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Tony T. Yarber, Mayor



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February 27, 2015

Chief, Environmental Enforcement Section
Environment and National Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-1-1-09841

Brad Ammons
Environmental Engineer
Clean Water Enforcement Branch
Municipal & Industrial Enforcement Section
U.S. EPA Region 4
61 Forsyth St., SW
Atlanta, GA 30303

Karl Fingerhood
Environmental Enforcement Section
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611

RE: City of Jackson, Mississippi, EPA Consent Decree
CMOM Programs

Dear Gentlemen:

Attached please find the following CMOM Programs required by the Consent Decree and being proposed by the City of Jackson for your review, comment, and approval:

- 1) Inter-jurisdictional Agreement Program;
- 2) Fats, Oils, and Grease (FOG) Control Program;
- 3) Private Lateral Program; and
- 4) **Water Quality Monitoring Program.**

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

Sincerely,

Tony T. Yarber
Mayor

2015 MAR 04 10:12 CWEL

cc: Les Herrington, P.E., Mississippi Department of Environmental Quality
Gus McCoy, Chief Administrative Officer
Monica Joiner, City Attorney
Kishia L. Powell, P.E., Director, Department of Public Works
Mary D. Carter, Deputy Director of Public Works
Terry Williamson, Consent Decree Manager
Public Depository, Eudora Welty Public Library

Water Quality Monitoring Program



Department of Public Works
Wastewater Infrastructure Redevelopment Program

February 28, 2015

City of Jackson
Wastewater Infrastructure Redevelopment
Program

Water Quality Monitoring Program

February 28, 2015

Prepared for:

City of Jackson
Department of Public Works
P.O. Box 17
Jackson, MS 39205-0017

Prepared by:

WEI/AJA LLC
143A LeFleurs Square
Jackson, MS 39211

City of Jackson, Mississippi

Water Quality Monitoring Program

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





Tony T. Varber
Mayor



Date

2.27.15



Kishia L. Powell
Director of Public Works



Date

2.27.15

Water Quality Monitoring Program

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1.0 Introduction

The City of Jackson entered into a Consent Decree with U.S. EPA on March 1, 2013 to address inadequacies of the City's wastewater collection and transportation system (WCTS). This **Water Quality Monitoring Program (WQMP)** report fulfills the requirements set forth in Consent Decree § VI (D) 37. The report describes the methodology the City will use to monitor watersheds within the City for the presence of wastewater pollutants. The Program is one component of the City's overall approach to identify and abate illicit wastewater discharges into waterways that may occur from sanitary sewer leaks or overflows. Data obtained from the monitoring program will provide information required to implement necessary corrective actions and to help protect water quality within the City's urban creeks and the Pearl River.

1.1 Consent Decree Requirements

As stated in the Consent Decree, the Water Quality Monitoring Program shall contain the following, at a minimum:

1. Routine Water Quality Monitoring Component. The City shall develop and implement a Routine Water Quality Monitoring component to detect SSOs originating at or in proximity to stream crossings or other isolated and remote sewer locations. This component shall provide for scheduled sampling during both dry and wet weather periods from a network of monitoring stations located in each of the City's Sewersheds. The Routine Water Quality Monitoring component shall propose the exact number and location of monitoring points depending upon drainage configuration and other factors, but in no event shall the number of monitoring points be less than twelve (12) monitoring points. The Routine Water Quality Monitoring component shall include a map of all sampling locations, and shall specify sampling frequency and sampling parameters, including pH, dissolved oxygen, and fecal coliform and/or *E. coli* bacteria. The City may elect to specify one or both of fecal coliform and *E. coli* bacteria as a sampling parameter.
2. Investigative Water Quality Monitoring Component. The City shall develop and implement an Investigative Water Quality Monitoring component to determine whether the WCTS and/or any WWTP is a source of pollution identified as a result of complaints, routine water quality monitoring pursuant to Paragraph 1 above, or by other means. This component shall specify the conditions under which the City will initiate an investigation under this Paragraph. The Investigative Water Quality Monitoring component shall include a requirement for development of a map of all actual sampling locations, and shall specify a protocol for determining sampling parameters to be used depending on the type of pollution identified or suspected. The Investigative Water Quality Monitoring component shall include the following:

(1) Dry Weather Monitoring. The purpose of dry weather monitoring shall be to detect chronic line leaks. Dry weather sampling shall be conducted for a definite period of time, e.g., one week ("Testing Period"). During the Testing Period, the City shall collect fecal coliform and/or *E. Coli* bacteria samples at least once a day at locations to be investigated.

(2) Wet Weather Monitoring. The purpose of wet weather monitoring shall be to detect capacity problems. The wet weather sampling period shall be defined using rainfall and stream stage data or sewer flow data. During the sampling period, the City shall collect fecal coliform and/or *E. Coli* bacteria samples at least two (2) times a day at locations to be investigated.

(3) Location of Source of Release. If necessary, the isolated stream segment shall be sampled at defined intervals to identify the source of the release. Fecal coliform and/or *E. Coli* bacteria samples shall be taken in each of the monitoring locations. After repair of the source, the City shall take additional samples to ensure that the repair has been successful.

3. Spill Impact Water Quality Monitoring Component. The City shall develop and implement a Spill Impact Water Quality Monitoring component to assess any impact upon public health and the environment of pollution resulting from SSOs, and to assist in assessing the need for any environmental and/or public health response. The City shall consult with EPA, MDEQ, and public health authorities during development and implementation of the Spill Impact Water Quality Monitoring component. As part of the Spill Impact Water Quality Monitoring component, the City shall develop protocols for mapping all actual sampling locations, for determining the frequency and duration of sampling (depending upon the potential impact of the spill on public health and the environment), and for sampling for pH, dissolved oxygen, and fecal coliform and/or *E. coli* bacteria. The sampling protocol shall include sampling upstream (control) and downstream of the spill. The sampling protocol also shall identify the circumstances under which the City shall sample for those Priority Pollutants known to be present in the wastewater of any Significant Industrial User that discharges into the portion of the WCTS upsewer of the SSO. The Water Quality Monitoring information management system shall contain a list of the Priority Pollutants, if any, in wastewater discharged by any Significant Industrial User to the WCTS, and the lines affected by any such discharge.

4. Quality Assurance, Sampling, Data Analysis. The City shall use analytical procedures, sample containers, preservation techniques, and sample holding times that are specified in 40 C.F.R. Part 136. Upon request, the City shall allow split or duplicate samples to be taken by EPA, MDEQ, or their authorized representatives. In addition, EPA and MDEQ shall have the right to take any additional samples that EPA or MDEQ may deem necessary.

5. Water Quality Reporting. The City shall report, pursuant to the requirements of Section IX (Reporting Requirements) of the Consent Decree, the following information:

(1) The actions which have been taken under the Water Quality Monitoring Program during the previous Calendar Quarter, including the dates and times of all sampling;

(2) A summary of all results of sampling during the previous Calendar Quarter; and

(3) All actions including, but not limited to, data collection, which are scheduled for the next Calendar Quarter.

1.2 WQMP Elements

The report includes an overview of the City of Jackson WCTS in Section 2, which also contains a description of the City's 11 sewersheds, urban creeks, and waterways that are included in the Program. Routine water quality monitoring procedures are described in Section 3. Should pollution be identified in any of the designated waterways, investigative water quality monitoring will be performed as discussed in Section 4. After any illicit wastewater discharges into the waterways, spill impact water quality monitoring will be performed. The City's procedure for spill impact monitoring is given in Section 5. The interface of the WQMP with the City's ongoing Municipal Separate Storm Sewer System (MS4) ambient monitoring program is described in Section 6. Section 7 outlines the City's water quality program management procedures including data analysis and tracking, quality assurance, and reporting. The proposed schedule for implementing the **City of Jackson Water Quality Monitoring Program** is provided in Section 7.

2.0 Wastewater System Overview

This section provides an overview of the City of Jackson wastewater system, the various sewer basins, and their relation to urban creeks.

The topography of the area around the City of Jackson is in that a divide between the cities of Clinton and Jackson diverts general surface water drainage to either the Big Black River or the Pearl River watersheds. Surface water from the cities of Clinton, Raymond, and the northwest side of Jackson flows toward the Big Black River then to the Mississippi River, while most of Jackson and the cities of Flowood, Ridgeland, and portions of Madison drains to the Pearl River that empties into the Gulf of Mexico, east of the Mississippi River.

The dividing drainage ridge runs along a northeast-southwest line that generally borders the City of Jackson western boundary. The Pearl River is the eastern City of Jackson boundary, and also runs in a northeast to southwest direction. On the east side of the Pearl River is Rankin County which includes the Cities of Pearl, Flowood, and Richland.

A map of the Jackson drainage basins is shown on **Figure 2-1**. In the immediate vicinity of Jackson, most surface streams flow in a general southeast direction to the Pearl River. From south to north, affected drainage basins and similar gravity sewage basins on the Jackson side of the Pearl River are listed on **Table 2-1**. Sewers from these basins flow to the West Bank Interceptor which runs along the west bank of the Pearl River from the Madison County line to the Savanna Wastewater Treatment Plant (WWTP) in south Jackson.

A second wastewater treatment plant, Trahon-Big Creek WWTP, serves far south Jackson and adjacent portions of Hinds County. This drainage area consists of southwest Jackson and an area south of MS Highway 18 to east of Interstate 55. The area drains in a general southeast direction to the Pearl River, south-southwest of the Savanna WWTP. The area is drained by Trahon Creek which flows into the Pearl approximately 4 miles SSW of the Savanna WWTP, and Big Creek which flows to the Pearl River approximately 9 miles SSW of the Savanna WWTP. The outfall from the Trahon-Big Creek WWTP discharges into Big Creek.

The exception to the general southeast flow direction is the far northwest area of the City of Jackson where the Presidential Hills wastewater treatment facility is located. The area is located near the Natchez Trace Parkway, US Highway 49 / Medgar Evers Drive and I-220. This area drains toward the northwest into the Bogue Chitto Creek basin which then drains to the Big Black River. These drainages are also listed on **Table 2-1**.

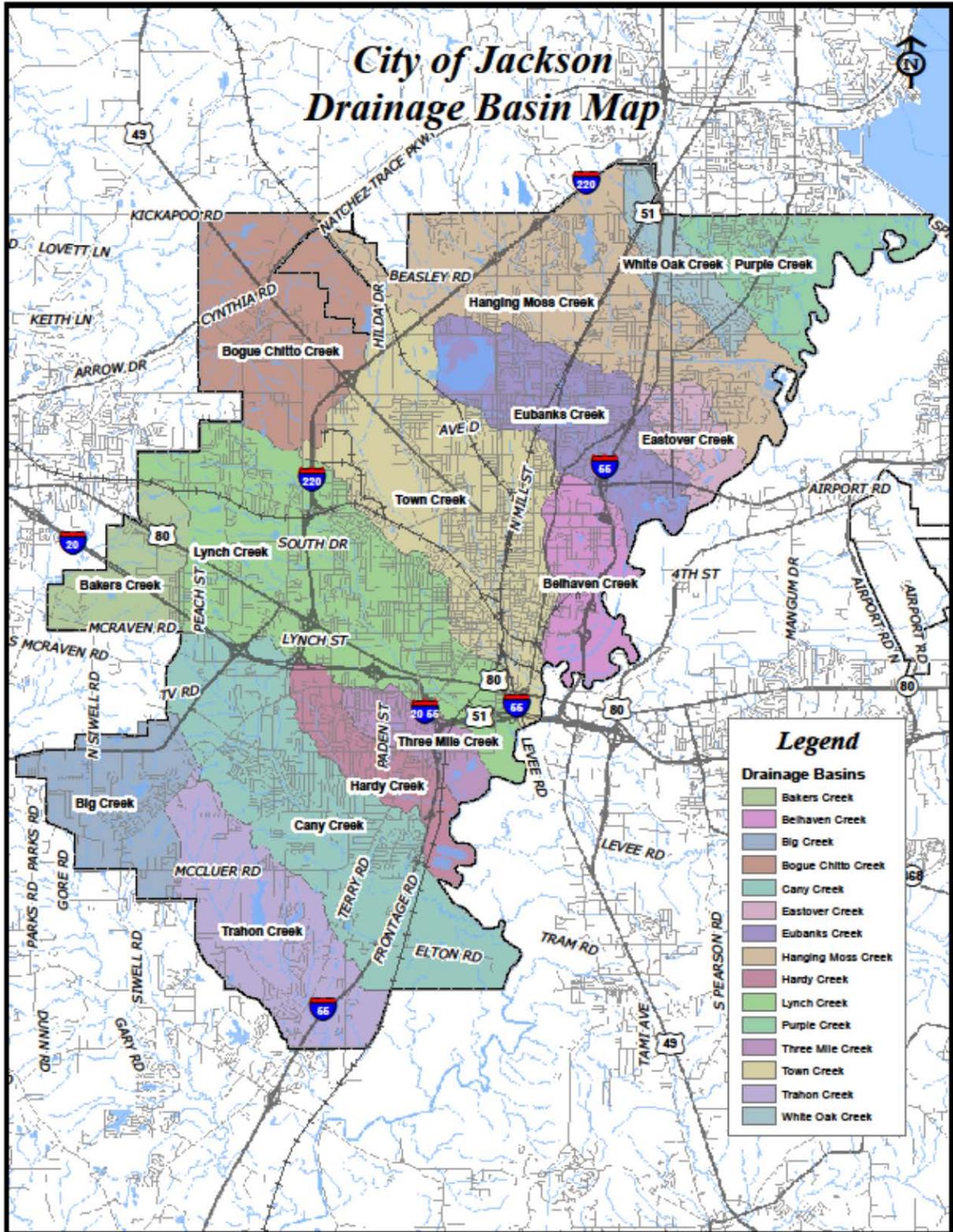


Figure 2-1
Jackson Drainage Basins

Table 2-1		
City of Jackson Sewersheds		
Sewershed	Discharge Point	Treatment Plant
PEARL RIVER BASIN		
1 Purple Creek	West Bank Interceptor	Savanna
2 White Oak Creek	West Bank Interceptor	Savanna
3 Hanging Moss Creek	West Bank Interceptor	Savanna
4 Eastover Creek	West Bank Interceptor	Savanna
5 Eubanks Creek	West Bank Interceptor	Savanna
6 Belhaven Creek	West Bank Interceptor	Savanna
7 Town Creek	West Bank Interceptor	Savanna
8 Lynch Creek	West Bank Interceptor	Savanna
9 Three Mile Creek	West Bank Interceptor	Savanna
10 Hardy Creek	West Bank Interceptor	Savanna
11 Caney Creek	Savanna WWTP	Savanna
12 Big Creek	Trahon Creek Basin	Trahon
13 Trahon Creek	Trahon WWTP	Trahon
BIG BLACK RIVER BASIN		
14 Bogue Chitto Creek	Presidential Hills WWTP	Presidential Hills
15 Bakers Creek	Lynch Creek Basin	Savanna

3.0 Routine Water Quality Monitoring

The purpose of the Routine Water Quality Monitoring component is to detect the occurrences of chronic line leaks or other unpermitted discharges from the sewer system in proximity to urban streams. The City's plan for routine water quality monitoring is described below.

