



SORP
SEWEROVERFLOWRESPONSEPROTOCOL
2016 Approved SORP 7/21/2017
Revised Appendix C 8/22/2019

**LOUISVILLE AND JEFFERSON COUNTY
METROPOLITAN SEWER DISTRICT**





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August 22, 2019

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Subject: Sewer Overflow Response Protocol (SORP) Re-submittal
Civil Action No. 3:08-cv-00608-CRS

Attention Director and Chiefs:

MSD has reviewed the Sewer Overflow Response Protocol (SORP), approved July 21, 2017, and determined that there are no major revisions requiring a revised SORP to be submitted by August 22, 2019. MSD has identified that minor revisions were required to documentation for FY19. Revisions to Sections 4 and 5 have been made to provide clarifications on overflow status definitions, and updates to training module names and distribution. Updated reconnaissance routes are provided due to changes in overflows requiring inspection. Revised copies of Appendix C as well as Sections 4 and 5 are enclosed. Please remove and discard these materials and replace with the materials provided.

I certify under penalty of law that this document and all attachments were prepared under our 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.

If you have questions or need additional information, please contact me at (502) 540-6136.

Sincerely,

Angela Akridge, PE
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cc: James A. Parrott
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File

Transmittal_SORP
Rev. 8/19/2016

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Section 1: Overflow Response Overview

1.1 Purpose

The Amended Consent Decree (ACD) directed the Louisville and Jefferson County Metropolitan Sewer District (MSD) to develop a Sewer Overflow Response Protocol (SORP), which complies with 401 KAR 5:015, for review and approval by U.S. Environmental Protection Agency (EPA) and Kentucky Department for Environmental Protection (KDEP) per paragraph 24 d (page 21). The purpose of this SORP is to establish the timely and effective methods and means of:

- 1) Responding to, cleaning up, and/or minimizing the impact of Sanitary Sewer Overflows (SSOs) and Unauthorized discharges;
- 2) Reporting the location, volume, cause and impact of SSOs and Unauthorized Discharges to KDEP/EPA;
- 3) Notifying the potentially impacted public.

1.2 Definitions

This section defines the commonly used terms in the SORP.

Bypass - the intentional diversion of waste streams from any portion of a treatment facility as set forth at 40 C.F.R. § 122.41(m)(1) and 401 KAR 5:002, Section 1(36). The practice of bypassing Secondary Treatment units and recombining the bypass flow with the secondary effluent prior to discharge, commonly known as blending, recombination, or diversion, constitutes a "Bypass." The term Bypass shall specifically exclude (a) practices at MSD's Morris Forman Water Quality Treatment Center (WQTC) that are in accordance with the treatment center's Kentucky Pollutant Discharge Elimination System (KPDES) permit and the Combined Sewer Overflow (CSO) Control Policy and (b) any flow that exceeds the design capacity of a tertiary process at any WQTC in accordance with a KPDES permit.

Combined Sewer Overflow (CSO) - an outfall identified as a combined sewer overflow (CSO) in MSD's KPDES permit for the Morris Forman WQTC from which MSD is authorized to discharge during wet weather.

- Dry Weather CSO - an overflow from a permitted outfall identified as a combined sewer overflow or CSO in MSD's Morris Forman WQTC KPDES permit that is not the result of a wet weather event.
- Wet Weather CSO - an overflow from a permitted outfall identified as a combined sewer overflow or CSO in MSD's Morris Forman WQTC KPDES permit that is the result of a wet weather event.

Combined Sewer System (CSS) - the portion of MSD's Sewer System designed to convey municipal sewage (domestic, commercial and industrial wastewaters) and stormwater runoff through a single-pipe system to MSD's Morris Forman WQTC or CSOs.

Geographic Information System (GIS) - a computer based system that is capable of storing, managing and analyzing geographic spatial data. This capability includes producing maps,

displaying the results of data queries and conducting spatial analysis.

Kentucky Department for Environmental Protection (KDEP) - agency responsible for administering KPDES permits and receiving permit-related reports.

Kentucky Pollutant Discharge Elimination System (KPDES) Permit - any National Pollutant Discharge Elimination System permit issued to MSD by the KDEP pursuant to the authority of the Act and KRS Chapter 224 and the regulations promulgated thereunder.

Louisville and Jefferson County Metropolitan Sewer District (MSD) - agency responsible for providing wastewater, stormwater, and flood protection services in Jefferson County. MSD is also responsible for response, mitigation, cleanup, notification and reporting of overflows, including unauthorized discharges.

Overflow - for purposes of this document, overflow shall be defined as SSOs, dry weather CSOs and releases on WQTC property that do not reach Waters of the United States.

Property Service Connection (PSC) - the portion of a sewer lateral that is within an easement or right of way and maintained by MSD.

Sanitary Sewer System (SSS) - the portion of MSD's sewer system designed to convey only municipal sewage (domestic, commercial and industrial wastewaters) to MSD's WQTCs.

Sanitary Sewer Overflow (SSO) - any discharge of wastewater to Waters of the United States from MSD's Sewer System through a point source not authorized by a KPDES permit, as well as any release of wastewater from MSD's Sewer System to public or private property that does not reach Waters of the United States, such as a release to a land surface or structure that does not reach Waters of the United States; provided, however, that releases or wastewater backups into buildings that are caused by blockages, flow conditions, or malfunctions in a building lateral, or in other piping or conveyance system that is not owned or operationally controlled by MSD are not SSOs.

Secondary Treatment - a biological wastewater treatment technology required by the Clean Water Act for discharges from Publicly Owned Treatment Works (POTW), as that term is defined at 40 C.F.R. § 403.3(q). The minimum level of effluent quality attainable through the application of secondary treatment is established in 40 C.F.R. § 133.102 in terms of the parameters for 5-day biochemical oxygen demand (BOD) concentration and percent removal, total suspended solids (TSS) concentration and percent removal, and pH.

Sewer System - the wastewater collection, retention, and transmission systems that MSD owns or operates, that are designed to collect, retain and convey municipal sewage (domestic, commercial and industrial wastewaters) to MSD's WQTCs or CSOs which are comprised of the CSS and the SSS.

Unauthorized Discharge - (a) any discharge of wastewater to Waters of the United States from MSD's Sewer System or WQTCs through a point source not authorized by a KPDES permit; and, (b) any Bypass at MSD's WQTCs prohibited pursuant to the provisions of 40 C.F.R. § 122.41(m)(2) and (4) or 401 KAR 5:065, Section 1(13)(a) and (c).

Upset - as defined in 40 CFR § 122.41(n)(1), an upset is an exceptional incident in which there is the unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the operator. An upset does not

include noncompliance to the extent caused by operator error, improperly designed treatment facilities, lack of preventive maintenance or careless, improper operation.

U.S. Environmental Protection Agency (EPA) - the federal agency responsible for enforcing the Clean Water Act, Safe Drinking Water Act and other federal environmental regulations.

Water Quality Treatment Center (WQTC) - the devices or systems used in the storage, treatment, recycling, and reclamation of municipal sewage that MSD owns or operates, and for which KPDES permits have been or become issued to MSD.

Waters of the United States (WUS) - as defined in 40 CFR 122.2:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate "wetlands;"
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as Waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

** The regulations exclude waste treatment systems, manmade ponds, and prior converted cropland from the definition of "Waters of the US." With respect to prior converted cropland, EPA maintains jurisdiction for purposes of the Clean Water Act.

1.3 Acronyms

This section lists the commonly used acronyms in the SORP

Amended Consent Decree (ACD)

Biochemical Oxygen Demand (BOD)

Capacity, Management, Operation and Maintenance (CMOM)

Combined Sewer Overflow (CSO)
Combined Sewer System (CSS)
Customer Relations Call Center (CRCC)
Customer Relations Department (CRD)
Customer Service Requests (CSR)
Discharge Monitoring Report (DMR)
Emergency GIS Dashboard (EGIS)
Environmental Protection Agency (EPA)
Exterior Overflow (EXT)
Geographic Information System (GIS)
Information Technology (IT)
Infrastructure and Flood Protection (I&FP)
Initial Discharge Report (IDR)
Interior Overflow (INT)
Kentucky Department of Environmental Protection (KDEP)
Kentucky Pollutant Discharge Elimination System (KPDES)
Laboratory Information Management System (LIMS)
Louisville and Jefferson County Metropolitan Sewer District (MSD)
Louisville Water Company (LWC)
Louisville/Jefferson County Information Consortium (LOJIC)
Metro Operations (MO)
Microsoft Office SharePoint Services (MOSS)
National Pollution Discharge Elimination System (NPDES)
Plant Information System (PI)
Process Control Center (PCC)
Property Service Connection (PSC)
Property Valuation Administrator (PVA)
Publicly Owned Treatment Works (POTW)
Real Time Control (RTC)
Sanitary Sewer Overflow (SSO)

Sanitary Sewer System (SSS)
Sewer Overflow Response Protocol (SORP)
Significant Industrial Users (SIU)
Supervisory Control and Data Acquisition (SCADA)
Total Suspended Solids (TSS)
United States Environmental Protection Agency (EPA)
United States Geological Survey (USGS)
Water Quality Treatment Center (WQTC)
Waters of the United States (WUS)
Waterway Improvements Now (WIN)
Wet Weather Discharge Reconnaissance Team (WWDRT)
Work Orders (WO)

Section 2: System and Organizational Framework

2.1 MSD Wastewater Collection, Transmission and Treatment System

Currently, MSD's collection, transmission and treatment system serves a population of approximately 693,000 in a 385-square mile service area. MSD's collection and treatment system is composed of approximately:

- 3,316 miles of sewer lines (gravity and force main)
- 77,081 sanitary and combined sewer manholes
- 68,199 catch basins and yard drains
- 254 sanitary pump stations
- 16 flood pump stations
- 5 regional water quality treatment centers (WQTCs)

2.1.1 Collection System

MSD owns and operates a system that transports wastewater by both gravity and pumped systems. The gravity system collects wastewater at the property service connection (PSC) from the point of discharge from homes and businesses, and by using the natural force of gravity conveys it through a series of manholes, collector sewers and interceptors to a point of ultimate treatment in a permitted Publicly Owned Treatment Works (POTW) before being discharged to the Waters of the United States (WUS).

