DRAIN	GR to KCDC	NO	NO	NO	LDR	12754200.25	541831.8037	LOW
W20.1	WORDEN DRAIN	GR to KCDC	NO	NO	NO	LDR	12754936.73	545486.6225	LOW
W20.2	UNNAMED STREAM	GR to State	YES	NO	NO	LDR	12755730.93	550348.1699	HIGH
W21	UNNAMED WETLAND	GR to KCDC	NO	NO	NO	LDR	12756643.43	541970.65	LOW
W22	WORDEN DRAIN	GR to KCDC	NO	NO	NO	LDR	12754684.09	544721.5017	LOW
W23	WORDEN DRAIN	GR to KCDC	NO	NO	NO	LDR	12754663.74	545501.7249	LOW
W24	WORDEN-7TH DRAIN	GR to KCDC	NO	NO	NO	LDR	12755019.17	542019.1502	LOW
W25	WORDEN-7TH DRAIN	GR to KCDC	NO	NO	NO	LDR	12757364.99	542385.5856	LOW
W26	WORDEN-7TH DRAIN	GR to KCDC	NO	NO	NO	LDR	12754130.78	541765.07	LOW
W26.1	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12756063.43	545073.7822	MEDIUM
W27	BRANDYWINE CREEK	GR to State/KCDC	YES	NO	NO	LDR	12755093.82	546335.9361	HIGH
W3	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12757674.11	550441.7322	MEDIUM
W4	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12757603.6	550481.0562	MEDIUM
W5	UNNAMED STREAM	GR to State	YES	YES	NO	LDR	12756627.85	549856.0688	MEDIUM
W5.1	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12757415.9	549503.5013	MEDIUM
W6	UNNAMED WETLAND	GR to State	YES	NO	NO	LDR	12758754.39	549062.7159	HIGH
W7	BRANDYWINE CREEK	GR to State	YES	YES	NO	LDR	12757381.7	548821.3811	MEDIUM
WC1	WHISKEY CREEK DRAIN	GR to KCDC	NO	NO	NO	C	12798155.99	517142.12	MEDIUM LOW
WC2	WHISKEY CREEK DRAIN	GR to KCDC	NO	NO	NO	C	12798165.71	517154.4101	MEDIUM LOW
WC3	WHISKEY CREEK DRAIN	GR to KCDC	NO	NO	NO	C	12798095.3	517065.3898	MEDIUM LOW
WG1	GRAHAM AND WORDEN DRAIN	GR to KCDC	NO	NO	NO	LDR	12754534.67	541500.1979	LOW
WL1	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12762025.19	547478.9702	LOW
WL2	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12762025.19	547478.9702	LOW
WL3	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12761725.95	548802.3444	LOW

APPENDIX 2 OUTFALLS AND DISCHARGE POINTS

IDEP NAME	RECEIVING WATER	JURISDICGTION CHANGE	DIRECT OUTFALL TO WATERS OF THE STATE	SAMPLED PREVIOUSLY	TMDL	ZONING	LONGITUDE	LATITUDE	PRIORITY
WL4	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12761819.52	547706.2838	LOW
WL5	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12761973.06	547096.2011	LOW
WL6	WEST LEONARD DRAIN	GR to KCDC	NO	NO	NO	LDR	12761784.26	548133.0098	LOW

C = Commercial

CC = City Center

LDR = Low Density Residential

MDR = Mixed Density Residential

SD-IT = Industrial Transportation

SD-OS = Open Space

SD-PRD = Planned Redevelopment District

TBA = Traditional Business Area

TCC = Transitional City Center

Appendix 3

What is Storm Water Runoff?

When it rains, storm water flows over lawns, streets, and parking lots. Storm water runoff can carry dirt, fertilizers, and motor oil into storm drains, which are often located alongside streets and parking lots.

Where do Storm Drains Lead?

Storm drains lead directly to nearby rivers, streams, and lakes without any type of treatment.

How Can I Help?

- Report anyone dumping anything down a storm drain.
- Take used motor oil to a quick lube or auto shop.
- Dispose of pet waste in a trash can.
- Avoid fertilizing your lawn before it rains.
- Wash your car on your lawn or take it to a commercial car wash.



Grand River, Grand Haven Harbor

www.lowergrandriver.org

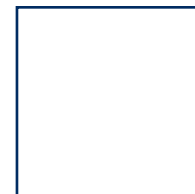
How to Report Water Pollution

Citizen Report Form

LOWER GRAND RIVER
ORGANIZATION *of* WATERSHEDS



CITY OF
GRAND
RAPIDS



If you see anyone dumping anything into a storm drain, REPORT IT.

Any substance, trash, or debris dumped into a storm drain will travel to our streams and lakes, and eventually the Grand River. Motor vehicle fluids, paint, grass clippings, and restaurant wastes should be disposed of properly.

Violators can be fined.

The Illicit Discharge Ordinance provides legal authority to enforce fines for violations. To report dumping, please fill out this report and return it in one of four ways.

1. E-mail:
2. Fax:
3. Phone:
4. Mail
Name:
Address:



Date(s) pollution was observed:

**Location pollution was observed
(address, street, city or township):**

**Name of person(s) or company involved
(if known):**

**Please describe the pollution
(include photographs if possible):**

Please remember that all reports are investigated. Inspectors, however, are limited if a report is submitted anonymously as they cannot contact the submitter for more information.

If you would like to remain anonymous, it is highly recommended that you include photographs of the problem with your anonymous report.

Your contact information (optional):

Name: _____

Phone: _____

E-mail: _____

Address: _____

Date this report was submitted:

Check here to receive a follow-up report.

Grass clippings blown into a storm drain

Appendix 4



CITY OF GRAND RAPIDS

ENVIRONMENTAL SERVICES DEPARTMENT

IDEP Inter-jurisdictional Cooperation

State and federal law requires regulated Municipal Separate Storm Sewer Systems (MS4s) to have effective programs to find and eliminate illicit discharges to their systems (Illicit Discharge Elimination Plan). In some cases one community's MS4 discharges into another community's MS4.

We, as Storm Water Program Managers for our communities, recognize this requirement. We agree to work cooperatively with other MS4 communities where an illicit discharge is suspected to originate across our jurisdictional boundaries.

By signing this agreement, our community commits to investigating dry-weather discharges that appear at outfalls. We accept responsibility for notifying upstream owners if an illicit discharge is found to enter our MS4, and commit to abating discharges that are found to be leaving our MS4. These activities will be conducted pursuant to the procedures and timelines identified in the IDEP.

Carrie L. Rivette

Stormwater Program Manager for City of Grand Rapids

Wastewater Treatment
Administrative Offices
1300 Market Avenue SW
Grand Rapids, MI 49503
Tel: (616) 456-3625
Fax: (616) 456-3711

Engineering
1900 Oak Industrial Dr. NE
Grand Rapids, MI 49505
Tel: (616) 456-3690
Fax: (616) 456-3138

Sewer Maintenance
660 Market Avenue. SW
Grand Rapids, MI 49503
Tel: (616) 456-3246
Fax: (616) 456-3736

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