3.1 Targeted Monitoring Points

Routine water quality monitoring will be conducted at strategic at-risk locations that are considered most likely to detect the existence of unreported discharges from the sewer system. These locations consist of:

- Stream crossings – Locations where sanitary sewer lines span creeks or drainages in the targeted areas.
- Sewer lines in the targeted areas installed parallel and adjacent to creeks.
- Other isolated and remote locations as identified from a detailed review of the sewer system topology.

Routine monitoring will be performed in each of the City's 15 sewersheds as identified on Figure 2-1.

3.2 Routine WQM Sampling Locations

Each of the 15 sewershed was examined to determine the required sampling locations to provide satisfactory routine water quality monitoring. Eight of the sewer basins are deemed small enough to permit a single sampling point near the discharge point of its contributing creek into the Pearl River. Seven of the basins are much larger and contain more developed area, and hence a larger contributing sewer network. These sewersheds will have an additional monitoring station, in most cases located approximately in the midpoint of the developed area. Three monitoring points will also be established on the Pearl River. Including the multiple monitoring locations in some basins, a total of 25 monitoring points were identified. The routine water quality sampling locations are shown in **Figure 3-1**. A tabular listing of the locations with latitude/longitude coordinates is shown on **Table 3-1**. Enlarged maps of each of the 25 sampling locations are provided in Appendix B.

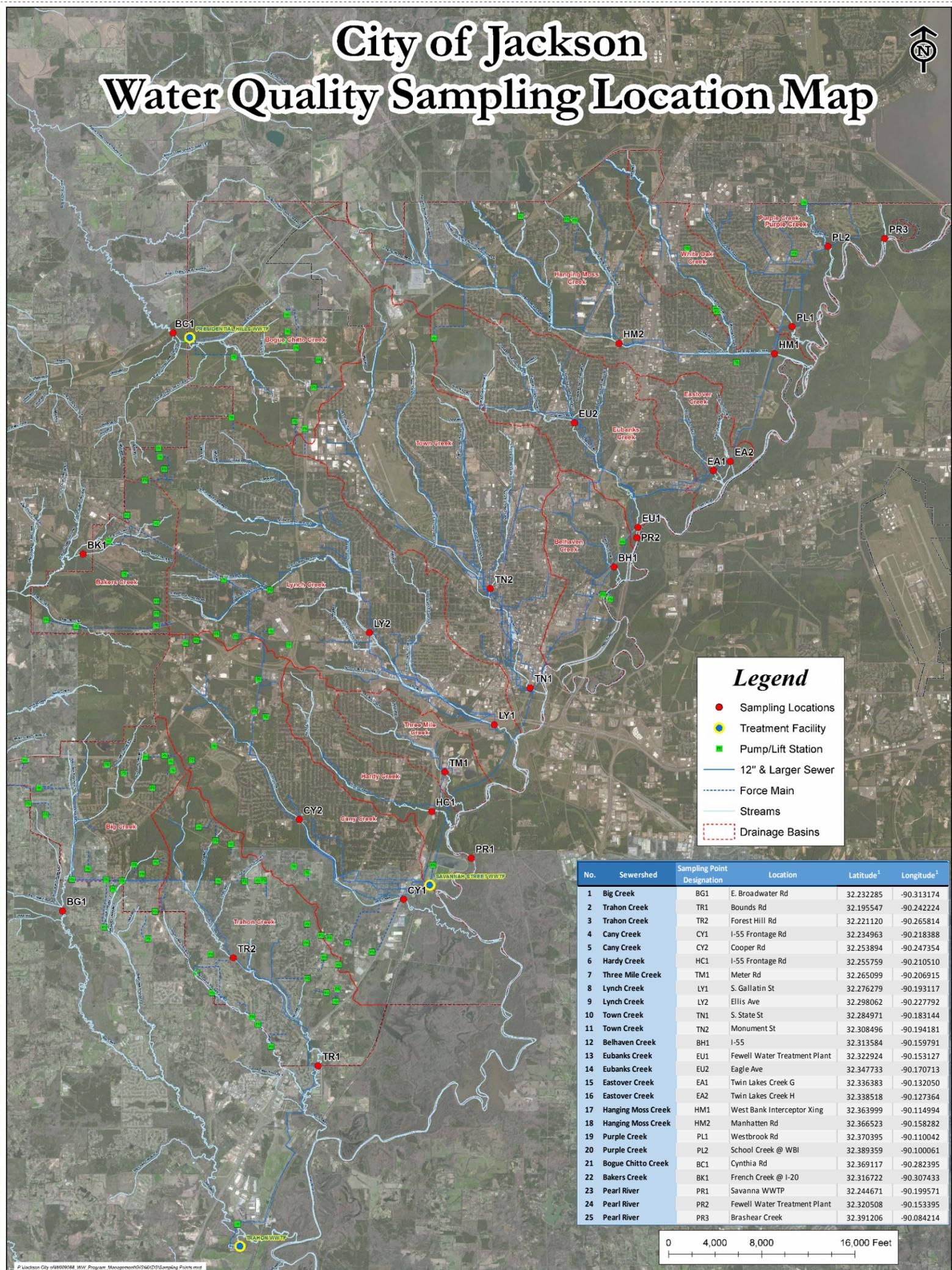


Figure 3-1
Water Quality Monitoring Sampling Locations

Table 3-1					
Water Quality Monitoring Program					
List of Sampling Locations					
No.	Sewershed	Sampling Point Designation	Location	Latitude ¹	Longitude ¹
1	Big Creek	BG1	E. Broadwater Rd	32.232285	-90.313174
2	Trahon Creek	TR1	Bounds Rd	32.195547	-90.242224
3	Trahon Creek	TR2	Forest Hill Rd	32.221120	-90.265814
4	Cany Creek	CY1	I-55 Frontage Rd	32.234963	-90.218388
5	Cany Creek	CY2	Cooper Rd	32.253894	-90.247354
6	Hardy Creek	HC1	I-55 Frontage Rd	32.255759	-90.210510
7	Three Mile Creek	TM1	Meter Rd	32.265099	-90.206915
8	Lynch Creek	LY1	S. Gallatin St	32.276279	-90.193117
9	Lynch Creek	LY2	Ellis Ave	32.298062	-90.227792
10	Town Creek	TN1	S. State St	32.284971	-90.183144
11	Town Creek	TN2	Monument St	32.308496	-90.194181
12	Belhaven Creek	BH1	I-55	32.313584	-90.159791
13	Eubanks Creek	EU1	Fewell Water Treatment Plant	32.322924	-90.153127
14	Eubanks Creek	EU2	Eagle Ave	32.347733	-90.170713
15	Eastover Creek	EA1	Twin Lakes Creek G	32.336383	-90.132050
16	Eastover Creek	EA2	Twin Lakes Creek H	32.338518	-90.127364
17	Hanging Moss Creek	HM1	West Bank Interceptor Xing	32.363999	-90.114994
18	Hanging Moss Creek	HM2	Manhattan Rd	32.366523	-90.158282
19	Purple Creek	PL1	Westbrook Rd	32.370395	-90.110042
20	Purple Creek	PL2	School Creek @ WBI	32.389359	-90.100061
21	Bogue Chitto Creek	BC1	Cynthia Rd	32.369117	-90.282395
22	Bakers Creek	BK1	French Creek @ I-20	32.316722	-90.307433
23	Pearl River	PR1	Savanna WWTP	32.244671	-90.199571
24	Pearl River	PR2	Fewell Water Treatment Plant	32.320508	-90.153395
25	Pearl River	PR3	Brashear Creek	32.391206	-90.084214

¹ Decimal degrees

3.3 Routine WQM Parameters

The water quality parameters that will be measured for each sample obtained at the locations in Table 3-1 will consist of the parameters listed on **Table 3-2**.

Table 3-2		
Water Quality Monitoring Program		
Sampling Parameters		
Parameter	Frequency	Type
pH	Monthly ¹	Grab
Temperature	Monthly	Grab
Dissolved Oxygen	Monthly	Grab
Fecal Coliform Bacteria	Monthly	Grab

¹ Sampling will be performed on approximately the same day each month

3.4 Routine WQM Sampling Frequency

Routine water quality monitoring will be performed during both dry and wet weather periods to establish baseline water quality and, after the base line water quality is established, allow indication of the presence of an undetected sewer discharge into the creek. Background water quality will be established over time by comparing and tracking dry weather sampling results. With the relative background water quality determined, the existence of an undetected discharge can be more readily identified.

Initially, each of the 25 sampling locations identified in Table 3-1 will be sampled monthly on or about the same date each month. Over the course of a typical year, representative sampling should be obtained for both wet and dry weather flow conditions.

After two years of results are obtained for each routine water quality sampling location, the sampling frequency may be revised based on the conditions observed and whether or not undetected discharge events were discovered. Sampling may be discontinued at some locations, or the locations altered, if it is determined that the sampling is not beneficial in identifying the presence of chronic line leaks or other undetected discharges.

3.5 Water Quality Monitoring Procedures

The water quality samples will be collected from each site by technicians qualified in surface water sampling procedures. The required sampling technicians will be employed by the City or, at its option, contracted to an independent laboratory. All samples will be sent to an outside lab for analysis.

Sampling will consist of obtaining a grab sample of the stream for local measurement of water temperature, dissolved oxygen, and pH using a suitable field instrument. A separate grab sample will be obtained for fecal coliform analysis. A qualified commercial analytical laboratory will be employed to analyze the samples. Fecal samples will be preserved and delivered to the lab. The sampling, holding time, and analysis protocols required by 40 CFR Part 136 will be followed by the sampling crew and the analytical laboratory. Field documentation will also be obtained for the following:

- Sample location
- Sample date and time
- Sampler's name
- Field test data performed on the sample
- Weather conditions and any observations made



3.6 Routine WQM Follow-up

The City's Water Quality Monitoring Team will receive the sample results and verify the results for accuracy using quality assurance documentation provided by the lab. Sampling results will be entered into the information management system for recording and tracking as described in Section 6. If the bacteriological results indicate the presence of elevated levels of fecal coliform, the investigative water quality monitoring procedure will be initiated to identify the source of the contamination. The Investigative Water Quality Monitoring procedure is described in the following section.

4.0 Investigative Water Quality Monitoring

The Investigative Water Quality Monitoring procedure will be followed to identify the source of any contamination identified under the routine water quality program. A water quality investigation may also be initiated in response to reported water quality complaints received from citizens or through notification by other means, such as MDEQ. The investigative water quality procedures are explained below.

4.1 Investigative Water Quality Monitoring Conditions

The investigative water quality monitoring procedure will be followed to detect occurrences of contamination from the wastewater collection system. Investigative monitoring also applies to the wastewater treatment plants, such as could perhaps occur due to undetected discharges from plant facilities that migrate to the receiving water.

The Investigative Water Quality Monitoring procedure is designed to locate unpermitted discharges from sewer line leaks or undetected manhole overflows. For these sources the investigative focus will be on fecal coliform measurements. If other contaminants are discovered or reported in the urban creeks, they are generally indicative of different sources of contamination than municipal sewers, such as spills or illicit industrial discharges. For these contamination events that do not originate from municipal sewers, the City will provide assistance to MDEQ in locating the source of the contamination, as appropriate, using the investigative monitoring procedures outlined below.



4.2 Dry Weather Monitoring

The purpose of dry weather monitoring during the investigative phase is to detect chronic leaks from sewer lines. Upon discovery of elevated fecal coliform levels during normal dry weather conditions, additional dry weather monitoring will be performed to confirm that contamination is present and ongoing.

The criterion for dry weather conditions is defined as four or more days of no rainfall. Generally, stormwater runoff should not be occurring after four days without rain. The testing period for investigative dry weather monitoring is defined as one week. For each targeted sampling location, samples will be collected once per day during the dry weather testing period and analyzed for fecal coliform bacteria. If persistent elevated fecal coliform levels are confirmed, a search for the source of the contamination will be initiated as described in Section 4.4.

4.3 Wet Weather Monitoring

The purpose of wet weather monitoring during the investigative phase is to detect new capacity problems. If elevated fecal coliform levels above normal background levels are found during or immediately after rain events as part of the routine water quality monitoring, an undetected SSO could be occurring. When elevated wet weather fecal coliform is discovered, additional sampling will be performed during successive wet weather events to determine if the elevated fecal levels are persistent and recurring.



The criterion for wet weather sampling is the occurrence of a rainfall event of ½-in or more within a 24-hr period. For each rainfall event that occurs after discovery of elevated wet weather fecal coliform levels in a particular stream, samples will be collected twice per day from the stream until wet weather flows subside. Multiple rain events may be required to confirm the presence of recurring elevated wet weather fecal coliform levels. If confirmed, a search for the source of the undetected SSO will be initiated following the procedures outlined below.

4.4 Source Determination

Appropriate investigative sampling locations will be selected on a case-by-case basis depending on the characteristics of the sewer basin and the spatial relationship of the sanitary sewer network to the impacted stream. A map will be prepared for each investigative monitoring event to show the actual sampling locations used.

Water quality monitoring/sampling will be performed following these guidelines:

- Beginning just downstream from the monitoring location with elevated fecal levels initially, and continuing upstream above the nearest sanitary sewer crossing.
- At a minimum at least one mile upstream.
- At a minimum four samples per mile.

Samples will be analyzed for the same parameters of pH, dissolved oxygen, temperature, and fecal coliform bacteria used in the routine water quality program. Using the fecal coliform results, the general locale of the contaminant source will be determined.

If the investigative fecal sampling is inconclusive, the testing period may be repeated, additional sampling points may be selected, and/or additional sampling may be performed to attempt to locate the general area of the contaminant source. Dye injection into sewer lines may also be employed, if warranted, as an aid in locating the source of the suspected leak.

4.5 Investigative WQM Follow-up

Upon discovery of dry weather or wet weather elevated fecal levels, the Water Quality Monitoring Team will implement the Investigative Water Quality Monitoring procedure to locate the source of the contamination so that the required corrective action can be taken. As described in the *Gravity Line Preventative Maintenance Program*, the City will have an SSO crew assigned to each of the City's four sewer maintenance districts. Upon notification, one of these crews will be mobilized to perform a physical inspection to locate the actual leak, and then to perform the necessary repairs.

In the case of an illicit discharge from a private source, such as an industry, Spill Impact Water Quality Monitoring will be performed as described in the following section.

5.0 Spill Impact Water Quality Monitoring

The routine and investigative water quality monitoring procedures are designed to detect unknown discharges from the City of Jackson wastewater collection system. In contrast, spill impact water quality monitoring procedures are designed to assess any impacts upon public health and the environment due to SSOs or spills of harmful substances.

5.1 Water Quality Impacts from SSOs

A requirement of the Water Quality Monitoring Program is develop and implement a Spill Impact Water Quality Monitoring component to assess any impact upon public health and the environment from pollution resulting from SSOs, and to assist in assessing the need for any environmental and/or public health response. This requirement was addressed as part of the *Sewer Overflow Response Plan* prepared by the City in 2011. The SORP was approved by EPA on October 20, 2011.