2.1.2 Transmission and Treatment System

Wastewater is conveyed to MSD's network of treatment facilities, which are permitted by the Kentucky Department of Environmental Protection (KDEP) under the Kentucky Pollutant Discharge Elimination System (KPDES) system. The treatment process provides the means to achieve beneficial reuse of wastewater biosolids, while treating the wastewater to a level that provides for sustained recreational and commercial uses, as well as natural habitats for aquatic wildlife. The MSD network includes both Combined Sewer System (CSS) and Sanitary Sewer System (SSS) treatment, employing a variety of activated sludge treatment processes that have received national awards for operational excellence. Refer to **Appendix A** for a list of MSD Permitted WQTCs and a map illustrating MSD's collection and transmission system components.

2.2 MSD Functional Structure and Resources for SORP Implementation

MSD is structured to provide the best service possible to our customers. There are seven divisions within MSD, each playing an integral role in our mission to build, maintain and operate quality wastewater and stormwater facilities. Figures of MSD's most recent organization charts for each division are provided in **Appendix B**. The organization charts illustrate the extent and complexity of the organization.

The Regulatory Compliance Administrator is responsible for the overall implementation of these SORP procedures. As such, responsibility is delegated to specific divisions for day-to-day implementation. Managers in these areas oversee proper implementation by their staff.

2.2.1 Resources for Customer Inquiries

The Customer Relations Department (CRD) is responsible for handling customer inquiries related to overflows. MSD's CRD is staffed 7 days per week from 6:00 am to 12:30 am. From 12:30 am to 6:00 am, customer calls and inquiries are received at the Morris Forman WQTC Computer Room. During periods of heavy rain and inclement weather, the CRD is staffed 24 hours per day, 7 days per week. All customer inquiries are designated as customer service requests (CSR) which are entered into MSD's information management system for documentation, response and tracking purposes. Customers may call MSD's Customer Relations Call Center (CRCC) directly or submit inquiries online using the Internet or by e-mail. Customers can also track the status and progress of their request online.

2.2.2 Resources for Dispatching Work

MSD Operations Division maintains personnel that dispatch work for activities within their respective areas of responsibility. The Dispatch Center at the MSD Central Maintenance Facility (CMF) includes personnel responsible for routing work during the week Monday through Friday, 7:30 am to 7:00 pm, and Saturday and Sunday 7:00 am to 4:00 pm. Operations personnel monitor the water quality treatment centers and pump stations remotely from the Morris Forman WQTC Process Control Center (PCC) 7 days per week, 24 hours per day and perform the dispatch function for Operations Monday through Friday, 7:00 pm to 7:30 am, and Saturday and Sunday 4:00 pm to 7:00 am. Both Supervisory Control and Data Acquisition (SCADA) and telemetry are used for remote data transmission monitoring and control. Personnel are dispatched to a facility when telemetry data indicates a problem condition.

2.2.3 Resources for Response to Overflows

There are two divisions primarily responsible for investigating and mitigating overflows: Operations and Engineering. Generally, most collection system assets, WQTCs, sanitary and flood pumping station assets are monitored and addressed by Operations personnel and the majority of collection system overflows are monitored and reported by the Engineering Division. MSD's operating and capital budgets provide for regular investment in equipment, training, facilities and personnel. In addition, personnel are available from all other divisions to support response and mitigation efforts.

2.2.4 Resources for Public Notification and Awareness

MSD dedicates personnel to ensure that the infrastructure and mechanisms are in place for public notification and general awareness of issues pertaining to overflows. MSD's Executive Office provides coordination with the media when necessary. Information Technology (IT) Division personnel coordinate updates to MSD's website and ensure that it remains available for public access and notification. Also, MSD distributes materials aimed at providing the public with information on how to stay safe around overflows and how individuals can help prevent

overflows during their daily activities through various means in its public relations campaign.

2.2.5 Resources for Overflow Documentation and Regulatory Reporting

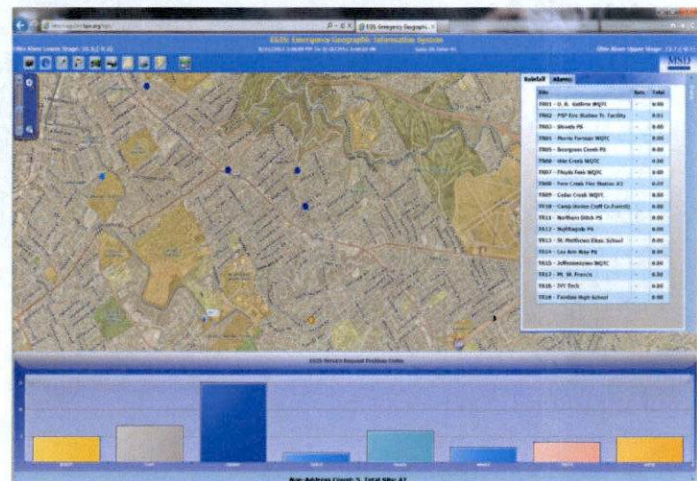
Specific staff within each division are tasked with and trained on documenting information associated with overflows in the Hansen Information Management System (Hansen). Regulatory Compliance Staff ensures that pertinent information regarding unauthorized discharges is reported to KDEP and EPA within the time frames provided in this document. When feasible, technologies are utilized to optimize the reporting process.

2.3 Information Management Systems

MSD utilizes a wide variety of hardware and software to operate the day-to-day business activities associated with wastewater and stormwater collection, conveyance and treatment. Hardware runs the spectrum from desktop computers to wireless laptops for field usage and software ranges from simple desktop applications to complex integrated systems. MSD electronically documents asset data for tracking overflows and reporting to the appropriate local, state and federal agency in the event of an unauthorized discharge.

2.3.1 Hansen Information Management System (Hansen)

Hansen is the information management software used by MSD to record, track and report information concerning MSD assets. Hansen is also used to enter service requests for customer inquiries that record pertinent information regarding the location, customer's name, and nature of the problem; to initiate work orders (WO) against specific assets so that the history of the asset can be updated, tracked and reported; to document response to overflows in the collection system and to track permit applications. It is integrated with the Louisville/Jefferson County Information Consortium's (LOJIC's) Geographic Information System (GIS) to allow users to access a graphical view of assets and it is linked to eB, our document management system. MSD shares the usage of this software with Louisville Metro government.



2.3.2 Emergency GIS (EGIS) Dashboard

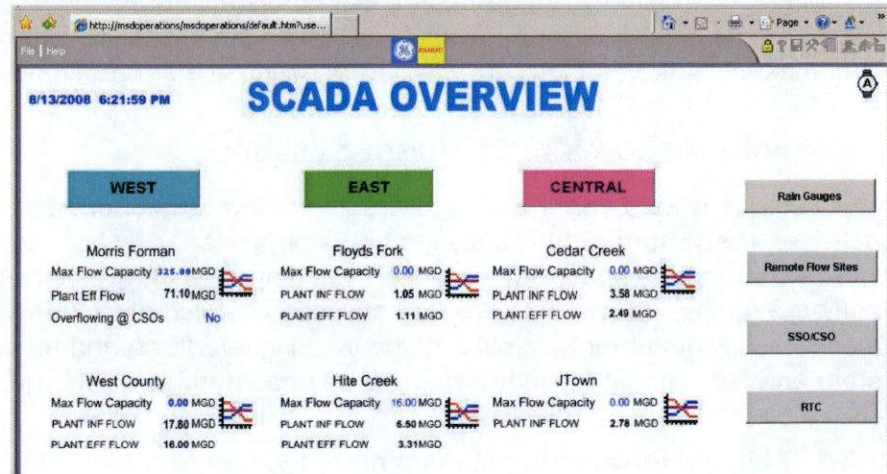
Emergency GIS is a web application that was developed as a joint effort between MSD GIS and LOJIC. The purpose of EGIS is to provide internal users and management an overview of real time data that is collected by various departments during an emergency event. EGIS currently allows a user to view rainfall amounts, river stages, MSD fleet location, MSD facility alarms, and Hansen service requests. EGIS also has the capability to allow the user to query the data based on specific timeframes and/or service request type and view that data in a tabular or

chart format.