The approved SORP includes:

1. A proactive procedure to identify potential and actual sewer overflows;
2. An immediate response plan to minimize health and environmental impacts from overflows;
3. Defined procedures to quickly eliminate the overflow;
4. Protocols to report SSOs to MDEQ and other agencies as appropriate; and
5. A public notification procedure.

Since adoption, the City of Jackson has followed the environmental and public health assessment procedures and agency and public notification requirements outlined in the SORP.

The SORP includes special measures for SSO response crews to be alert for spills containing suspicious substances not common to the sewer system (oil sheen, foamy residue, gasoline or other suspicious odors), and alerting the Hazardous Materials Response Team if warranted. Overflow correction, containment, and clean-up procedures are included that are designed to:

- Protect public health, environment and property from sewage overflows and restore surrounding area back to normal as soon as possible;
- Establish perimeters and control zones with appropriate traffic cones and barricades, vehicles or use of natural topography (e.g. hills, berms);
- Promptly notify the regulatory agency with preliminary overflow information and potential impacts; and
- Contain the sewer overflow to the maximum extent possible including preventing the discharge of sewage into waters of the US and/or State.

When evaluating the potential impact of an SSO on public health and the environment, sensitivity factors are evaluated. These factors are used to determine the level of public notification and clean up activity required. These sensitivity factors include proximity or impact to:

- Streams, rivers, creeks, and other natural waterways
- Heavy pedestrian or inhabited areas
- Special facilities such as schools, public parks, walking trails, etc.
- Swimming areas
- Drinking water intakes

It is the responsibility of the first personnel who arrive at the site of a sewer overflow to protect the health and safety of the public by mitigating the impact of the overflow to the maximum extent possible. If the overflow is not the responsibility of The City of Jackson, but there is imminent danger to public health, public or private property, or to the quality of waters of the state, then the Supervisor, or authorized designee, shall take prudent emergency action. If the overflow will affect swimming areas, public drinking water intakes, or results in a fish kill the City shall notify the MDEQ and the Hines County Department of Health contact person immediately upon confirming the discharge.

The Regulatory Agency Notification Plan included in the SORP establishes procedures the City follows to provide formal notice to MDEQ in the event of a SSO. Agency notifications are performed in parallel with other internal City of Jackson notifications.

A copy of the approved SORP is provided in Appendix C (does not include the SORP appendices).

5.2 Spill Impact Assessment Protocols

Sampling Procedure

Source determination for spills will follow a similar procedure to that used for investigative water quality monitoring. Appropriate investigative sampling locations will be selected on a case-by-case basis. Depending on the magnitude of the spill, the spill response team will determine the number and location of upstream and downstream sampling points needed to characterize the spill. A map will be prepared to show the actual sampling locations used.

Spill impact assessment sampling will be performed following these guidelines:

- Beginning just downstream from the apparent spill location initially, and continuing upstream above the nearest sanitary sewer crossing.
- At a minimum at least one mile upstream.
- At a minimum four samples per mile.



Samples will be analyzed for the parameters of pH, dissolved oxygen, temperature, and fecal coliform bacteria, together with any special testing required for observed substances not common to sewers. The frequency and duration of sampling will be determined on a case-by-case basis depending on the specific characteristics of the detected spill. As appropriate personnel from other agencies will be notified and/or consulted. The objective of the spill impact sampling effort will be to identify the source of the spill as rapidly as possible so that appropriate response, containment, and abatement efforts can be initiated promptly.

Industrial Discharge Monitoring

If industries are upstream of the spill, samples will also be collected for Priority Pollutants known to be present in the wastewater of those Significant Industrial Users (SIUs). Regulated Industrial Priority Pollutants are identified in Tables II and III of Appendix D in 40 CFR Part 122. In the City of Jackson, there are 11 industries that require pretreatment permits. These industries are listed on **Table 5-1** together with the regulated contaminants for each industry.

**Table 5-1
Jackson Permitted Industrial Users
Regulated Discharge Parameters**

Industry	Type	Parameters
Armstrong World Industries Inc	Floor Tile Mfg.	pH, TKN, O&G, BOD5, TSS, Cu, Zn
Double G Coatings Company LP	Iron & Steel Mfg.	Pb, pH, Zn
Entergy Mississippi Inc, Hinds County Plant	Steam Electric Power Plant	TRC, pH, Cr, Zn
G and K Services Inc	Commercial Laundry	Ammonia, O&G, BOD5, pH, TSS, Cd, Cr, Cu, Pb, Ni, P, Zn
Griffin Industries LLC	Rendering Plant	TKN, O&G, BOD5, pH, TSS
Jackson Plating Company	Metal Finishing	Cd, Pb, TTO ¹
Metal Coaters	Metal Coil Coating	Cr, Cu, Cyanide, pH, Zn
Miller Transporters Inc	Treated Wash & Rinse Water	Benzene, BTEX, Cu, Hg, Napthalene, O&G, BOD5, pH, TSS, Zn
Penske Truck Leasing Company LP	Vehicle Wash Water	O&G, pH
Precoat Metals	Metal Coil Coating	Cr, Cu, Cyanide, pH, Zn
Process Engineering Company Inc	Electroplating & Metal Finishing	Cr, Cu, Cyanide, Total Metals, Ni, pH, Zn, Cd, Pb, Au, TTOs
¹ Total Toxic Organics		

For any reported or discovered spills, the investigative team will identify potential sewers that could be affected by the spill. This effort will guide further response actions and any guidance or warnings required to be communicated to the downstream wastewater treatment plant. MDEQ notification and requests for additional assistance will be made as necessary to identify, contain, and abate the spill impacts.

6.0 MS4 Sampling Interface

The City of Jackson also performs regular sampling of stormwater discharges as a requirement of the Municipal Separate Storm Sewer System (MS4) NPDES Permit #MSS049786. This permit includes an Illicit Discharge Detection and Elimination component and requires an Ambient Monitoring Plan.

6.1 Illicit Discharge Detection and Elimination

The Illicit Discharge Detection and Elimination program requires the City to conduct dry weather screening of the storm sewer system. The sampling requirements of the permit are listed below.

1. Sample runoff if flow or ponded runoff is observed at a field screening station and there has been at least 144 hours of dry weather. Record general information such as time since last rain, quantity of last rain, site descriptions (e.g., conveyance type, dominant watershed land uses), flow estimation (e.g., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).
2. Dry weather screening procedures – When dry-weather flow is observed, visual or odor observations (e.g., observation of pieces of toilet paper, strongly colored or very muddy discharge, or the odor of sewage or chemicals) may provide enough information to determine that the discharge is illicit and to identify the likely source. Inspectors will use the inspection form to aid in this determination. (Inspection form is included in Appendix A).
3. Procedures for investigating and tracing illicit discharges or other sources of non-storm water including enforcement measures that will be followed in eliminating illicit discharges or other sources of non-storm water should include the following:
 - (1) At a minimum, the City is required to conduct an investigation(s) to identify and locate the source of any continuous or intermittent non-storm water discharge within 48 hours of becoming aware of the illicit discharge.
 - Illicit discharges suspected of being sanitary sewage and/or significantly contaminated must be investigated first.
 - Investigations of illicit discharges suspected of being cooling water, wash water, or natural flows may be delayed until after all suspected sanitary sewage and/or significantly contaminated discharges have been investigated, eliminated and/or resolved.

- The City must report immediately the occurrence of any dry weather flows believed to be an immediate threat to human health or the environment to MDEQ.
- The City must track all investigations to document at a minimum the date(s) the illicit discharge was observed, the results of the investigation, any follow-up of the investigation, and the date the investigation was closed.



- (2) At a minimum, the City is required to determine and document through its investigations the source of all potential illicit discharges. If the source of the illicit discharge is found to be a discharge authorized under an active NPDES permit, no further action is required.
 - (3) If an illicit discharge is found, but within six months of the beginning of the investigation neither the source nor the same non-storm water discharge has been identified/observed, then the City must maintain written documentation for audit review.
 - (4) If the observed discharge is intermittent, the City must document that a minimum of three separate investigations were made to observe the discharge when it was flowing. If these attempts are unsuccessful, the City must maintain written documentation for review by the permitting authority. However, since this is an ongoing program, the City should periodically recheck this suspected intermittent discharge.
4. Corrective Action to Eliminate Illicit Discharge - Once the source of the illicit discharge has been determined, the City must immediately notify the responsible party of the problem, and require the responsible party to conduct all necessary corrective actions to eliminate the non-storm water discharge. The timeframe for eliminating a connection or discharge will depend on the type of connection or discharge and how difficult elimination will be. A discharge that poses a significant threat to human or environmental health should be discontinued and eliminated immediately. Clear guidance should be provided in the procedures on the timeframe for removing discharges and connections. Typically, discharges should be stopped within seven days of notification by the municipality, and illicit connections should be repaired within 30 days of notification. At a minimum, upon notification that the discharge has been eliminated, the City must conduct a follow-up investigation and field screening, if necessary, to verify that the discharge has been eliminated. The City is required to document its follow-up investigation. Resulting enforcement actions must follow the Stormwater Management Program (SWMP) Enforcement Response Plan (ERP).

5. The City shall submit an Annual Report in the approved format to MDEQ by the 28th day of each January for the previous calendar year. The above procedures and any documents required by the permit shall be evaluated annually and any changes documented.

6.2 Ambient Monitoring Requirements

Under the permit, the City is also required to perform ambient stormwater monitoring. In addition to the monitoring requirements for illicit discharge detection and elimination, the City shall conduct ambient monitoring during the second and fourth year of the permit cycle. The sampling parameters shall, at a minimum, include turbidity, total phosphorus, total nitrogen, dissolved oxygen, flow, and pH.



The frequency shall be, at a minimum, after two storm events in the wet season (November - April) and after two storm events during the dry season (May - October). The storm events should be greater than 0.1 inches in magnitude and occurring at least 72 hours from the previously measurable storm (greater than 0.1 inch of rainfall).

In order to ensure the ambient monitoring plan chooses sampling locations that sufficiently represent the MS4 area, the plan shall include all 11 sub-watersheds of the Pearl River (Purple Creek, White Oak Creek, Hanging Moss Creek, Eubanks Creek, Belhaven Creek, Town Creek, Lynch Creek, Three Mile Creek, Hardy Creek, Cany Creek, Trahon Creek). This represents nearly 100% of the surface area draining to the Pearl River. The sampling stations must be located near the terminus of the above designated creeks so that it integrates most, if not all discharges upstream of the station or stations, but before mixing with the Pearl River where dilution by such a large water body may make results difficult to interpret. In addition, the City must determine if any similar monitoring is occurring within the MS4 and if it is logical to link efforts. Additional sites may be selected at the City's discretion.

A proposed monitoring plan shall be submitted with the first annual report. Samples must be collected and analyzed consistent with the procedures required by 40 CFR Part 136.

The results of this study, to be submitted with the with the second and fourth annual reports, will aid MDEQ and the City in the assessment of the SWMP's effectiveness and adequacy; identify and prioritize portions of the MS4; and identify water quality improvements and degradations. The trends identified by this study and reported in the fourth year re-application package will aid in the development or modification of the measurable goals for the next Permit MSSO49786.

6.3 Merging of WQM and Stormwater Monitoring Programs

It is the intent of the City to merge the sampling requirements of the Water Quality Monitoring Program and the MS4 Monitoring Program. This will benefit both programs since many of the WQMP locations are suitable for MS4 sampling, and the MS4 requirement for illicit discharge detection mirrors objectives of the WQMP.



A combined WQM and MS4 sampling and analysis team will be established in the Public Works Department. The personnel and resources required to perform the sampling will be established in accordance with the implementation schedule in Section 7. It is anticipated that the same contract analytical laboratory used for analysis of MS4 samples will be used for WQMP samples. Additionally, the sampling and analysis team will perform the investigative work required for source detection of unreported sewer discharges and spills required by the WQMP as well as MS4 illicit discharge detection. Protocols for the combined sampling effort will be developed during the WQMP implementation phase.

7.0 WQMP Implementation

This section describes the information management system, quality assurance procedures, and reporting process that will be used in the WQMP. The proposed WQMP implementation schedule is also provided.

7.1 Information Management System

The City of Jackson will maintain a database of all routine, investigative, and spill impact water quality monitoring performed. Analytical results will be recorded for each sampling event to track historical trends and establish baseline water quality parameters in the urban creeks and the Pearl River. The dates and times of all sampling events will be recorded.

All fecal coliform, pH, temperature and dissolved oxygen data will be compiled and entered into Excel worksheets. Results will be presented in tables, figures, and geo-referenced spatial distribution maps and graphs. The database will include tabular and graphical results of the fecal and dissolved oxygen monitoring and geographical information system (GIS) maps of the sampling stations. GIS data will be manipulated using ArcView software. The database will be updated quarterly. This information will be compiled and reported as described below.

7.2 Quality Assurance

Quality assurance procedures for performing water quality monitoring will be followed to insure data reliability. For each sampling event, 10% of the fecal coliform samples collected will be randomly duplicated (e.g., 3 of the 25 stations will have duplicate samples). Stations used for duplicates will be chosen randomly before each sampling event. For each sampling event a blank will also be tested, consisting of 100 mL deionized water from the laboratory. All laboratory containers (sample bottles, dilution bottles, pipenes, graduated cylinders) will be maintained and sterilized according to 40 CFR Part 136 guidelines.

Cleaning of DO and pH sensors will be performed after each sampling event to remove any residues that would affect meter readings. Probe membranes, electrolyte, and/or electrodes will be replaced periodically. Batteries will be checked before sampling and replaced if the meter indicates insufficient power for proper meter operation. A redundant meter will also be available to the sampling crew.



7.3 Reporting

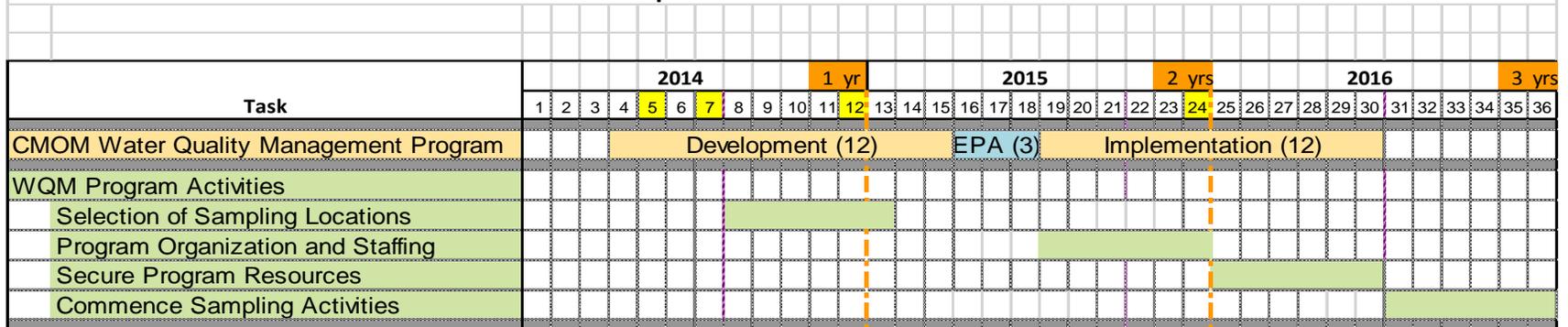
Results of the WQMP will be included in the quarterly reports submitted to MDEQ and EPA. Reporting will include actions taken during the prior calendar quarter, including the dates and times of all sampling activities. Brief data summaries will be generated from the database and provided in the reports. Scheduled activities in the next calendar quarter will also be reported. The quarterly WQMP reports will be placed on the City of Jackson website.