2.3.3 Supervisory Control and Data Acquisition (SCADA), Plant Information System (PI) and iHistorian

MSD's SCADA system is used for the remote monitoring of pumping stations and WQTCs.

Pumping stations are monitored for alarms such as pump problems, station power failures, high wet wells and communication failures. It also monitors the number of pump starts and run times in a 24-hour period. WQTCs are monitored for alarms such as power failure, communication failure, possible blower faults, instantaneous flow values and the daily flow values.

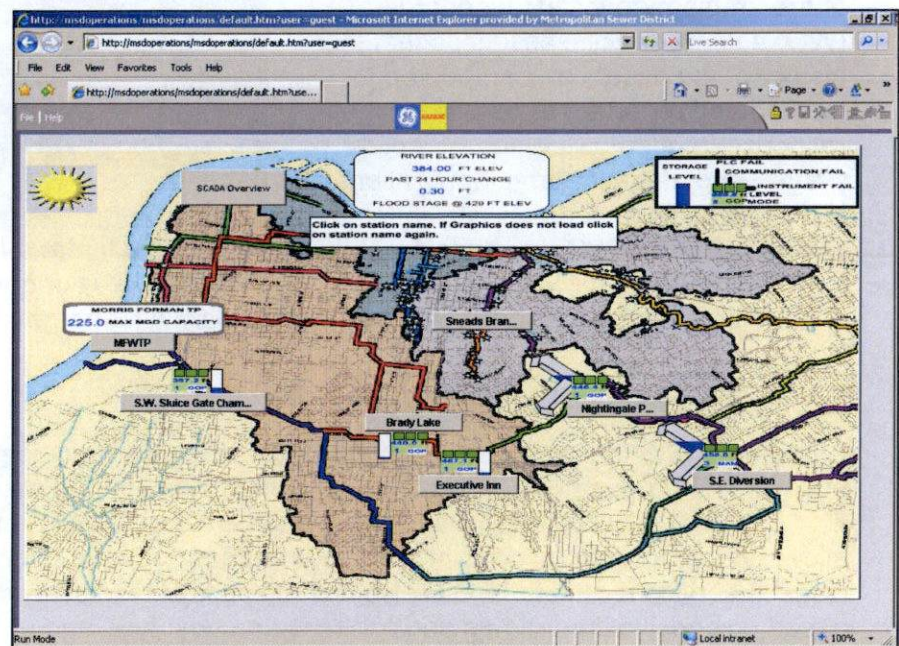


MSD's SCADA system is connected to the Plant Information System (PI) and iHistorian databases. These two systems pull data from the SCADA system and store the data from the date the attribute tag is created until the attribute tag is disabled.

2.3.4 Real Time Control (RTC)

Real Time Control (RTC) is a technology that allows proactive control of wet weather sewer flows through the collection system. There are combined sewer pipes, ranging from 5 to 27 feet in diameter, which have capacity to store additional flow during certain rain events. The RTC system performs the following essential wet weather management functions:

- Optimizes conveyance of the "first flush" flows to

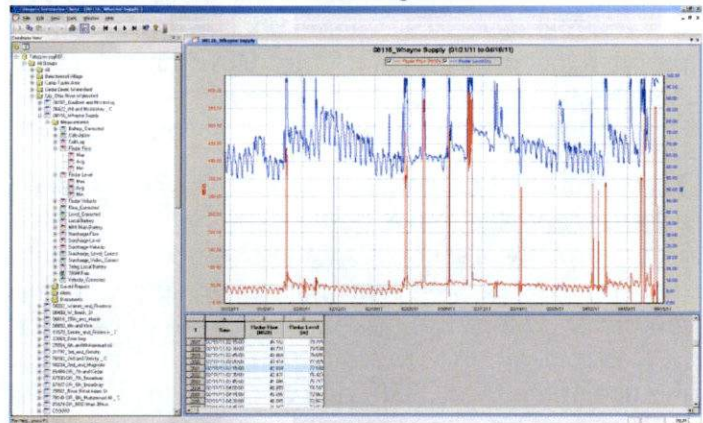


Morris Forman WQTC through the large pipe network;

- Optimizes storage within the CSS until the rain event ceases and capacity resumes at the WQTC;
- Minimizes wet weather CSOs; and,
- Allows for maximization of treatment at the WQTC throughout the duration of the rain event.

2.3.5 Telog Monitoring System

MSD utilizes the Telog Enterprise Client to access remote flow monitoring data that is delivered via telemetry from more than 120 points throughout the sewer collection system. The flow sites enable long-term system trending for dry and wet weather events that MSD uses for event analysis, model calibration and system operations. The system also sends notifications of wet weather and possible dry weather overflows based on customized data queries. The data collected includes battery life, flow, velocity and level readings.



Currently, MSD is working with the Telog company to expand the usefulness of its Enterprise software. MSD has developed Telog Software to incorporate a monitoring network that integrates an array of information from the rain gauge network, radar rainfall database, United States Geological Survey (USGS) stream and sonde database, Plant Information database and Laboratory Information Management System (LIMS) along with sewer level and flow monitoring information. A GIS interface is also being developed that will enable the spatial viewing and selection of the various monitoring sites. Once completed, customized reports will aid in the monitoring of operation trends throughout the sewer system and notify staff of potential anomalies.

2.3.6 Rain Gauge Network

MSD personnel utilize the rain gauge network to view recorded rainfall amounts and to plan for required resources. The system was initiated in 1991 as a joint effort between MSD and the USGS. The rain gauge network provides geographical coverage of Louisville Metro, surrounding counties and Southern Indiana. This network provides real time rainfall and prediction tools from 5 minute to 24 hour intervals, and allows the most efficient staging, scheduling and utilization of personnel, equipment and other resources. It is an effective tool in reducing the frequency, duration and volume of overflows.

The rain gauge system serves two primary functions. First, it is used to calibrate MSD's OneRain rainfall prediction application and rainfall data to provide rainfall predictions at least two hours in advance. Second, it allows real time reporting on the amount of rainfall in a

geographic area. This information is utilized for flash flood emergency response preparation.

Rainfall conditions are continuously telemetered to MSD's process control center from each of the gauging stations. Information regarding rainfall in the service area can be obtained from MSD's website at <http://www.msdlouky.org/aboutmsd/rainfall.cfm>. The data is refreshed every 5 minutes. The rainfall rate is displayed in inches per hour for each gauge during the previous 5-minute period. A "Daily Total" column displays the total inches of rain recorded at a particular gauge since midnight of the current day. Reports from the database can be run from the web page for any or all of the gauging stations.

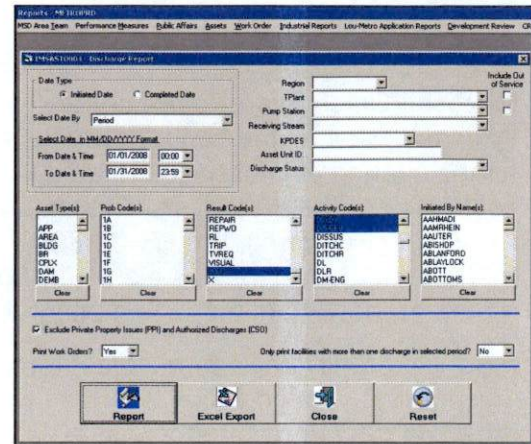
2.3.7 Louisville/Jefferson County Information Consortium (LOJIC)

LOJIC is a multi-agency partnership begun in 1988 with the mission of building and maintaining a comprehensive GIS to serve Louisville and Jefferson County, Kentucky. Present LOJIC partners include Louisville Metro Government, MSD, the Jefferson County Property Valuation Administrator (PVA) and the Louisville Water Company (LWC). Participants share part of the cost and effort involved in the full development and ongoing implementation of LOJIC.

The LOJIC GIS database contains over 740 spatial layers, tables and rasters that include address, administrative, aerial imagery, customer service information, demographics, drainage and hydrology, easements, federal government data, fire/police/emergency data, monitoring/inspection sites, natural resources, planning, planimetric, property, political, recreation, reference, sewer, structures, survey, topographic, transportation/communication, utilities and vegetation. More than 300 users across the partner agencies have been trained in the use of the LOJIC GIS and depend on it for a wide range of mission-critical applications such as land records management, property valuation, community planning, emergency response/911, maintenance of sewer and water networks, flood insurance determination, customer service requests, hydraulic modeling, asset workflow management, address assignment, and numerous public access applications via the Internet. A 10-person technical staff supports overall GIS activities across the LOJIC user agencies. LOJIC staff, housed at MSD offices, provide database management, applications development, products/services, training and system network support for all users. For more information on LOJIC visit www.lojic.org.

2.3.8 eB Document Management Software

In 1992, MSD implemented its first electronic document imaging system. The eB Document Management System is now used to access MSD sewer, drainage and flood protection plans, MSD contracts, easements, service request documents, records storage requests, the Compliance Library, vehicle damage claims, work order documents, property damage claim documents, and much more. eB is also the repository of photographs of our major construction projects, signs, manholes and drainage problems. The system now has over 300,000 images and 600+ users including MSD employees, MSD consultants and Louisville Metro staff. Many of the documents stored in eB can be accessed from our GIS System and Hansen asset management system with direct links to the associated records.



2.3.9 Crystal Reports (Hansen Reports)

In order to ensure reliable, accurate and well formatted reports from the Hansen system on MSD activities, MSD IT staff developed and implemented a Visual Basic application based on Crystal Report Software called Hansen Reports. This reporting tool allows any user to produce standard reports from the Hansen system using user-driven multiple criteria such as all discharge work orders completed within a WQTC service area or only those work orders with a particular problem.

2.3.10 Laboratory Information Management System (LIMS)

MSD utilizes the Labworks Enterprise, LabWorks Explorer and Industrial Pretreatment Program modules of LIMS manufactured by PerkinElmer Precisely® USA called LabWorks. The LIMS is the central repository for laboratory data as well as field data associated with Compliance and Pretreatment Programs and Discharge Monitoring Reports for National Pollutant Discharge Elimination System (NPDES) testing. Also, the LIMS is utilized to store data produced by contract laboratories that provide us with SSO/CSO water quality data and self monitoring data for compliance testing for Significant Industrial Users (SIUs).

2.3.11 Oracle Utilities Customer Care and Billing (CC&B)

Oracle CC&B is a Customer Information System, which is the core of MSD & LWC's billing and accounts receivable functions. It includes integrated modules such as: Service Orders (used to distribute work orders, repairs, placing customers on charge, etc.), Utility Contacts (recording & tracking customer questions/problems), Meter Reading, Cash Processing, Rate Schedules, Letter Processing, Collections Processing and others.

MSD's main uses of this system include: placing customers on Drainage and/or Sewer Charges; monitoring/analyzing consumption by customer type & WQTC, monitoring/analyzing revenue by customer type and WQTC, general ledger processing, researching customer issues and more.

Billing detail is provided to the customer for Sewer Volume charges, Sewer Service Charges, Fixed Charges, Adjustments, EPA Charges, Drainage Charges, State Taxes (if applicable) and Senior Citizen Discounts (if applicable).

2.3.12 SharePoint

Microsoft Office SharePoint Services (MOSS) has been implemented at MSD. The SharePoint system is used as the central communication device for MSD staff. In addition, it is being used for the sharing of information related to Project WIN activities among MSD employees and contractors. The system displays data from the Performance Monitoring System, Water Quality Monitoring Programs, Project Controls and other Project WIN related activities. It is also the hub used to access MSD's electronic document repository through an available interface to MSD's eB document management system.

MSD is currently implementing a new capital project management tool set through SharePoint. This tool set, named Project Central, will improve MSD's project management performance, providing greater assurance that ACD and regulatory commitments are met and project costs and risks are closely managed for the benefit of customers.

2.3.13 SAP

SAP is an enterprise resource planning product used by MSD for day-to-day financial, human resources and inventory activities. In addition, MSD Operations - Morris Forman WQTC staff use SAP to initiate work requests of an emergency, corrective or preventive nature at the Morris Forman WQTC. The system schedules work orders and achieves workload balancing, asset management, inventory control, parts procurement and expendable commodity reorders.

2.3.14 FASTER

In 2010, MSD implemented the use of the FASTER software for Fleet Management. Utilizing the FASTER software, Fleet Management has adopted industry standards for procurement maintenance and disposal of equipment. This software allows the Fleet Department to track, monitor work orders and proactively maintain vehicles and equipment. These management practices fulfill requirements of SORP related activities for the Fleet Management department. This information had previously been tracked in the SAP system.

SECTION 3: OVERFLOW RESPONSE PROCEDURES

These procedures direct staff to document the occurrence of overflows and Water Quality Treatment Center (WQTC) bypasses. Per the Amended Consent Decree, not all overflows are unauthorized discharges (i.e. SSOs to ground); but they are reportable.

Employees are advised that strict adherence to these protocols is a condition of employment, and failure to follow these protocols without just cause, may make an employee subject to progressive discipline, up to and including termination. Employees may also be subject to penalties as prescribed under laws of the Commonwealth of Kentucky and the United States. These actions are intended to reduce environmental and human health impacts that can result from sewer overflows. MSD uses its discretion and best professional judgment to evaluate each event and choose an appropriate course of action.

3.1 Response Coordination

Overflows and bypasses may be identified in several different ways. They can be observed during daily routines, identified via telemetry or reported by the public. Once MSD receives notification that an overflow or bypass may be occurring, managers dispatch personnel to the location to assess the situation, set up a control zone, notify the public, and begin site mitigation. MSD personnel conduct these activities based on procedures in this section, the Overflow Response Matrix in **Appendix D** and the guidance specific to divisions contained in this document. After the site is evaluated, additional resources are deployed as necessary to completely remedy the situation.

MSD Customer Relations Call Center (CRCC) personnel are trained to answer questions from the public wanting to report an overflow or request additional information about the overflow abatement program. Notifications received from customers are entered into Hansen as Customer Service Requests (CSR). CRCC personnel are trained to provide prompt, accurate and current information regarding overflows, and to quickly dispatch service personnel to investigate and address situations. Procedures describing the process used to enter CSRs into Hansen can be accessed by staff through the internal online Hansen application. Customers may also enter CSRs online and may check on their status by clicking on MSD's Online Customer service link at www.msdlouky.org.

Discharge work orders are initiated in Hansen to document overflow or bypass response activities. The MSD personnel that respond and identify the overflow or bypass situation are responsible and accountable for generating the appropriate documentation. This includes collecting necessary information on the "Overflow Report Form" and submitting documentation

to a supervisor, or entering data directly into Hansen to generate the electronic discharge work order. Additional work orders are sometimes initiated to document and perform necessary repairs or clean up actions resulting from the overflow or bypass. Infrastructure and Flood Protection Dispatch, Main Office staff, Customer Relations and Morris Forman WQTC Process Control Center (PCC) personnel serve as communication resources to field personnel during a response situation. Occasionally, field personnel will be required to relay information to the respective areas concerning the status of discharges, as well as requests for additional resources to mitigate the situation.

3.1.1 Dry Weather Response

Dry weather overflows typically require more of a reactive approach as most are unanticipated. The majority of dry weather overflows are caused by WQTC bypasses, power failures, electrical problems, structural failures, mechanical issues or obstructions. Response is triggered once MSD is aware of the occurrence. If staff are not already on site, they are dispatched to stop the overflow or bypass and determine required actions.

3.1.2 Wet Weather Response

Wet weather forecasts allow for preparation, mobilization and proactive identification of overflows. Wet weather overflows can occur for the same reasons as dry weather overflows, but more often, limited system capacity is the cause of overflow. Sewer capacity can be exceeded during intense or long rain events and can be exacerbated by saturated soil conditions. MSD proactively prepares for inclement weather events, including rain, wind and lightning, to ensure optimal response to the system in the event of a failure or capacity-limiting situation. Refer to **Appendix K** to see a map of the current documented and suspected SSO locations.

3.1.2.1 Monitoring for Inclement Weather

MSD has developed and implemented a strategy to provide early warning, preparation, execution, and response to inclement weather events that may result in overflows. Local and regional weather forecasts and trends are monitored on a regular and ongoing basis. The Emergency Response/Metro Operations Director or designee regularly distributes an early warning to response personnel, support personnel, and all levels of management of impending inclement weather. A variety of technologies are utilized to forecast when adverse conditions may affect MSD facilities and systems, thereby allowing appropriate personnel to prepare

accordingly.

MSD monitors weather conditions that could lead to potential overflows via media (television or radio broadcast), NOAA internet radar link, and an internally maintained rain gauge system. MSD is networked with several local media and governmental weather services. A local weather service system sends early warning messages via cellular phone, text pager and/or email address. This forecast is updated four times per day, and includes live, local Doppler radar and a seven day forecast, as well as breaking weather alerts anytime severe weather is in the forecast, and threatens Louisville Metro. Below is a summary of internal monitoring tools.