7.4 Implementation Schedule

The proposed schedule for implementation of the City of Jackson Water Quality Monitoring Program is provided on **Figure 7-1**.

Figure 7-1

City of Jackson, Mississippi
DEQ Agreed Order / EPA Consent Decree
Water Quality Management Program
Excerpt from 17.5 Year Schedule



Appendix A

MS4 Sampling Collection Field Sheet

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	
Land Use in Drainage Area (Check all that apply):			
<input type="checkbox"/> Industrial		<input type="checkbox"/> Open Space	
<input type="checkbox"/> Ultra-Urban Residential		<input type="checkbox"/> Institutional	
<input type="checkbox"/> Suburban Residential		Other: _____	
<input type="checkbox"/> Commercial		Known Industries: _____	
Notes (e.g., origin of outfall, if known):			

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Single <input type="checkbox"/> Elliptical <input type="checkbox"/> Double <input type="checkbox"/> Box <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____ <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	
<input type="checkbox"/> In-Stream	(applicable when collecting samples)			
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No		<i>If No, Skip to Section 5</i>	
Flow Description (If present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS					
PARAMETER	RESULT	UNIT	EQUIPMENT		
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle	
	Time to fill		Sec		
<input type="checkbox"/> Flow #2	Flow depth		In	Tape measure	
	Flow width	____' ____"	Ft, In	Tape measure	
	Measured length	____' ____"	Ft, In	Tape measure	
	Time of travel		S	Stop watch	
Temperature		°F	Thermometer		
pH		pH Units	Test strip/Probe		
Ammonia		mg/L	Test strip		

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? Yes No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
			1 - Faint	2 - Easily detected	3 - Noticeable from a distance
Odor	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floatables -Does Not Include Trash!!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? Yes No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: <input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>		

Section 6: Overall Outfall Characterization

Unlikely Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3) Obvious

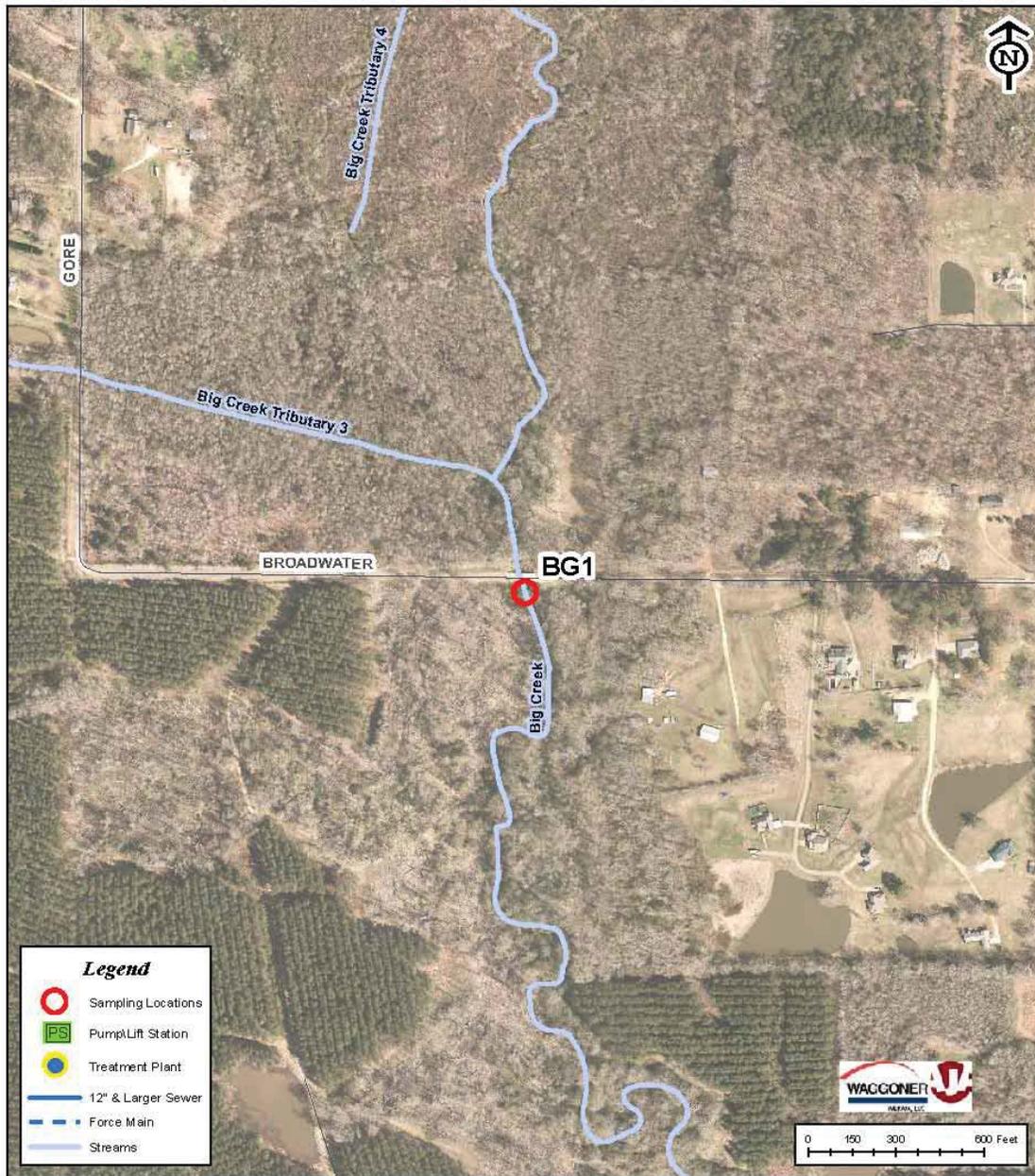
Section 7: Data Collection

1. Sample for the lab?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam</i>

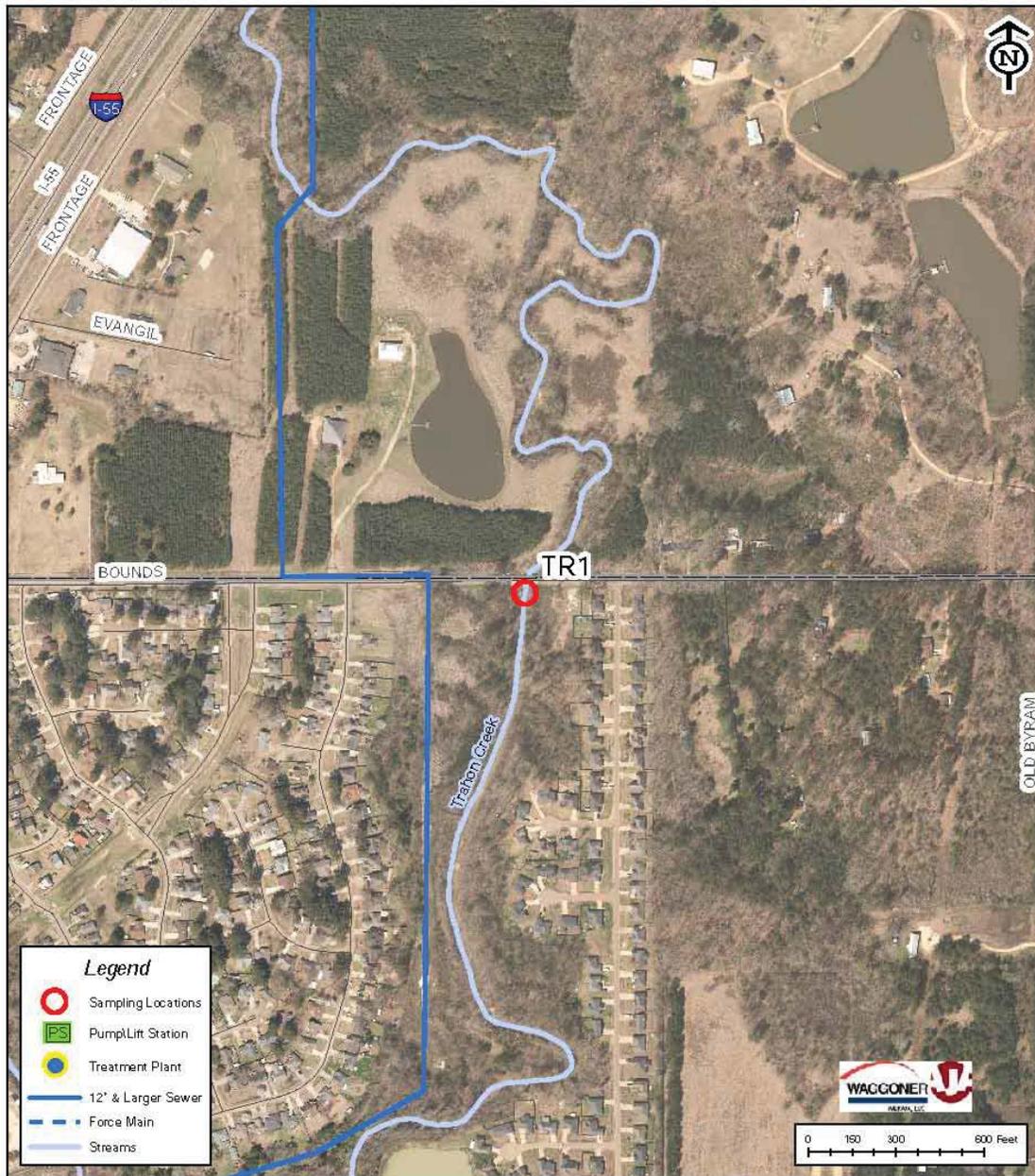
Section 8: Any Non-Ilicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Appendix B

WQMP Sampling Locations Enlarged Maps



City of Jackson
Water Quality Sampling Location 1
Big Creek @ E. Broadwater Road



City of Jackson
Water Quality Sampling Location 2
Trahon Creek @ Bounds Road



City of Jackson
Water Quality Sampling Location 3
Trahon Creek @ Forest Hill Road



City of Jackson
Water Quality Sampling Location 4
Cany Creek @ I-55 Frontage Road



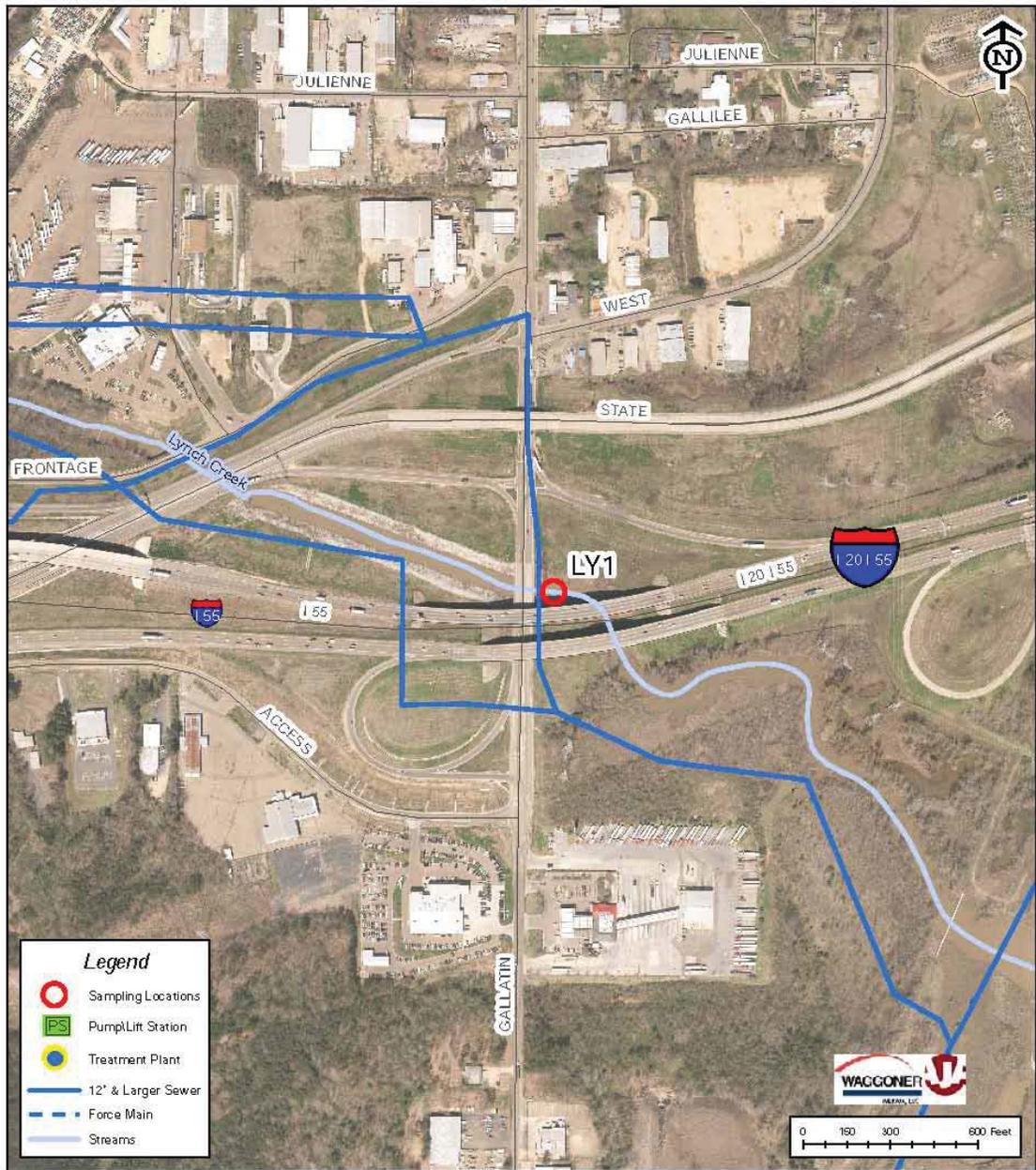
City of Jackson
Water Quality Sampling Location 5
Cany Creek @ Cooper Road



City of Jackson
Water Quality Sampling Location 6
Hardy Creek @ I-55 Frontage Road