- EGIS - EGIS is a real-time GIS tracking tool that is available to staff and supervisors. It is useful for monitoring facilities and service requests and aids in resource allocation.
- Rain Event Tracker - For internal use, the rain event tracker is available at the intranet home page. It includes information that tells when rainfall begins, ends and time frames that are important for reporting procedures.
- MSD Operations Web Page - The MSD Operations web site monitors telemetry around the county at specific locations and list serve notifications that help raise public awareness.
- Weather alerts through paging system - Weather alerts sent through the paging system and are used to inform staff when mobilization is needed for upcoming rain events.
- Jefferson County Rain Gauge System - This is a system of rain gauges in the region that are monitored by telemetry. The interactive system displays real-time data and allows queries and reports of historical data at any or all of the telemetered sites from the MSD web page.
- Rainfall Prediction Tool - MSD utilizes weather predictions from a rainfall prediction tool which is capable of making weather predictions for rainfall accumulation at the neighborhood level in 30, 60 and 120 minute advance increments.
- Dashboard - The Dashboard is an internal webpage that displays real time data as charts and graphs. It includes dry weather, wet weather, CSOs, SSOs and rainfall information. These charts also include monthly targets for overflows that are based on previous performance.

When severe weather approaches the Louisville area, a management response protocol is activated which ensures a total system response for MSD. Weather information is correlated and when appropriate, an internal weather alert is distributed via email to a predetermined distribution list of approximately 50 MSD employees. The information is also distributed on a

more frequent, critical basis to digital devices (pagers, cell phones, etc.) using a group paging system. These continued alerts, and updates are issued in advance of, during and following inclement weather.

3.1.2.2 Staging Resources

MSD does not wait to mobilize resources until after an overflow occurs but rather proactively stages equipment and staff prior to actual rain events to minimize response time and overall overflow impacts. Depending on the severity of the forecasted inclement weather, staff members are placed on standby, ready to determine the impact on treatment and conveyance systems, to supervise the regulatory notification process, conduct field inspections and determine the appropriate mitigation efforts. In extreme situations, staff schedules may be reviewed to determine if additional coverage is needed.

3.1.2.3 Performing Wet Weather Reconnaissance

Staff members monitor locations which are known or suspected to overflow during wet weather events.

Morris Forman Operations staff monitors the Morris Forman WQTC, the Main Diversion Structure and the Southwestern Pumping Station.

Metro Operations staff monitor the other pumping stations and WQTCs through telemetry, notification from the Morris Forman WQTC Process Control Center, reports from the public and from reconnaissance activities.

Infrastructure and Flood Protection staff monitor the eliminated pump locations in Beechwood Village, pumped locations in the Hikes Point area, and respond to overflows and backups reported through customer relations.

The Wet Weather Discharge Reconnaissance Team (WWDRT) comprised of staff from Regulatory Compliance and Engineering, monitor manholes or other sites within the collection system along established routes that are geographically grouped for wet weather inspection.

Rain Event SSO Inspection Routes

Currently there are five SSO Inspection Routes across the service area. Once a route is activated, the assigned staff proceeds directly to his/her designated route and performs reconnaissance activities. The reconnaissance continues from the beginning of the route and proceeds in this manner until the rainfall event has abated and/or overflows are no longer evident. See **Appendix C** for a detailed listing of manholes inspected as part of these groups. The current list of inspection routes includes:

-
- RS Hikes Point Rain Event SSO Inspection Route;
 - RS Jeffersontown Rain Event SSO Inspection Route (Specifically called out in the Amended Consent Decree); See **Appendix J** for details on the data collected on this route, a location map and plan profile of the manholes that are inspected on this route.
 - RS Jeffersontown/Fern Creek Rain Event SSO Inspection Route;
 - RS Middle/Muddy Fork Rain Event SSO Inspection Route; and
 - Engineering Rain Event SSO Inspection Route.

Rain Event SSO Inspection Route Triggers

The pre-defined routes are activated based on the wet weather event and the general historical behavior of the known overflows. The following types of information are included in the activation process: actual rainfall, predicted rainfall, antecedent moisture conditions, system flow rates, relationship to other known overflows, and level indicators and flow meters installed at strategic manholes located along the various routes. Currently there is at least one level meter installed at what is believed to be the most active overflow along each of the routes. Rain Event SSO Inspection Route Triggers are currently installed at the following locations:

- Southeastern Diversion Structure for the RS Hikes Point Rain Event SSO Inspection Route;
- Wickland Road at Frazier Road Manhole for the RS Hikes Point Rain Event SSO Inspection Route;
- Jeffersontown Siphon for the RS Jeffersontown Rain Event SSO Inspection Route;
- Jeffersontown Siphon for the RS Jeffersontown/Fern Creek Rain Event SSO Inspection Route;
- Middle Fork at Breckenridge Lane Manhole for the RS Middle/Muddy Fork Rain Event SSO Inspection Route; and
- Sandstone Boulevard Manhole for the Engineering Rain Event SSO Inspection Route.

Rain Event SSO Inspection Tracking and Documentation Process

WWDRT route reconnaissance includes an enhanced inspection tracking process. Since September 2008, MSD documents the inspection of these WWDRT routes. This is performed using group projects in the Hansen system. A Group Project is generated in the Hansen System for each qualifying rain event for the impacted route. When a Group Project is generated, an inspection work order is generated for each manhole along the route. Group

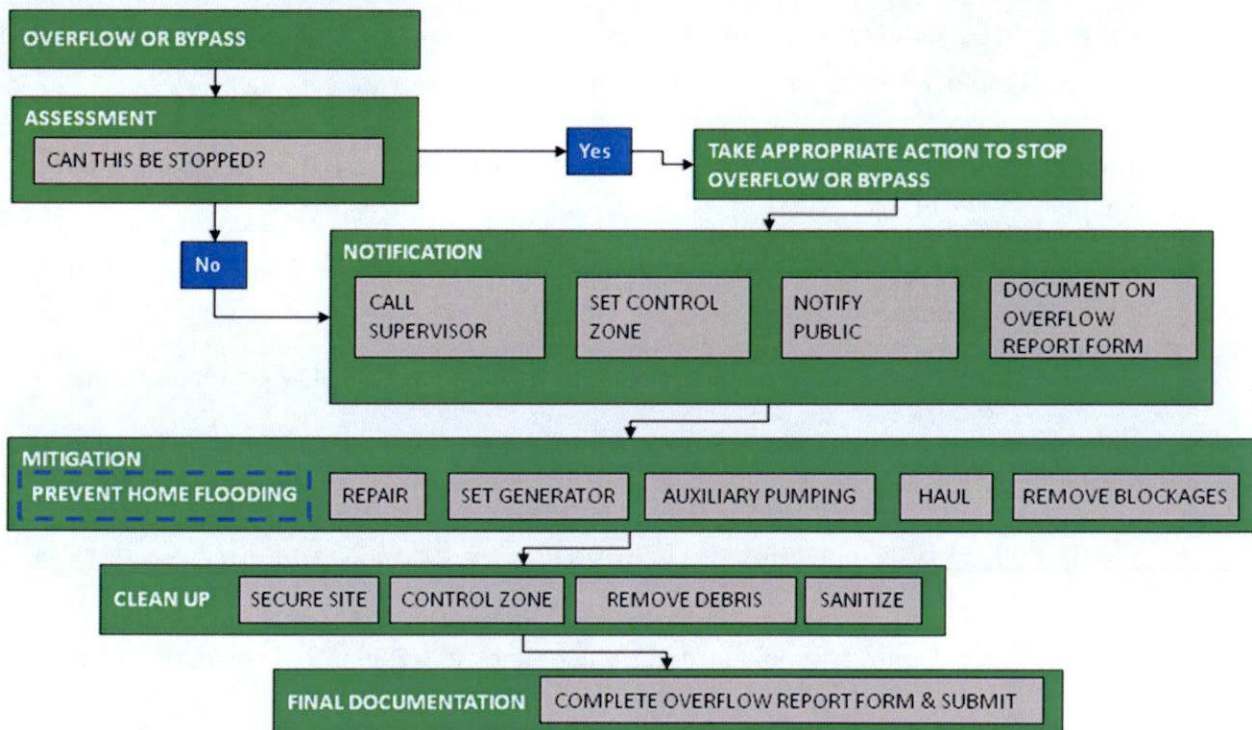
Projects include when the inspections began and when the inspections ended. When overflows are identified, a discharge work order is created on the discharging asset. The manholes within the routes are prioritized using anecdotal information and sewer model data. Inspections will occur along the routes until no overflows are observed.

MSD has expanded the database of overflow information and enhanced the process utilized to establish and review the routes. For a detailed account of the process, refer to section 4.5.

3.2 Response Procedure Overview

Figure 1, the SORP Process Map outlines the basic response framework, or process, for responding to an overflow or bypass. The SORP Process includes five elements: assessment, notification, mitigation, cleanup, and final documentation. An overview of each element is explained in the remaining sections of this chapter.

Figure 1 - SORP Process Map



3.3 Overflow Assessment

When MSD Personnel arrive on scene, an initial assessment of the overflow or bypass is made.

The first question that must be answered is “Can this overflow/bypass be stopped immediately?” If the answer to this question is “Yes” then immediately take the appropriate action and continue to the next step in the SORP Process. Examples of immediate actions that mitigate overflows or bypasses include but are not limited to:

- Turning pumps on or off;
- Resetting electrical controls; and
- Removing blockages or pumping around an in-line blockage if the appropriate equipment is readily available.