City of Jackson
Water Quality Sampling Location 7
Three Mile Creek @ Meter Road



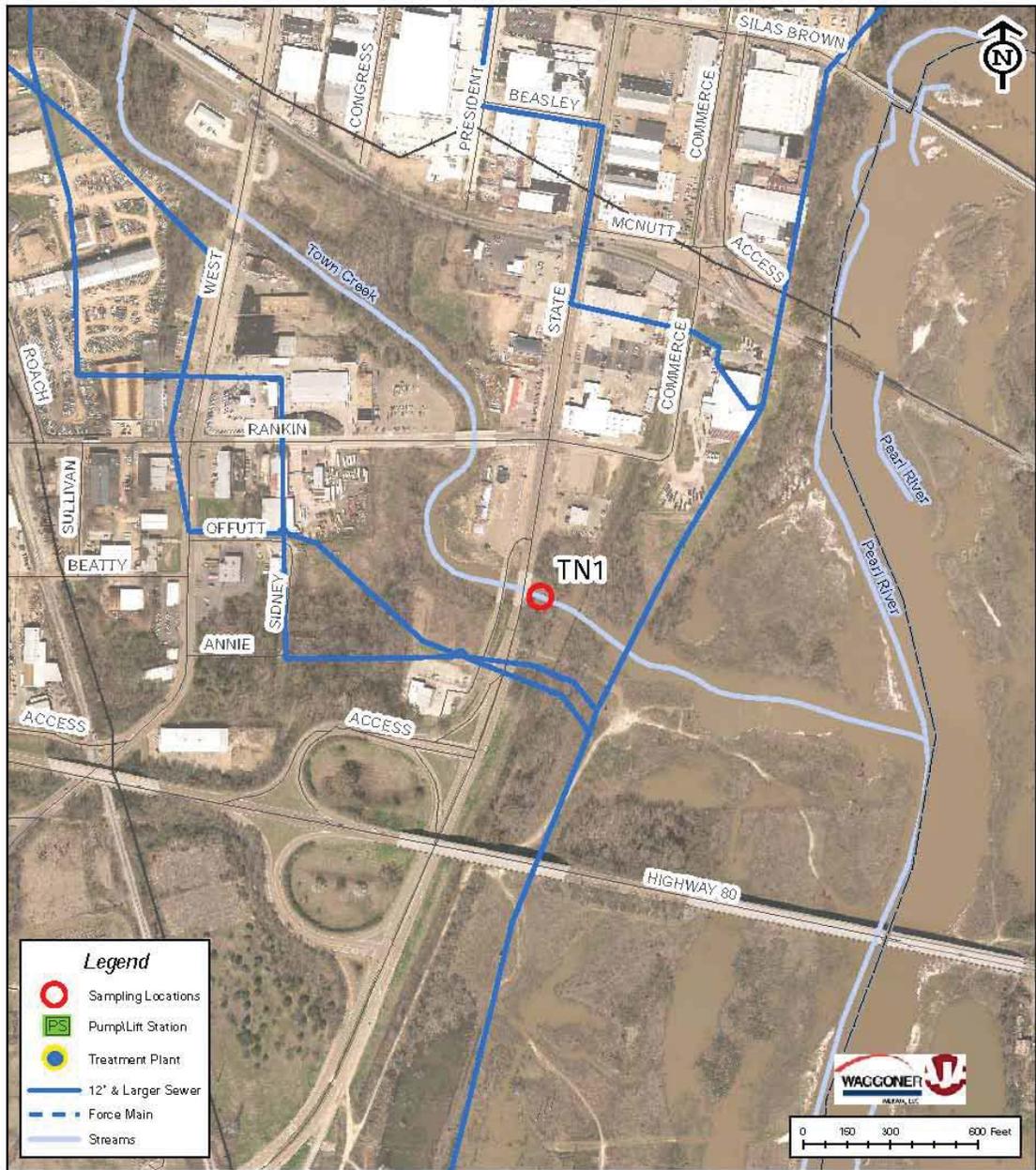
City of Jackson
Water Quality Sampling Location 8
Lynch Creek @ S. Gallatin Street



City of Jackson

Water Quality Sampling Location 9

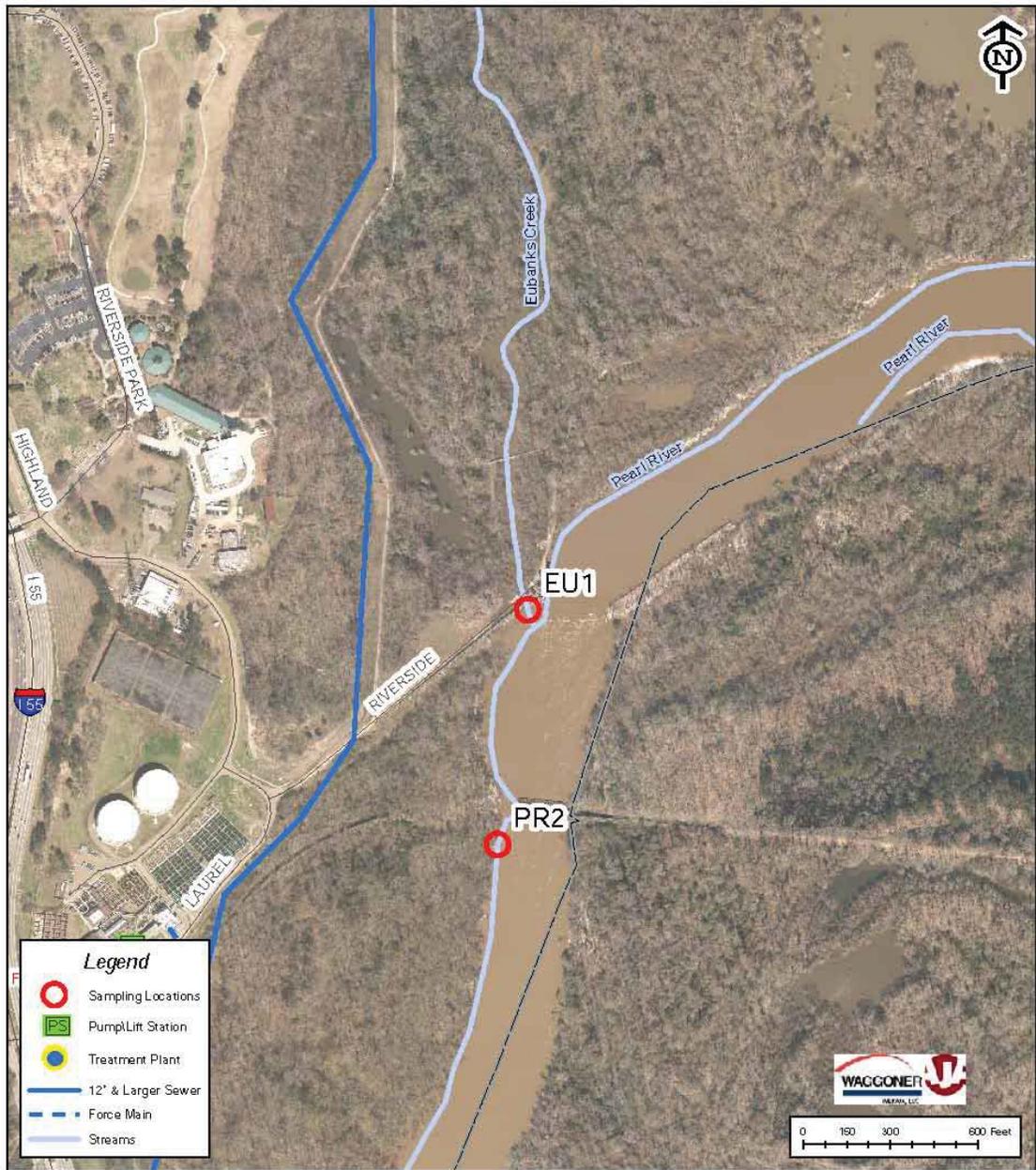
Lynch Creek @ Ellis Avenue



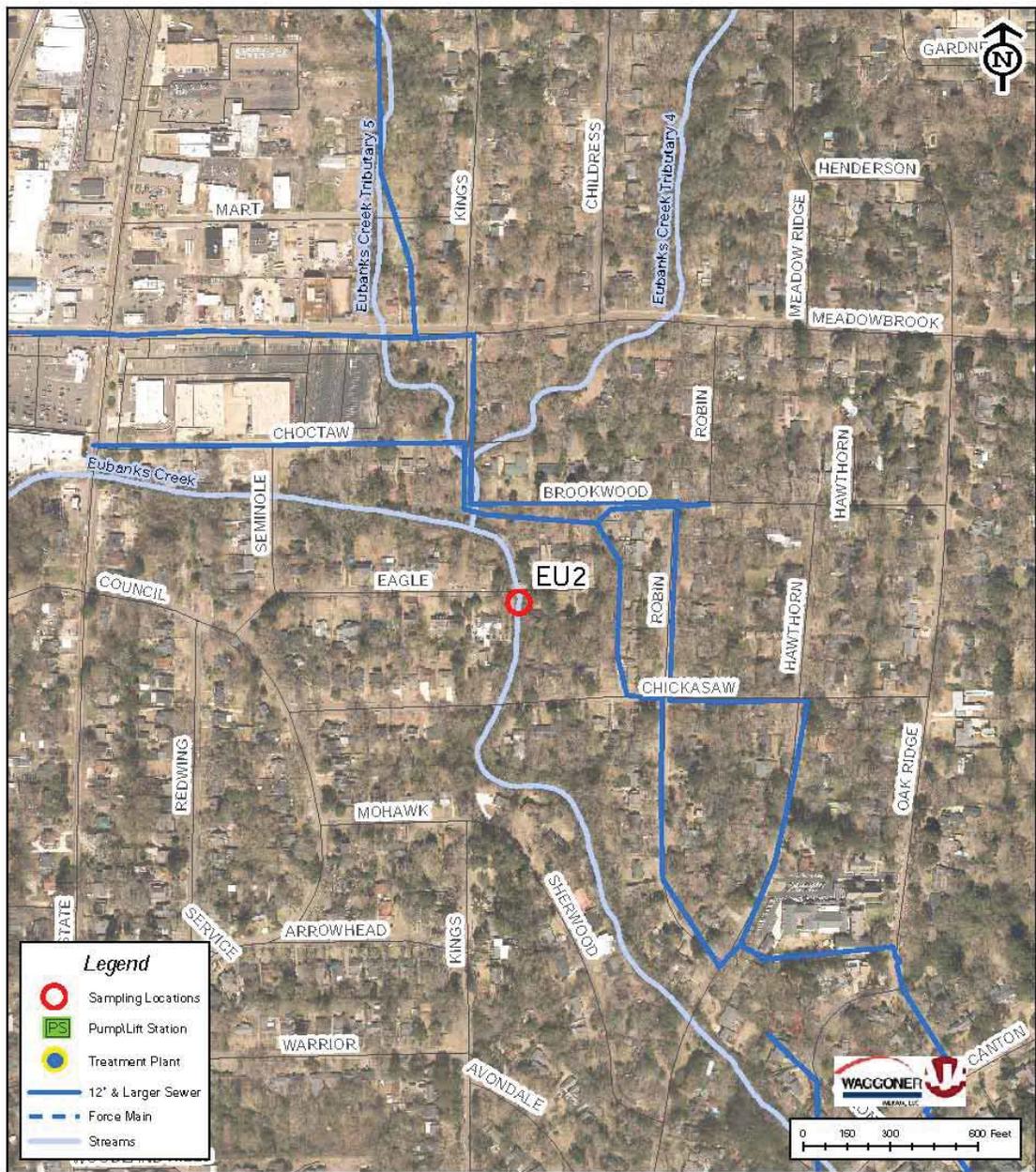
City of Jackson
Water Quality Sampling Location 10
Town Creek @ S. State Street



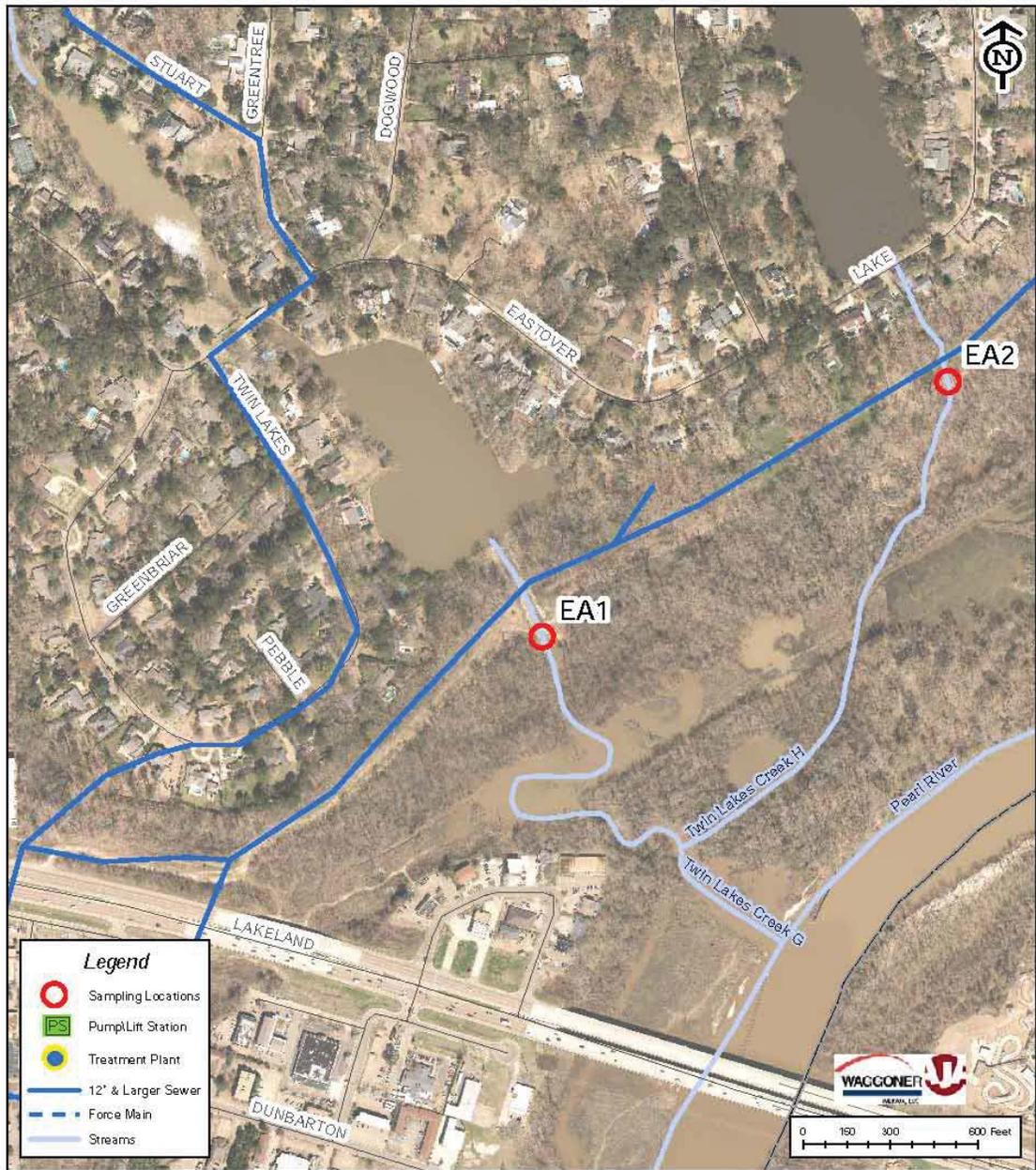
City of Jackson
Water Quality Sampling Location 12
Belhaven Creek @ I-55