The primary potential health hazard to the general public in the event of a sewer overflow or WQTC bypass is biological in nature. However, MSD field personnel are also trained, at a minimum, to Level I (Awareness Level) relative to dealing with other possible hazardous materials. Additionally, some front line supervisory personnel are required to be trained to Level II (Operations) or Level III (Technician). The content of the overflow or bypass must also be assessed for the following conditions:

- Hazardous materials - a Hazmat incident is declared and “911” should be called immediately. Personnel should contact Dispatch/ Process Control Center and request Industrial Waste Department assistance. The Louisville Metro Fire & EMS and Metro Health Department personnel will respond to the incident and dictate the resultant protocol to be followed. This is accomplished by notifying BASE 1 or Customer Relations during Off-Shift hours.
- Oily sheen, hydrocarbon odors or strange color - immediately contact Dispatch/Process Control Center and ask that an Industrial Waste Department responder be dispatched to the location to determine if a hazardous or other substance is present in the discharge. The Industrial Waste Department Emergency Response Pretreatment Inspector will provide guidance on the appropriate measures to be taken and sampling/cleanup to be performed.
- Grease - immediately contact Dispatch/Process Control Center and ask that an Industrial Waste Department responder be dispatched to the location to determine the cause of the grease/obstruction.



3.4 Overflow Notification

This step begins with the employee contacting the respective supervisor, establishing a control zone, notifying the public and beginning the overflow or bypass documentation process.

3.4.1 Contact Supervisor

The critical issues to convey to the supervisor include, but are not limited to, the following items:

- Identify the overflow or bypass location;
- Time/date the overflow or bypass began;
- Initial assessment of the problem; and
- Additional resources required to remedy the situation and stop the overflow or bypass.

3.4.2 Establish Control Zone

It is critical for public health and safety to determine the limits of the impacted area, which can be defined as the location where sewage has had contact and/or collected. Indicators of an impacted area include standing water with sewage characteristics, water marks along trees or vegetation extending from a sewer structure and solids, paper or other debris consistent with sewage. The impacted areas could be the soil/pavement (EXT), Waters of the United States (WUS), or a building/basement (INT).

MSD personnel will establish the control zone around the perimeter of the impacted area to limit public access. The limits, duration and most appropriate control zone mechanisms will be site-specific. Typical situations requiring control zone setup include high pedestrian/vehicular traffic areas, residential areas, as well as areas near public buildings, schools and parks. Methods of establishing a control zone include placement of barricades,



signs, cones and/or caution tape around the impacted area. The control zone will remain in place through the completion of cleanup activities.

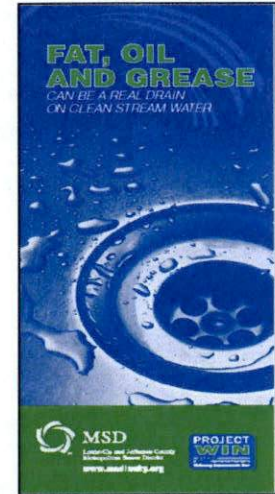
MSD has adopted a standard sign to be used for both permanent overflow advisory warnings

and temporary control zone delineation. The sign requests that the public avoid contact with the area, and provides contact information for the public for any comments or questions.

3.4.3 Notify the Public

In addition to the control zone, it is necessary to ensure the public understands the nature of the

situation such that they can take steps to minimize the risk of coming into contact with the untreated sewage. MSD makes a concerted effort to ensure



that the public is made aware of potential or actual overflows through both event-based public notification activities and programmatic (on-going) outreach and educational activities. MSD continually seeks to enhance the public notification and awareness program.

3.4.3.1 Programmatic Notification Activities

The programmatic educational outreach activities focus on providing the public with a heightened level of awareness concerning overflows, including the causes, potential health hazards, environmental impacts, MSD abatement activities and the public's role in helping to alleviate these conditions. MSD utilizes permanent overflow advisory signs, event-based updates to the MSD & Project WIPM websites and email notifications to communicate overflows and bypasses to the community.

Permanent Overflow Advisory Signs

Permanent Overflow Advisory Signs are installed at permitted CSO locations and other fixed-asset locations known to overflow on a recurring basis within the separate sanitary sewer system. Permanent Overflow Warning Signs are also installed at all points of public access to creeks and streams impacted by overflows within the service area. The signs include a phone

number for customer inquiries. All permanent signs have an enhanced warning message written in English, as well as in Spanish. These signs are inspected annually and replaced or cleaned, if defaced.

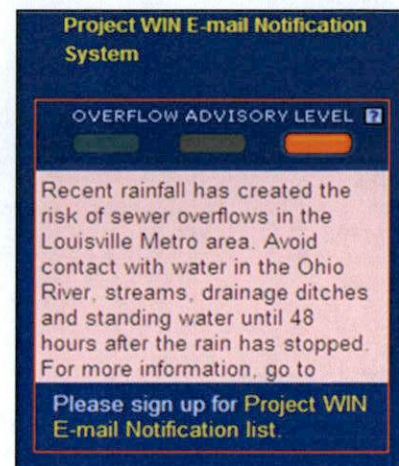
MSD Website Notifications

The Project WIN web page displays a message informing the public when overflows may be impacting the streams during a rain event. A second message is displayed when conditions return to normal. This notification is automated based on the rainfall amounts collected by the rain gauges.

MSD Email Notifications

The public may elect to receive a notification when overflows may be impacting the streams during a rain event via email by signing up on the MSD Project WIN web page. This notification is automated based on the rainfall amounts collected by the rain gauges. In addition, customers can sign up to receive email notifications for the following events:

- when there is a dry weather overflow of untreated sanitary sewage in an amount over 1,000 gallons that occurs anywhere in the MSD collection or treatment system; or
- when conditions have returned to normal (minimum of 48 hours) and the impact of a release or overflow has dissipated; or
- when there is a significant issue or news that may be of interest to those members of the Project WIN e-mail notification system.



3.4.3.2 Event-based Field Notification

Event-based activities are designed to limit public access to areas impacted by overflows. When an overflow occurs, MSD utilizes both a localized field-based approach to warn the potentially impacted public, along with public notification announcements coordinated and disseminated by MSD's designated Communication Team. Localized field-based notification mechanisms include the use of temporary and permanent signage, establishment of control zones and placement of door-hangers if applicable.

Temporary signs are used to provide immediate notification of a potential health threat. They are bilingual (English/Spanish) and also include a telephone number to call for additional information. These signs are used in conjunction with control zones, traffic control signs, electronic flashers and other public safety equipment to protect the public.

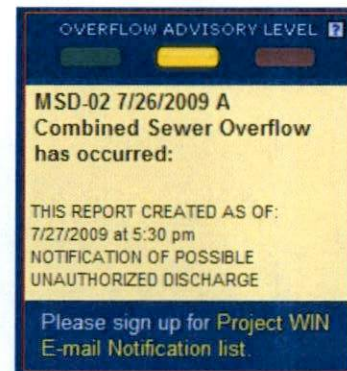
MSD may distribute door hangers if temporary signage does not adequately warn members of the public that may come into contact with the overflow. Information on door hangers include a message stating that an overflow or bypass may have occurred in the neighborhood, that areas to avoid are being delineated, and that overflows may pose a public health hazard.

3.4.3.3 Event-based Web Notification

In some events the time required for notification is shortened. Information must be posted to the MSD Project WIN web site for public notification and voluntary email notification within two hours of verifying that either of the following scenarios has occurred:

- A dry weather overflow of more than 1000 gallons has occurred, is occurring or will likely occur, or
- A dry weather overflow at a Flood Pump Station has occurred, regardless of the volume.

The MSD employee who made the verification immediately notifies their supervisor and Customer Relations at **587-0603** that a dry weather overflow of more than 1,000 gallons has occurred or that a dry weather overflow at a Flood Pump Station has occurred, regardless of the volume. Customer Relations staff updates the MSD Project WIN web site as needed. The MSD employee who found the discharge initiates a Discharge Work Order according to normal department procedures.



3.4.3.4 Event Based Phone Notification to MSD Executive Management

In extreme cases, MSD executive management must be notified immediately. The responding supervisor is responsible for notifying the Division Director, who in turn notifies the Office of the Executive Director and the Regulatory Compliance Administrator (or a designee) by the fastest means available if either of the following conditions is present:

- A dry weather overflow has or may have the potential to have a substantial negative impact on the environment and/or public health; or
- A dry weather overflow is approaching 50,000 gallons or more.

The Executive Director or a designee may direct the preparation and distribution of a press

release as deemed necessary. The Regulatory Compliance Administrator or a designee determines if additional regulatory notifications are required, such as with KRS 224 01:400, which requires immediate notification to the State and EPA. These procedures occur in addition to the Internet Notification Procedures above for a 1000 gallon or more dry weather release.

3.4.4 Begin Documentation

Once an overflow or bypass has been confirmed, it must be documented. All unauthorized discharges must be reported to the KDEP and EPA within 24 hours. This is referred to as the Initial Discharge Report (IDR). In order for MSD to meet the initial 24-hour reporting requirement, all overflows must be documented with a discharge work order in the Hansen system within 10 hours of discovery. Minimum requirements to open a discharge work order in Hansen include:

- Asset Type
- Asset ID
- Initiated Date and Time
- Problem Code
- Result Code

Any additional information that is available when the discharge work order is being created should be included. Information accuracy is critical during this process. The IDR is sent automatically and will not be reviewed for content before it is sent to regulatory compliance authorities.

3.5 Overflow Mitigation

The decision making process employed by MSD response personnel to mitigate an event is dynamic and often unfolds during the course of the overflow event. In the case of wet weather impacts, for example, inclement weather is forecast, resources are staged, the weather continues to be monitored, and as the initial impact of the storm is realized, resources are deployed in a tactical manner based on specific conditions that exist in the field.

Based on real time system performance conveyed through telemetry systems, the magnitude of the impact is continuously assessed to revise the response accordingly. In the event of a dry weather impact, such as an obstruction or equipment failure, the issue is much more acute in nature, and requires a much more targeted, site specific response. There are



greater resources available during a dry weather incident, as the situation is often very localized, as opposed to a wide spread rain event that impacts the entire service area. It is essential that overflows and bypasses be mitigated by the most expeditious means practicable. There are two basic components to mitigation of sewer overflows and WQTC bypasses – correct the system failure and lessen the impact to the public and the environment. Correcting the system failure consists of either removing blockages or repairing the damaged asset. As the failure is being corrected, it is critical to minimize the impact of the event by protecting the public from basement backups and the environment from sewage releases. Resources are available to restore primary power loss with generators, haul wastewater with tanker trucks, and pump around failing assets.

3.5.1 Minimizing the Overflow Impacts

After the control zone has been established, the responder determines the most effective means to minimize overflow impacts. The type of mitigation required is site-specific depending on the cause of the overflow and the extent of the impact. MSD utilizes a variety of mitigation methods, including containment, filtration, flow diversion, and portable generators as well as pumping and hauling activities. The method used is determined by overflow severity, site accessibility, potential for service disruption, size of impacted area and the need to minimize the impacts to public health and the environment. In general, staff will choose supplemental power

first if possible, utilizing a portable or stationary generator. When restoring power will not stop an overflow, containment, flow diversion and flow filtration activities would be considered the appropriate mitigation activities. **Pumping and hauling is considered a legitimate alternative, but only as a last resort to other mitigation techniques during wet weather.**

3.5.1.1 Restore Power

MSD staff utilize stationary and portable generators to restore power to wastewater facilities where and when possible, effectively mitigating overflow and bypass occurrences. This is the first priority and easiest overflow mitigation activity to implement.

3.5.1.2 Containment

Containment methods are used to prevent the further spreading of the overflow into the environment. MSD attempts to contain the overflow to the extent reasonably practicable. Two factors that influence this decision are probability of successfully containing the overflow and how much time would be required to implement containment versus resolving the problem. Whereas no single containment plan is applicable in all situations, MSD personnel use standard principles in conjunction with field conditions and site characteristics to develop the most effective containment plan. Some examples of containment techniques that MSD may employ include: sand bags, inflatable plugs to block the overflow from reaching any nearby storm water pipes, berms created from existing topography of the site or those constructed from other available materials, as well as commercially available spill prevention equipment that specializes in containing various types of overflows.

3.5.1.3 Flow Diversion

Flow diversion methods can provide an effective means of collecting wastewater at the point of overflow and conveying it back into the collection system at a downstream location. This method reduces the potential additional impact on the immediate area, as well as downstream areas. Examples of flow diversion methods that may be useful during dry weather events or small wet weather events include the use of portable pumps to convey wastewater to a downstream manhole and the use of a tanker truck to haul to another point in the collection system.

3.5.1.4 Flow Filtration

Filtration establishes a physical strainer to reduce the impact of solids, paper, etc., from the

flow. MSD attempts to filter the overflow to the extent reasonably practicable. As with containment, two factors influence this decision – probability of success and the alternative time needed to stop the overflow. Typically, the type of overflow event or the size of the overflow is the criteria for deciding if filtration or containment is a feasible approach. For example, during wet weather events, the overflow volume and number of overflows exceed the ability of the field crews to successfully contain the overflow. Filtration may be the only option until the flow subsides. A filtration plan may also be the quickest option for reducing the downstream impact during dry weather flows with very large volumes. However, even filtration might not be practical for a high volume overflow or a site is unsuitable for the practice.

3.6 Overflow Cleanup

Upon mitigation of the overflow or bypass, the site must be secured and thoroughly cleaned.

3.6.1 Cleanup Time Frame

Dry weather overflows are most often caused by system failures or utility damage. Due to the potential for a higher risk of the public contacting an impacted area from a dry weather overflow, cleanup at dry weather overflows occurs immediately after stopping the overflow.

Wet Weather Overflows are usually capacity related. MSD Personnel may not have the ability to stop an overflow from occurring

during wet weather and therefore must wait for the rain event to subside and the overflow to stop. There is also the potential for many overflows to occur during a rain event, which may impact how long it takes to complete cleanup activities. Cleanup of wet weather overflows should occur as soon as possible, but not longer than five (5) calendar days after the overflow stops.



3.6.2 Cleanup Scope

The immediate area impacted by the overflow site is inspected and cleaned of residual material in order to minimize the risk/impact to public health and the environment. Manhole lids should be replaced and pumping hoses and pipes should be stored for future use. No visual sewage

residue should remain, including solids, papers, rags, etc.

3.6.3 Cleanup Methods

MSD uses two basic types of cleaning methods.

- Manual practices entail removing sewer solids and other debris by using hand tools such as rakes, shovels, and brooms.
- Mechanical equipment such as combination sewer cleaners and excavators can also be used to aid overflow cleanup.

Scenarios where this type of equipment could be employed are cleaning streets and removing contaminated soil. After the standing water and other debris have been removed, pervious areas impacted by the overflow are disinfected with lime to kill remaining bacteria.

MSD recognizes that an overflow during a rain event may appear to be limited in scope and residual impact, due to the magnitude of flow in streams, creeks and drainage channels.

However, the bacterial loading during these periods increase, and human contact is a prime concern both during and after the overflow. In addition to efforts to physically limit human contact during an overflow as described previously, MSD responds immediately with a site inspection, with follow-up efforts directed at returning the affected area to a pre-overflow condition as quickly and efficiently as possible.

Control zone materials are to be removed from the area 48 hours after cleanup is completed. If materials such as barricades and traffic cones came into contact with the impacted area they should be cleaned and stored for future use. Contaminated temporary signs should be discarded; otherwise they can be stored and used again.

3.7 Final Overflow Documentation

Field verification is required to document that an overflow has occurred. The MSD personnel that respond and identify the overflow or bypass are responsible and accountable for generating the appropriate documentation. This includes collecting necessary information about the overflow on the “Overflow Report Form” and submitting documentation to a supervisor, or entering the data directly into Hansen to generate the electronic discharge work order. **Work orders must be initiated in Hansen within 10 hours of verification that an overflow has occurred.** This

protocol is necessary to ensure transmission of data pertaining to unauthorized discharges to KDEP within the required timeframe. See **Appendix G** for the Overflow Report Form used to assist with data collection in the field. Hansen IMS data entry includes completing the “Work Order” Tab, “Comments” Tab, “Spot Inspections” Tab, and “Log” Tab.

Work Order Tab information should include the Start and Stop Date/Time, Problem Code and Result Code.

Comments Tab information should include comments specific to the overflow and further explain what occurred during the overflow or bypass event. Comments should include details that are not captured elsewhere in the overflow documentation.

Log Tab information includes data that documents what was done to notify the public. A second log code documents the notification to EPA/KDEP and is system generated when the overflow or bypass reached the WUS.

Spot Inspection Tab information includes six spot inspections required for each overflow or bypass work order. A summary for each of the spot inspections is required. The spot inspections are as follows.

Overflow Amount (DISAMT)

This spot inspection is an estimate of the overflow volume. It can be a visual estimate based on flow rate and duration, or it can be based on telemetry values.

Estimating overflow volume is a critical component of reporting, system assessment, and

planning/design of overflow abatement projects. MSD has developed the “Overflow Volume Estimation Guide” to standardize tracking and reporting of overflow volumes. This guide is located in **Appendix E** and is updated as needed based on new information or changes in overflow conditions.

Overflow Cause (DISCAU)

This spot inspection is a summary of the problem or problems that caused the overflow to occur. It is a statement that should support or further define the problem code that was selected for the overflow.

If the cause of an overflow is found to be a private property issue, MSD personnel notifies the appropriate parties after containing the overflow. In



these circumstances, MSD is not responsible for reporting, mitigation or cleanup.

Overflow Cleanup (DISCLN)

This spot inspection should include detailed information related to the cleanup and disinfection of the impacted area. In addition, this information should also be updated to related service requests and cleanup work orders related to the overflow work order.