City of Jackson
Water Quality Sampling Location 13
Eubanks Creek @ JH Fewell WTP



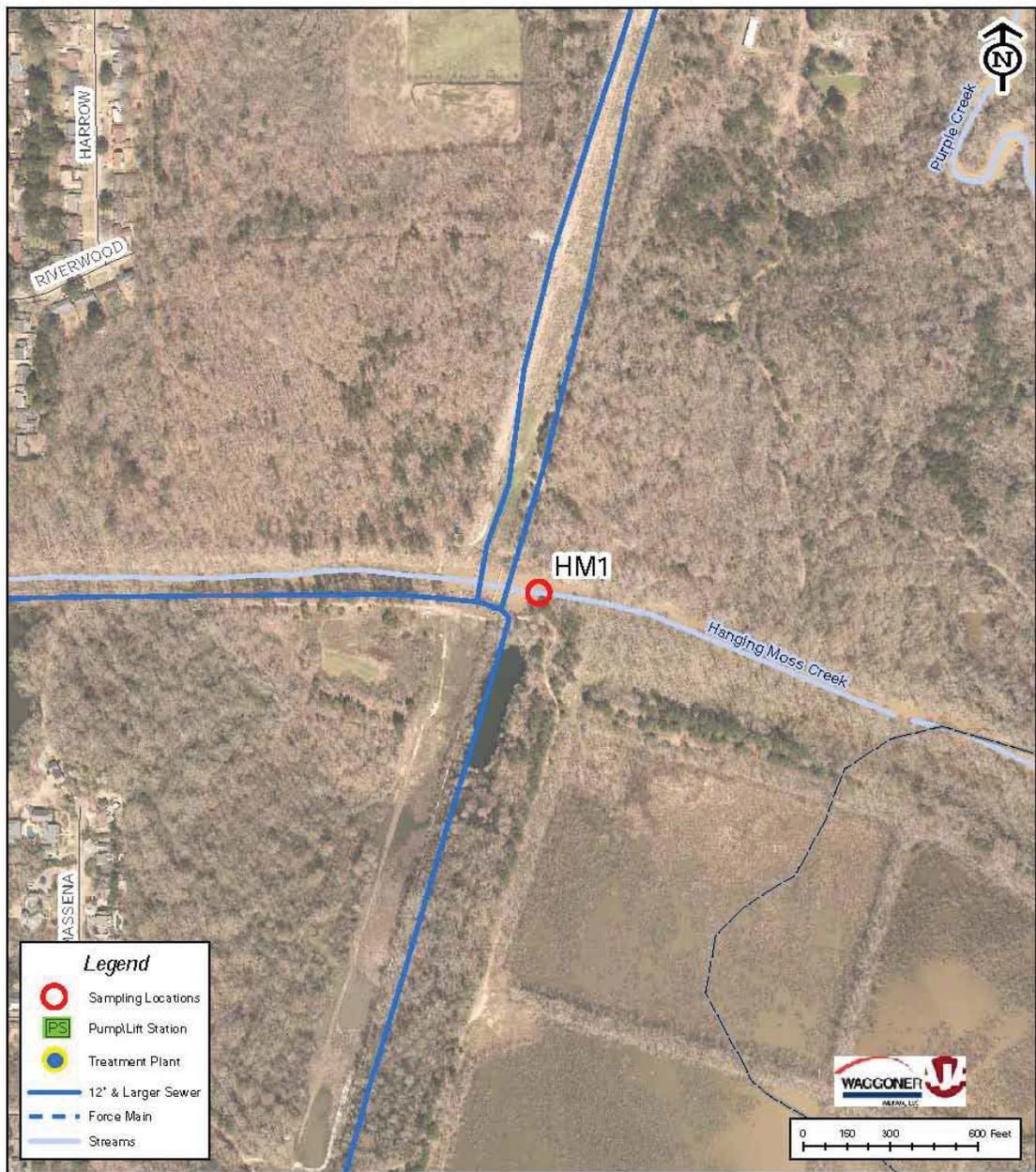
City of Jackson
Water Quality Sampling Location 14
Eubanks Creek @ Eagle Avenue



City of Jackson
Water Quality Sampling Location 15
Eastover Creek @ Twin Lakes Creek G



City of Jackson
Water Quality Sampling Location 16
Eastover Creek @ Twin Lakes Creek H



City of Jackson
Water Quality Sampling Location 17
Hanging Moss Creek @ WBI



City of Jackson
Water Quality Sampling Location 18
Hanging Moss Creek @ Manhattan Road



City of Jackson
Water Quality Sampling Location 19
Purple Creek @ Westbrook Road



City of Jackson
Water Quality Sampling Location 20
School Creek @ WBI



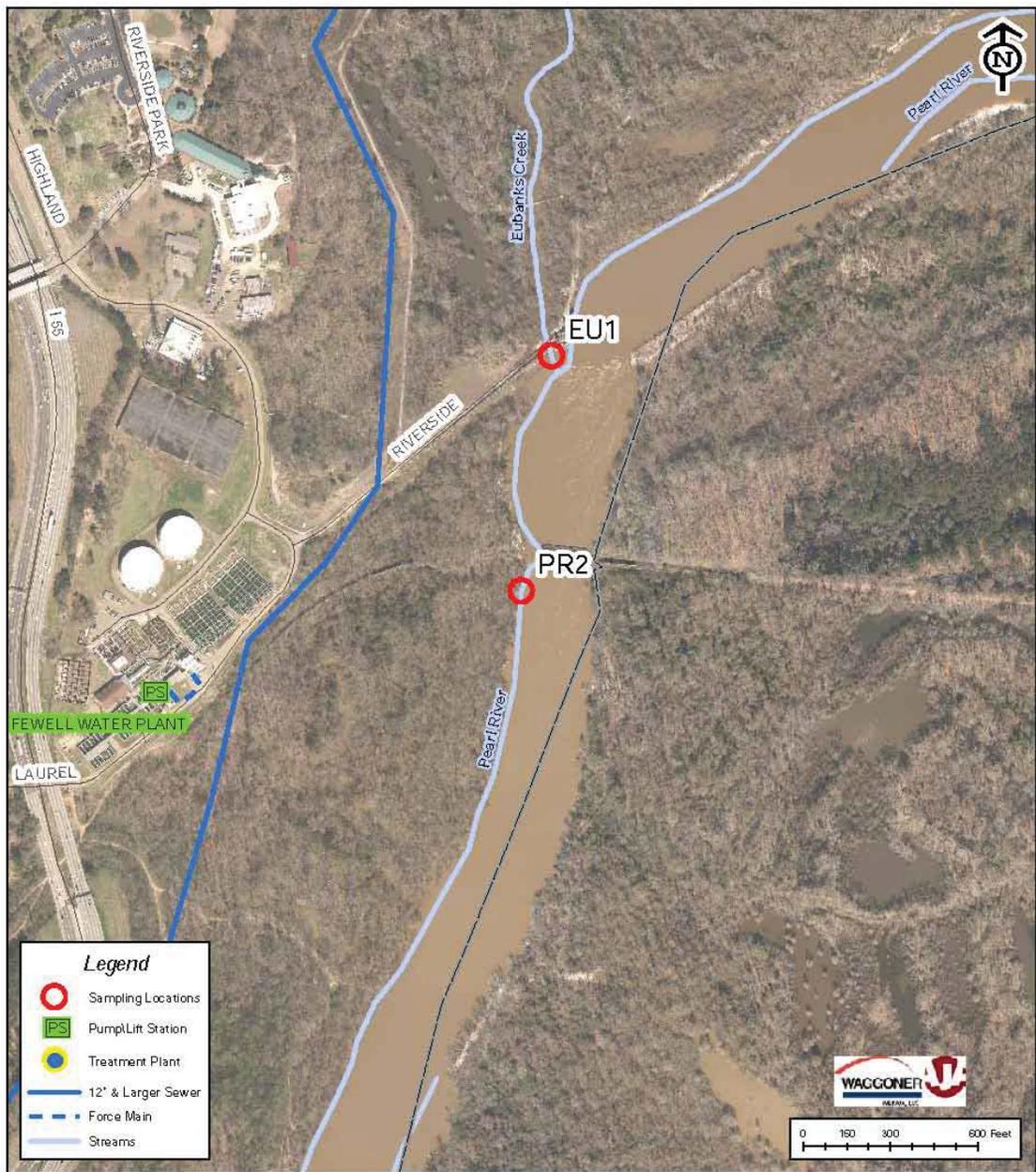
City of Jackson
Water Quality Sampling Location 21
Bogue Chitto Creek @ Cynthia Road



City of Jackson
Water Quality Sampling Location 22
French Creek @ I-20



City of Jackson
Water Quality Sampling Location 23
Pearl River @ Savannah WWTP



City of Jackson
Water Quality Sampling Location 24
Pearl River Creek @ JH Fewell WTP



City of Jackson
Water Quality Sampling Location 25
Brashear Creek @ Pearl River

Appendix C

Sewer Overflow Response Plan

Sewer Overflow Response Plan



Prepared By:
City of Jackson
Water/Sewer Utilities Division
200 S. President Street, Rm 405
P.O. Box 17
Jackson, MS 39205-0017
Voice: (601) 960-2090
Fax: (601) 968-3502
Submitted On: September 28, 2011
Approved On: October 10, 2011
Amended On: _____, 20____

Sewer System Owner:

City of Jackson
200 S. President Street, Room 405
PO Box 17
Jackson, MS 39205-0017

Contact Persons:

Harvey Johnson, Jr., Mayor
(601) 960-1084

Chris Mims, Director of Communications
Office of the Mayor
(601) 960-1084
Public Service Announcements

Dan Gaillet, Director of Public Works
(601) 960-2091
dgaillet@city.jackson.ms.us

David Willis, Deputy Director of Public Works
(601) 960-2090
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Prentiss Guyton, Manager
W. Anthony Harkless, Wastewater Operations Engineer
Vacant, Wastewater Collections Engineer
Water/Sewer Utilities Division
(601) 960-2090
pguyton@city.jackson.ms.us
Cojanthony@yahoo.com
Terry "Butch" Mayfield, Superintendent
Sewer Maintenance Division
(601) 960-1868

Regulatory Agencies to Receive Sewer Overflow Report:

MS Department of Environmental Quality
Office of Pollution Control
P. O. Box 2261
Jackson, MS 39225
Contact Person:
Rusty Lyons, P.E., Manager,
Compliance and Enforcement
Phone: (601) 961-5588
Fax: (601) 961-5674
Email: rusty_lyons@deq.state.ms.us

Hinds County Health Department
Environmental Health
539 E Beasley Road
PO Box 20
Jackson, MS 39205-0020
Sherrie Payne, Regional Environmentalist
Marvin Bolden, County Environmentalist
Lakeshia Paige, County Environmentalist
Phone: (601)-957-1026
Fax: (601)-957-1053
sherrie.payne@msdh.state.ms.us
marvin.bolden@msdh.state.ms.us
lakeshia.paige@msdh.state.ms.us

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I. AUTHORITY

This Sewer Overflow Response Plan (SORP) is prepared to facilitate proper incident reporting procedures outlined in MDEQ Agreed Order No **5823 10** and Section 750-2.7 Incident Reporting of the NPDES permits.

II. GENERAL

The Sewer Overflow Response Plan (SORP) is designed to facilitate the proper response to sewer overflows to by the appropriate City of Jackson (COJ) personnel and the proper reporting of such overflows to State and Local Authorities. For the purpose of this plan the City of Jackson or City of Jackson personnel includes all contractors who provide labor, materials, services or any other resource to comply with all applicable regulations and goals. Quick response will minimize the effects of the overflow with respect to impacts on public health, the environment, beneficial uses and water quality of surface waters and on customer service. The SORP further includes provisions for safety pursuant to the directions provided by the Mississippi Department of Environmental Quality (MDEQ) and that notification and reporting is made to the MDEQ and the Hinds County Department of Health (HCDH) when applicable.

A. Purpose

The purpose of the SORP is to:

1. Develop a proactive procedure to identify potential and actual sewer overflows;
2. Develop an immediate response plan to minimize health and environmental impacts from overflows;
3. Establish procedures to quickly eliminate the overflow;
4. Develop protocols to report SSOs to MDEQ and other agencies as appropriate; and
5. Develop public notification procedures to be used as appropriate.

“Sanitary Sewer Overflow” or “SSO” shall mean any discharge of wastewater to waters of the United States or the State from the City’s Sewer System through a point source not specified in any NPDES permit, as well as any overflow, spill, or release of wastewater to public or private property from the Sewer System that may not have reached waters of the United States or the State, including all Building Backups.

The "POTENTIAL" SSO location is defined as the manhole or point at which an SSO is likely to occur in the event of a pump station failure. These were located by observing the lowest manhole (usually the closest to the pump station if not the pump station itself) by United Water and the City. These were visual observations only and not surveyed at this time.

This SORP is developed to address the fundamental types of SSOs:

• **Wet Weather Overflows**

Wet weather overflows result from excessive flows during significant rain events and/or elevated ground and surface water conditions. They can be attributed to a number of factors, including, but not limited to, the following:

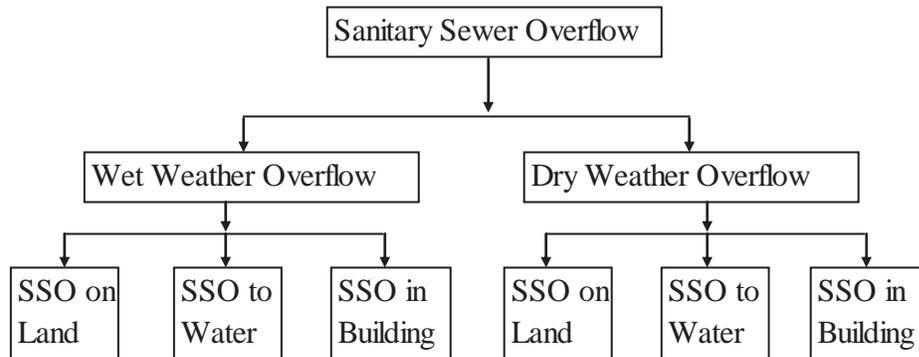
- Downspouts
- Footing drains
- Sump pumps
- Leaking service laterals
- System Infiltration
- Flooding from the stormwater system

• **Dry Weather Overflows**

Overflows during dry weather are most often caused by flow restrictions or system disruptions. Dry weather SSOs can be attributed to a number of factors including, but not limited to, the following:

- Bottlenecks and/or blockages
- Grease
- Roots
- Debris
- Mechanical failures
- Sewer main breaks

Additionally, each of these types of SSO can lead to a discharge to either land, water of the U.S. or State, or within a building. The protocols outlined in the following sections describe the appropriate response to a SSO based on its location as shown on the following chart.



The SORP Long Term Corrective Actions Procedures (Section VII) discusses the type, location, destination, cause, impact, and containment and remediation requirements of SSO, as well as prevention measures.

The effective date of this plan is October 10, 2011. All schedules/proposed deadlines within this plan begin on the effective date. A detailed implementation plan can be found in Appendix A.

B. Organization of Plan

The key elements of the SORP are addressed individually as follows:

Section III	Overflow Identification and Response Procedure
Section IV	Building Backups Procedure
Section V	Public Advisory Procedure
Section VI	Regulatory Agency Notification Procedure
Section VII	Long Term Corrective Action Procedures
Section VIII	Personnel Training
Section IX	Maintenance of SORP
Section X	Appendices

III. OVERFLOW IDENTIFICATION AND RESPONSE PROCEDURE

The Overflow Identification & Response Procedure presents a strategy for the COJ to identify and then mobilize labor, materials, tools and equipment to correct or repair conditions, which may cause or contribute to a sewer overflow. The plan considers a wide range of potential system failures that could create an overflow to surface waters, land or buildings.

A. Receipt of Information Regarding an SSO

An overflow may be detected by COJ personnel or by others. COJ is diligent in attempting to identify SSOs before they become a public issue. After each significant rainfall event, COJ personnel shall remotely monitor or inspect potential and known SSO locations for problems. Significant rain events include those rain events that are known to be, or suspected of being, associated with, or contributing to SSO occurrences, regardless of the intensity, duration or measured rain gauge size of the event. In addition, other public offices such as police and fire departments are to report any SSOs encountered. COJ personnel are responsible to act based on received notification of sewage overflow from the wastewater collection system, and to provide immediate response to investigate and/or correct reported sewer overflow. Generally, telephone calls from the public reporting sewer overflows are received at the public offices identified in Appendix B. If received by another public office, that office will alert Public Works.

The call taker (person who received notice of an SSO) obtains all relevant information available regarding the overflow including:

- a. Time and date call was received;
- b. Caller's name and phone number;
- c. Specific location of problem;
- d. Description of problem;
- e. Time overflow was noticed by the caller;
- f. Observations of the caller such as odor and duration; and
- g. All relevant information that helps COJ personnel to quickly locate, assess and stop the overflow.

The call taker records initial information including their name in a Sewer System Work Order (Appendix C) and notifies Sewer Maintenance Division personnel. In addition to the Work Order form, which is used for sewer maintenance activities, reports of an overflow require additional information. Overflows are entered into a Wastewater SSO Assessment Form (Appendix C). In addition all information regarding a SSO is entered into the SSO database system.

B. Dispatch of Personnel to Site of Reported Sewer Overflow

The COJ will dispatch maintenance personnel to confirm reported overflows as soon as reasonably possible of receiving notification of the overflow(s). During the normal business hours, the goal of the City is for this confirmation to take place in less than one hour of the notification. During non-business hours, this confirmation should normally take place within two hours of the notification. In addition, the COJ proposes to divide the City, using existing police precincts, into sewer response zones. Each zone will have personnel and equipment assigned and located within that zone for SSO response. These zone response teams should be in place within 24 months. In the interim, COJ will continue to respond from existing maintenance facilities within the proposed time frame. These zones are shown on an Exhibit in Appendix D. The City is using the police precinct zones since these zones were previously defined and provided for a reasonable response area for each team. Until verified, the report of a possible spill will not be referred to as a “sewer overflow” only as a “maintenance activity”. COJ personnel will complete the Wastewater SSO Assessment Form (Appendix C) within 24 hours of the reported activity and upon confirmation, provide the information orally to the MDEQ. The COJ Supervisor, Superintendent, Wastewater Collections engineer, or authorized designee is responsible for reviewing, updating and signing the final Sewage Overflow Report. Sewage overflow response internal notification and tracking protocol is summarized in Appendix D.

If the overflow will affect swimming areas during the swimming season, public drinking water intakes, or if it results in a fish kill, the COJ shall notify the MDEQ contact person and the HCHD contact person orally, immediately upon confirmation of the SSO. After business hours, any significant overflows should be reported to the MEMA 24 hour response number. An Exhibit showing the swimming areas can be found in Appendix D.

Failure of any element within the sanitary sewer collection system that threatens to cause or causes a SSO shall trigger an immediate response to isolate and correct the problem. Personnel and equipment shall be available to respond to any SSO locations. Additional maintenance personnel shall be “on call” in the event extra manpower is needed.

1. Dispatching Maintenance Personnel

- When COJ personnel receive notification of a potential sewer overflow, the COJ will dispatch maintenance personnel with appropriate resources as required.
- Maintenance personnel may be dispatched by telephone or radio or other means. The appropriate personnel, materials, supplies and equipment will be provided as needed.

2. Maintenance Personnel Instructions

- The call taker must verify that the entire message has been received and acknowledged by the maintenance personnel who were dispatched. All personnel being dispatched to the site of an SSO will proceed immediately to the site of the overflow. Any delays or conflicts in assignments will be reported immediately for resolution.
- In all cases responding maintenance personnel shall report their findings, including possible damage to private and/or public property, to their supervisor immediately upon completing their investigation. If the supervisor has not received findings from the field crew within one (1) hour of dispatch the supervisor will contact the responding maintenance personnel to determine the status of the investigation. The call time, dispatch time, and arrival time will be shown on the Wastewater Overflow Form.

3. Additional Resources

Should the superintendent or the wastewater collections engineer receive requests for additional personnel, material, supplies, and equipment from maintenance personnel working at the site of a sewer overflow, the request will be immediately forwarded to the appropriate supervisory personnel.

4. Preliminary Assessment of Damage to Private and Public Property

COJ personnel will take photographs of the sewer overflow impacted area in order to thoroughly document the nature and extent of impacts. Photographs will be retained for filing with the Overflow Report. COJ personnel shall only enter private property with permission from the property owner or tenant-in-possession.

5. Field Supervision and Inspection

- The COJ Superintendent, Wastewater Collections engineer, or authorized designee shall be responsible for verbally notifying MDEQ and HCDH within the specified 24 hour time period and submitting the Overflow Report to MDEQ. The contact information and required reporting timeframe can be found in Appendix E.
- The COJ Superintendent or Wastewater Collections engineer shall visit the site of the sewer overflow during and/or after work to ensure that provisions of this Overflow Response Plan and other directives are met.

6. Coordination with Hazardous Materials Response

- Upon arrival at the scene of a sewer overflow, should a suspicious substance (e.g., oil sheen, foamy residue) be found on the ground surface, or should a suspicious odor (e.g., gasoline) not common to the sewer system be detected, the COJ sewer maintenance crew shall immediately contact the responsible supervisor for guidance before taking further action.
- Should the supervisor determine the need to alert the hazardous material response team, the maintenance personnel shall await the hazardous waste team response.
- Contact the MDEQ 24-hour Emergency Response after hours at 1-800-222-6362.
- Upon arrival of the Hazardous Material Response Team, the COJ sewer maintenance personnel will take direction from the person with the lead authority of that team. Only after that authority determines it is safe and appropriate, will the COJ sewer maintenance personnel proceed under the SORP with the containment, clean-up activities and correction.

C. Overflow Correction, Containment, and Clean-Up

This section describes specific actions to be performed by COJ sewer maintenance personnel once a SSO has been identified and confirmed according to the procedures outlined in previous sections.

The objectives of these actions are:

- To protect public health, environment and property from sewage overflows and restore surrounding area back to normal as soon as possible;
- To establish perimeters and control zones with appropriate traffic cones and barricades, vehicles or use of natural topography (e.g. hills, berms);
- To promptly notify the regulatory agency with preliminary overflow information and potential impacts; and
- To contain the sewer overflow to the maximum extent possible including preventing the discharge of sewage into waters of the US and/or State.

1. Responsibilities of Maintenance Personnel Upon Arrival

It is the responsibility of the first personnel who arrive at the site of a sewer overflow to protect the health and safety of the public by mitigating the impact of the overflow to the maximum extent possible. If the overflow is not the responsibility of The City of Jackson, but there is imminent danger to public health, public or private property, or to the quality of waters of the state, then the COJ Supervisor, Superintendent, Wastewater Collections engineer, or authorized designee shall take prudent emergency action.

Upon arrival at a SSO, the COJ sewer maintenance personnel perform the following:

- Determines the cause of the overflow, e.g. sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.;
- Takes immediate steps to stop the overflow, e.g. relieves pipeline blockage, manually operates pump station controls, utilize portable by-pass pump system, repairs pipe, etc. Extraordinary steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off of private property into the public right-of-way). Record what the blockage material is. For example: grease, rags, etc.;
- Requests additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the overflow; and
- If needed, identifies and requests assistance or additional resources to correct the overflow or to assist in determination of its cause.

2. Initial Measures for Containment

When possible, initiate measures to contain the overflowing sewage and recover sewage that has already been discharged. Take all steps necessary to minimize the impact to public health and the environment

- Determine the immediate destination of the overflow, e.g. storm drain, street curb gutter, body of water, stream bed, inside building, etc.;
- Identify and request the necessary materials and equipment to contain or isolate the overflow, if not readily available;
- Establish control zones to help prevent public access using appropriate signs and barricades; and
- Take immediate steps to contain the overflow, e.g., block or bag storm drains, recover through vacuum truck, divert into downstream manhole, etc.

3. Additional Measures Under Potentially Prolonged Overflow Conditions

In the event of a prolonged sewer line blockage or a sewer line collapse, set up a portable by-pass pumping operation around the obstruction.

- Take appropriate measures to determine the proper size and number of pumps required to effectively handle the sewage flow.
- Implement continuous or periodic monitoring of the by-pass pumping operation as required.
- Address regulatory agency issues in conjunction with emergency repairs.

Pump Station Emergency Procedures

Numerous pump stations throughout COJ's system have a pump station bypass into the force main. If the SSO is caused by pump failure at one of these stations, maintenance personnel should call for a portable by-pass pump system to be brought to the pump station so the station can utilize the bypass into the force main and continue to function while the station is being repaired. If the SSO occurs at a pump station without a pump station bypass into the force main a detailed plan for avoiding an additional SSO during the repair period will be included in the detailed resource plan for the SSO which is submitted to MDEQ. For example, COJ could utilize a temporary HDPE force main to transfer flow to the gravity system.

In addition, the COJ will conduct an evaluation and analysis to determine the storage volume and pump around procedures for each pump station. The COJ is currently reviewing existing documents to determine the extent of field work required to adequately estimate the storage volume for each pump station. The pump station emergency operations plan and volume inventory shall be completed within 180 days of MDEQ's approval of this SORP. This inventory will also include which stations have an emergency bypass into the force main. For those stations without a bypass a schedule will be submitted for the construction of the needed bypass within 12 months of the completed inventory. Appendix C contains a table of the potential overflow location for each pump station. These sites are shown on the included map as well.

4. Cleanup

Sewer overflow sites shall be cleaned thoroughly after an overflow, so that no sewage related residue (e.g., sewage solids, papers, rags, plastics, and rubber products) remains.

- Whenever possible digital photos should be taken of the area before and after cleanup.
- Where practical, thoroughly flush the area clear of any sewage or wash-down water. Solids and debris are to be flushed, swept, raked, picked-up, and transported for proper disposal. Next the area shall be thoroughly flushed clear of any sewage or wash-down water.
- Secure the overflow area to prevent contact by members of the public until the site has been thoroughly cleaned.
- Where appropriate, disinfect and deodorize the overflow site.
- Where sewage has resulted in ponding, pump the pond dry and dispose of the residue in accordance with applicable regulations and policies.
- If a ponded area contains sewage, which cannot be pumped dry, it may be treated with lime and aerated. If sewage has discharged into a body of water that may contain fish or other aquatic life, do not use bleach. Contact the MDEQ for specific instructions. See Appendix E for contact information.
- When backup is in a building, follow the procedures outlined in Section IV.

5. Minimize Transmitted Flows

Minimize the volume of untreated wastewater transmitted (via gravity or force main) into the portion of the sewer system impacted by the events precipitating the SSO.

- When an area is experiencing an SSO, determine the upstream (or tributary) areas that are contributing to the overflow and utilize the collection system for temporary storage. This may include temporary plugs in the gravity main or by manually controlling lift station pumps so as to pump on a delayed basis.
- When possible, utilize temporary pumps and force main to pump around the affected area.
- In extreme situations, it may be necessary to shut down commercial or industrial facilities that contribute high volumes of wastewater or to request the general public to limit water use. This action should only be performed by the Director of Public Works.

D. Sewage Overflow Report

The Wastewater SSO Assessment Form in Appendix C contains information which is required to be reported to MDEQ and possibly to HCDH depending upon the nature of the spill. The SSO Assessment Form will be provided to MDEQ within 5 days of the SSO. The COJ maintenance crew leader completes a Wastewater SSO Assessment Form then promptly notifies the COJ Water/Sewer Utilities Division and MDEQ when the overflow is eliminated. Along with the Assessment Form, when the corrective action is not a permanent one, the Superintendent, Wastewater Collections engineer, or authorized designee will prepare a detailed resource plan and milestone schedule for long term corrective action for the cause of the SSO. This plan and schedule will be submitted with the SSO Assessment form. Monitoring of compliance with the plan and schedule milestones will be conducted quarterly after the original occurrence.

If the overflow will affect swimming areas during the swimming season, public drinking water intakes, or results in a fish kill the COJ shall notify the MDEQ contact person and the HCDH contact person immediately upon confirming the discharge. See Appendix E for contact information.

In addition to the Assessment Form all information regarding a SSO will be entered into a Work Order and SSO database system which will be purchased and maintained by the City. This database system will allow the City to maintain long term records including, but not limited to, location, cause, date, volume, and corrective actions taken for SSOs throughout the City. The Work Order and SSO database will retain a minimum of five years of data. The City is purchasing and implementing a new data management system. This system shall be in place within 9-12 months of MDEQ's approval of this SORP. In the interim, the City will have all data entered into a MS Office database system by a contractor. At this time, the proposed contractor for data entry is WEI-AJA, LLC. Both the City and contractor will have access to the data. This data will be transferred to the new system once it is implemented. Information regarding the sewer overflow includes the following:

- Determination if the sewage overflow had reached waters of the State and/or waters of the US, i.e., all overflows where sewage was observed running to such waters, or there was obvious indication (e.g. sewage residue) that sewage flowed to these waters;
- Determination that the sewage overflow had not reached surface waters by describing conditions at the sewage overflow, which support this determination.
- Determination of the start date and time of the sewer overflow by one of the following methods:
 1. Date and time information received and/or reported to have begun and later substantiated by COJ sewer maintenance personnel; or
 2. Visual observation;
- Determination of the stop date and time of the sewer overflow by one of the following methods:
 1. When the blockage is cleared and/or flow is controlled or contained; or
 2. The arrival time of the COJ sewer maintenance personnel, if the overflow stopped between the time it was reported and the time of arrival.
- Determination of the volume of the sewer overflow using the “San Diego Method”. This method uses image of overflowing manholes to provide a visual comparison. COJ shall complete its own image inventory for various flows within 180 days of MDEQ’s approval of this SORP. Until the COJ image inventory is complete, the EPA provided images will be used.
- Photograph the event, when possible.
- Assessment of any damage to the exterior areas of public/private property. COJ sewer maintenance personnel shall not enter private property for purposes of estimating damage to structures, floor and wall coverings, and other personal property without authorization from their supervisor. Procedures for SSOs within an existing building are outlined in Section IV.

E. Customer Satisfaction

COJ personnel will follow up in person or by telephone with the entity who was reporting the overflow within five working days after work is complete. The cause of the overflow and its resolution will be disclosed.

IV. BUILDING BACKUPS PROCEDURE

A. Communication Plan

SSOs that backup into a building may be reported by any member of the public or customer served by the COJ's Wastewater Collection and Treatment System including homeowners, tenants in rental properties or personnel who work in commercial, industrial or institutional properties. Points of contact and phone numbers to call in the event of a building backup during normal working hours, Monday through Friday from 8:00 AM to 5:00 PM, are listed in the telephone directory. Customers can call the Utilities Division at 601-960-1189 or the Sewer Maintenance Division at 601-960-1875 to report building backups. After hours and on weekends, citizens should call the emergency number at 601-960-1875. In order to make customers aware of these numbers, the following will be added to all water/sewer bills: "To Report a Sewer Problem – Call 601-960-1189 or 601-960-1875 after business hours"

B. Response Process

Upon notification of a building backup, representatives of the COJ's Sewer Department will follow the timeframes and processes outlined in Section III of this plan entitled "Overflow Response Procedure". The personnel flow chart for this response can be found in Appendix D. Accordingly, COJ personnel will conduct a site investigation within the timelines outlined previously for business and non-business hours to determine if the cause is a problem in the COJ system or if it has occurred as a result of a failure on the customer's (private) side of the system.

If the building backup is found to be caused by a collection system failure on the public main, the COJ will immediately begin the response process to correct the problem and, in addition, will provide the property owner, property owner's representative or tenant with the names and contact information for authorized independent cleaning contractors who they may contact to clean and sanitize all indoor areas affected by the building backup. The independent cleaning contractor will use measures consistent with the standards in that industry to remove all waste and disinfect the affected areas. The work of the independent cleaning contractor is limited to cleaning the waste from the affected areas indoors and disinfecting those areas. The independent cleaning contractor will not be authorized to perform any services to repair or restore private property or the structure affected by the building backup. By providing the names of authorized independent cleaning contractors, the City does not assume responsibility for damages to the private property or structure affected by the building backup and will only pay the authorized independent cleaning contractor for costs associated with cleaning the waste from the affected building and for disinfecting the affected areas within the building. Neither this provision nor any other provision of the Sewer Overflow Response Plan shall be construed to create any private claim or cause of action against the City or other governmental entity, or to require the City or other governmental entity to compensate any private party for any loss or damage alleged to arise from or relate to a sanitary sewer overflow or building backup.

As part of the advanced planning and preparation, the Public Works Department will ensure that a list of authorized private contractors are maintained and that any such authorized

contractors are fully equipped to respond to building back-up events and perform various clean-up measures caused by sewage contamination. Those meetings will be conducted within 90 days of the adoption of the SORP. A list of authorized contractors will be created within 90 days after the completion of the interview process. Only contractors equipped to fully and quickly respond to a building backup will be included on the list of responding contractors. The City will expect all authorized contractors to respond as quickly as possible, but in no case longer than 6 hours, unless circumstances warrant and are documented. A list of authorized contractors can be found in Appendix B.

If a building backup is found to be caused by a private service lateral failure, the customer will be advised that the public collection system is functional and that they should seek the services of a plumber/professional cleaning service to remedy the problem at their expense.

C. System Repair Process

The materials and construction procedures to be used to correct or repair conditions in the COJ Sewer System will be in accordance with all applicable federal, state and local laws and regulations. No safety regulations, materials requirements or quality of construction craftsmanship will be compromised in the interest of getting the problem repaired quickly. The repair process will follow the procedures outlined in Section III.

D. Response Follow-Up

Measures taken to correct or repair conditions in the COJ sewer system that caused the building backup will be in accordance with those described in Section VII of this plan entitled "Long Term Corrective Actions Procedures". In addition, COJ personnel will follow up in person or by telephone with the entity who reported the overflow within five working days after cleaning work is complete. The cause of the overflow and its resolution will be discussed along with the adequacy of the clean-up. The City will annually review the effectiveness and timeliness of each contractor's performance in responding to building backups to determine whether the contractor should remain on the authorized list. Should the City receive any complaints about a contractor's performance, or should the contractor not respond within 6 hours of notification the City will immediately investigate and review the contractor's performance to determine whether the contractor should remain on the authorized list.

V. PUBLIC ADVISORY PROCEDURE

This section describes the actions the City of Jackson will take, in cooperation with the MDEQ and/or HCDH, to limit public access to areas potentially impacted by sewer overflows from the wastewater collection system.

When evaluating the potential impact of an SSO on public health and the environment, sensitivity factors will be evaluated. These factors will determine the level of public notification and clean up activity required. These sensitivity factors include proximity or impact to:

- Streams, rivers, creeks, and other natural waterways
- Heavy pedestrian or inhabited areas
- Special facilities such as schools, public parks, walking trails, etc.
- Swimming Areas
- Drinking Water Intakes

A. Control Zones

The first COJ personnel on site will attempt to prevent public access by establishing a control zone around the perimeter of the affected surface area using appropriate signs and barricading practices. The temporary signs and barricades will warn passersby to avoid contact with this area. Barricading practices will include, but be not limited to, cones, warning tape, barrels, barricades, etc. The limits, duration, and most appropriate control zone plan will vary on a case-by-case situation.

1. Location of Control Zones

Although the location of temporary signs and barricades will vary for each site, the goal will always be to warn the public to avoid contact until the cleanup is complete. When possible, the control zone will be posted:

- Just beyond the limits of the impacted surface area
- Near high pedestrian and/or vehicular traffic areas
- Other appropriate locations.

2. Duration of Control Zones

Signs and barricades will be posted as soon as the overflow is confirmed and they will remain in place until clean up activities are complete. The timeframe may vary depending on the extent of the response activities, which may include significant mitigation and cleanup requirements. Example signs can be found in Appendix B.

3. Public Information

The Public Works Director or their designee will answer questions from customers about COJ response to SSOs and, when necessary, will respond to the customer reporting the SSO to explain COJ's response. The control zone signs also include the contact number {(601)-960-1875} for the public to call for additional information. Contact information for public offices to be notified can be found in Appendix B. When deemed appropriate, the Public Works Director or his designee will issue a news release to warn customers about the SSO.

News Release [See Appendix B]

COJ maintains a standard news release on SSOs that can be quickly adapted to the particular situation and issued if COJ determines there is a significant threat to

public health. Contact information for media outlets can also be found in Appendix A.

Customer Letters [See Appendix B]

In situations where a service line issue has been identified, COJ sends letters to residential and commercial customers in the affected area. The letters advises the customer of their service line condition and their responsibility in alleviating future SSO by removing roots, extraneous water, disposing of grease and other materials properly and including a brochure on proper disposal.

Public Notification Decision Matrix

Event	Action
Overflow into streams	COJ will place temporary signs along the stream at public access points unless posted otherwise. Additional notification will be considered in conjunction with MDEQ and HCHD.
Overflow in a residential or high traffic area, such as a school or public park.	COJ will place temporary signs in the area of the overflow. Additional notification will be considered in conjunction with MDEQ and HCHD.
Overflow creating a significant health hazard or significant volume has reached waters of the US and/or State	COJ will issue a news release and place temporary signs in the area of the overflow. Additional notification will be considered in conjunction with MDEQ and HCHD.

VI. REGULATORY AGENCY NOTIFICATION PLAN

The Regulatory Agency Notification Plan establishes procedures that the City of Jackson follows to provide formal notice to the MDEQ in the event of a SSO. Agency notifications will be performed in parallel with other internal notifications. Internal notification and mobilization of COJ sewer maintenance personnel are established in Section III - Overflow Response Procedure.

Using data supplied during the verification process and updates from the maintenance personnel, the Sewer Maintenance Superintendent prepares initial and final Overflow/Bypass Reports. Initial report will be provided orally to the MDEQ and if necessary the HCDH within 24 hours from the time the COJ became aware of the SSO. If the overflow will affect swimming areas during the swimming season, public drinking water intakes, or results in a fish kill the COJ shall notify the MDEQ contact person and the HCDH contact person orally, or MEMA, if after business hours, immediately upon confirming the discharge. Contact information can be found in Appendix E.

COJ shall prepare and provide the written final report (digital or hard copy) to the regulatory agency within five (5) days after the COJ becomes aware of the overflow. The wastewater collections engineer is responsible for meeting the notification requirement. The superintendent prepares written notification to the appropriate regulatory agency of any confirmed overflows. The wastewater collections engineer signs these notifications. In addition, the detailed resource plan and milestone schedule for long term corrective action regarding SSOs will be submitted with the written report. Regardless of other notifications, a Report of Noncompliance form is required to be submitted with the monthly Discharge Monitoring Report.

A. Immediate Notification

If the overflow will affect swimming areas during the swimming season, public drinking water intakes, or results in a fish kill, the COJ shall notify the MDEQ contact person and the HCDH contact person orally, or MEMA if after business hours, immediately upon confirming the discharge.

COJ shall fax the initial and any updated Wastewater SSO Assessment Form to:

MDEQ

**Attn: Environmental Compliance and Enforcement Division
Municipal and Private Facilities**

Telephone: (601) 961-5171

Fax: (601) 961-5674

B. Secondary Notification

Wastewater collections engineer, Superintendent, or authorized designee may contact other agencies, as necessary, as well as other interested and possibly impacted parties.

Hinds County Health Department
Environmental Health
539 E Beasley Road
PO Box 20
Jackson, MS 39205-0020
Contact Person:

Sherri Payne, Regional Environmentalist
Marvin Bolden, County Environmentalist
Lakeshia Paige, County Environmentalist
Phone: (601)-957-1026
Fax: (601)-957-1053
sherrie.payne@msdh.state.ms.us
marvin.bolden@msdh.state.ms.us
lakeshia.paige@msdh.state.ms.us

VII. LONG TERM CORRECTIVE ACTION PROCEDURES

The type of mitigation and remediation will vary depending on the cause of the SSO. Wet weather SSO are usually caused by inflow and infiltration (I/I), not by blockages or other problems in the system. Mitigation of wet weather overflows may not be possible until the overflow subsides, but when it does, the City will implement all necessary steps to clean up and disinfect the overflow site.

In addition, the City will remotely monitor or establish routine inspection routes to be completed after each significant rain event. Significant rain events include those rain events that are known to be, or suspected of being, associated with, or contributing to SSO occurrences, regardless of the intensity, duration or measured rain gauge size of the event. This inspection will look for visual signs of a SSO at locations having more than one SSO in the past two years and all pump stations not on a central monitoring system. A map of these locations and sample inspection form can be found in Appendix C. As the City begins these inspections, the most efficient inspection routes will be determined. The inspection program will be maintained by the City with the assistance of a contractor if needed. The City will supply the results of the inspection to the contractor to add to the appropriate database. The City will use the established rain gauges throughout the City to determine the intensity and duration of the rain event. The location of the rain gauges provides adequate coverage for each Police Precinct and is shown on the SSO Inspection Map in Appendix C. Initially, all sites will be inspected following each significant rain event. As rainfall information and inspection results are collected, these results will allow the COJ to evaluate the inspection list and determine when each site should be inspected based on rainfall intensity and duration. In addition any new sites where multiple SSOs have occurred will be added and those sites where permanent corrective action has been completed and SSOs are no longer occurring will be removed after demonstrating that the previously identified SSO is shown not to overflow during an average 2 year, 24 hour intensity rain storm. The Utility Manager will be responsible for the management of the inspection program. The SSO list will be reviewed monthly by the contractor to determine the appropriate status of each SSO.

Dry weather events will be addressed using several methods. COJ field professionals will identify the most effective method or combination of methods to return service to the system. Field crews will use television inspection to determine the most effective way to resolve any service disruption. CCTV inspection will identify the cause and location of the blockage and the necessary techniques needed to eliminate it. The following summarizes common abatement resolution activities. These resolution techniques can be used independently or combined based on field conditions and CCTV inspection.

- **Roots/Grease**

Combination cleaner/flusher equipment is used to remove any grease, roots, or other obstructions from the line. A root cutter attachment may be necessary to remove the obstruction. Heavy roots and related pipeline integrity problems (through CCTV inspections) are reviewed for replacement and/or rehabilitation. Heavy cleaning may also be achieved through third party services as appropriate.

- **Collapsed Pipe/Sewer Breaks**

An emergency pipe repair will be required to replace the defective or collapsed pipe. A work order will be initiated immediately and necessary containment and diversion procedures will be in place until the appropriate repairs are completed.

- **Mechanical Failures/Treatment Facility Malfunctions**

Portable by-pass pumping systems may be used until the repairs are completed at collapsed pipe, the pump station or treatment facility. The responding crews will notify their maintenance supervisor to acquire additional support from construction crews as soon as the emergency repairs are identified.

- **Remove I/I**

The City will evaluate systemic wet weather SSO and implement corrective measures as part of the Overflow Abatement Program. Currently the City is engaged in a program of I/I identification and repair as an ongoing SSES program.

The City's Work Order and SSO database tracking system will also be used to identify recurring problems within the system so each problem can be addressed properly.

VIII. PERSONNEL TRAINING

COJ personnel will conduct training for the appropriate response crews and support staff to ensure their compliance with the SORP. These training sessions will be organized based on the latest SORP, as well as other reference materials. Training sessions will be supplemented with a practical hands-on field component to prepare response personnel for anticipated situations.

The Utility Manager will be responsible for management of the training program. This will include signing off on completed training as well as reviewing required and future training needs. The training will be conducted by the City's chosen training contractor. The first training sessions were conducted by WEI-AJA, LLC in December 2010.

Also, COJ will conduct refresher sessions annually or when changes are made to the SORP to ensure the same results. COJ will oversee the SORP to ensure that the established procedures are being followed during implementation and field operation.

A detailed training plan is included in Appendix F. Appropriate training materials are being prepared separately.

IX. MAINTENANCE OF SORP

COJ will review the SORP during the first quarter of each year and amend it as appropriate. Any changes or amendments to this SORP shall be sent to MDEQ by April 30 after each annual review. The review shall be conducted by the Public Works Director or his designee. Review shall include, at a minimum, the following activities:

- Conduct workshop with managers and key personnel to review response activities and gather suggestions for new or revised procedures
- Review all contact lists and update as necessary
- Update the SORP as needed in regard to updated regulatory requirements

X. APPENDICES

Appendix A – Detailed Implementation Plan

Appendix B - Public Offices, Media Contact, and Authorized Cleanup Contractors Contact Information

Appendix C – Wastewater SSO Assessment Forms & Maps

Appendix D - Sewer Overflow Response Internal Notification & Tracking Protocol

Appendix E – Regulatory Agency Contact Information and Notification Period

Appendix F – Personnel Training Documents