Overflow Control Zone (DISCZ)

This spot inspection is a detailed summary of control zone materials utilized to prevent public contact with the impacted area. The summary should include details about which types of control zone materials were used and how they established a control around the impacted area. Typically this summary will include information about temporary signs, caution tape, barricades and traffic cones.

Overflow Impact (DISIMP)

This spot inspection is a detailed summary of what was observed escaping the collection system and the apparent environmental impact.


Overflow Repair (DISREP)

This spot inspection includes details about what was done to stop or mitigate the overflow or

WARNING
ADVERTENCIA

DURING AND AFTER RAIN EVENTS

The surface water in this area contains runoff contaminants and is subject to sewage overflows. Avoid contact with water, due to increased health risks, during these times. For more information, visit our website or call the telephone number below.



DURANTE Y DESPUES DE LLUVIA

El agua en esta área contiene contaminantes recogidos por la lluvia en el suelo y las calles, y está sujeto a desbordamientos de las alcantarillas sanitarias. Evite contacto con el agua durante y después de la lluvia debido a riesgos de salud. Para más información, visite nuestra página del Internet o llame al teléfono que aparece a continuación.



MSD
www.msdlouky.org

(502) 587-0603
SIGN/SEÑAL S0025

bypass and may also include known capital projects earmarked as solutions to address known recurring overflows.

Mitigation can correct the overflow cause, if not system capacity related. Examples include roots, grease or debris in the sewer system, a structural problem with a sewer line or force main, and mechanical or electrical problems with pumping station or water quality treatment center equipment. These types of occurrences are corrected by MSD personnel. For example, the



sewer can be flushed, vactored or root cut to remove debris, grease and roots from the line; a sewer line or force main can be repaired and mechanical or electrical problems at a pumping station or water quality treatment center can be corrected.

SECTION 4: OVERFLOW REPORTING AND MONITORING PROCEDURES

The collection and reporting of information required to meet regulatory reporting requirements under 401 KAR 5:015 is an essential component of the overflow response process. It is imperative that information relayed by response personnel from the field is complete and accurate. In addition to its use for regulatory reporting, this information is crucial to tracking the overflow history of assets such as manholes, sewer lines, and pumping stations. MSD utilizes this data to make decisions about response and abatement strategies.

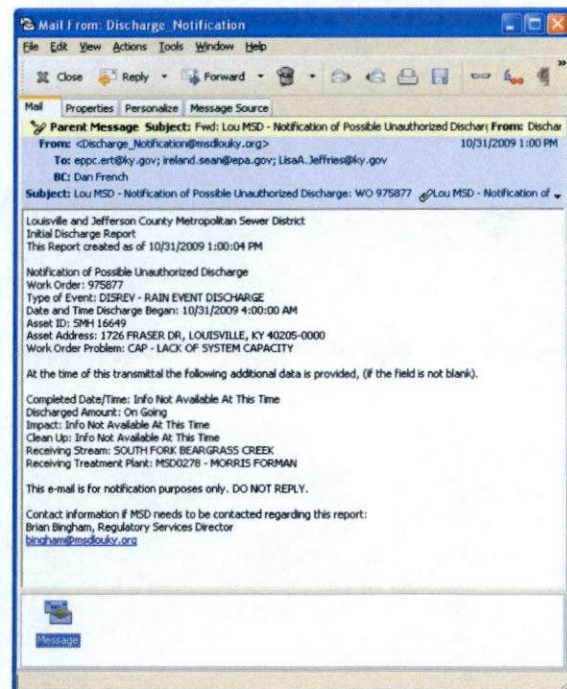
The sections below detail the means and methods by which MSD reports unauthorized discharges and submits overflow information to the KDEP and EPA.

4.1 Twenty-Four Hour Unauthorized Discharge Notification

Within 24 hours of verification that an unauthorized discharge has occurred, MSD electronically transmits an Initial Discharge Report (IDR) to the Kentucky Department of Environmental Protection (KDEP) and Environmental Protection Agency (EPA). The IDR contains information as required by 401 KAR 5:015 and 40 CFR 122.41 (L)(6). The IDR currently loaded into the state eNotification system and sent to the following email address: sayre.dennis@epa.gov. KDEP and EPA can request changes to this recipient list and MSD will make the programming changes as requested.

The following information is provided in the IDR:

- Work Order number
- Type of event (wet or dry)
- Problem type
- Start date and time
- Location of unauthorized discharge (Asset ID and address)
- Completed date and time, if known
- Estimated volume, if known
- Impact, if known
- Clean up information, if known
- Receiving Stream
- Receiving Water Quality Treatment Center



If the Discharge Work Order is not completed when it is transmitted to KDEP and EPA, a supplemental notification with additional information is sent once the work order is completed. If after initial reporting it is determined that the overflow was not required to be reported, MSD provides an updated list in the monthly discharge report submitted with the Discharge Monitoring Report (DMR).

4.2 Water Quality Treatment Center (WQTC) Upset & Bypass Reporting

MSD reports, monitors and maintains records of WQTC upsets and bypasses. These events are initially reported through the IDR process defined in section 4.1. These occurrences are followed up with a 5 day letter. These records are included in the Quarterly and Annual Reports submitted to EPA and KDEP.

4.2.1 10-Day Potential to Bypass Notification

MSD complies with the advance notice requirements, per 401 KAR 5:065 Section 2 and 40 CFR 122.41 (m)(3) and identified in the KPDES Permit for each WQTC, for an anticipated bypass necessary to perform scheduled maintenance. This includes a minimum of 10-days advance written notification and justification to KDEP.

MSD issues a potential to bypass letter for preventative maintenance activities which are perceived to have the potential to cause a bypass. These letters are written and submitted ten days in advance of the maintenance activity. Each letter includes conditions that will be administered to prevent a bypass from occurring while the scheduled maintenance is performed.

These letters are sent to:

Mr. Todd Giles
District Supervisor, Kentucky Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, KY 40222-5084

4.2.2 5-day Follow Up Letter

MSD complies with the notice requirements, per 401 KAR 5:065, Section 2 and 40 CFR 122.41 (L)(6) and identified in the KPDES Permit for each WQTC, for unanticipated bypasses and plant upsets. These occurrences are reported within 24 hours of becoming aware of the situation through the IDR process. In addition, 5-day follow up letters are sent to KDEP Louisville field office as described below. MSD has created a template for staff to use for each type of 5-day letter (See **Appendix I**).

Upset letters include the following components:

- Beginning/ending date and time;
- Volume of wastewater upset;
- Cause of the upset; and
- Mitigation activities performed.

Bypass letters include the following components:

- Beginning/ending date and time;
- Volume of wastewater bypass;
- Cause of the bypass; and
- Mitigation activities performed.

4.3 Water Quality Treatment Center Monthly Reporting

4.3.1 Discharge Monitoring Report (DMR)

A monthly DMR is compiled for each of the WQTCs owned by MSD. The DMR is submitted along with a copy of the monthly operating report and monthly overflow report for the service area per the KPDES permit regulations.

4.3.2 Monthly Overflow Report

MSD includes a summary of unauthorized discharges occurring within a given sewershed in the respective WQTC DMR packet. The monthly discharge report covers the same timeframe as the respective DMR packet. See **Appendix H** for an example of the overflow report.

The following information is stored within Hansen and reported to KDEP using the report IMSAST0004 – Discharge Report:

- Sewershed name and specific location of the unauthorized discharge;
- Start date and time of the unauthorized discharge;
- Stop date and time of the unauthorized discharge;
- Description of the cause of the unauthorized discharge;
- Impact of the unauthorized discharge;
- Description of actions taken to mitigate the unauthorized discharge;
- Estimated volume of the unauthorized discharge;
- Description of cleanup actions taken; and
- Description of the type of notifications.

Bypass events at any WQTC are incorporated into and reported as part of the Monthly Overflow Report.

4.4 Amended Consent Decree Reports

4.4.1 Quarterly Discharge Report

MSD submits a summary of the previous quarter unauthorized discharges (WUS) to EPA and KDEP in the Amended Consent Decree Quarterly Report. Quarterly Reports are due by the 30th day of the month following the end of the quarter.

4.4.2 Annual Discharge Report

MSD submits a summary of previous fiscal year unauthorized discharges (WUS), Exterior overflows (EXT) and backups into buildings (INT) that are caused by a problem on the main to EPA and KDEP in the Amended Consent Decree Annual Report. Annual Reports are due by December 30 following the end of the fiscal year. These reports are sent to:

One copy to:

Chief, NPDES Permitting & Enforcement Branch
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

One copy to:

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Two copies to:

Michael Kroeger, Director
Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

4.5 Status and Monitoring of Overflows

MSD tracks the status of overflow occurrences on assets such as manholes, sewer lines, and pumping stations in Hansen and utilizes the information to make decisions about response and abatement strategies. MSD reviews all discharge work orders on a monthly basis and adjusts the asset status code as needed.

The status is used to document within Hansen the current condition of a particular asset relative to whether an overflow has occurred. The different categories and definitions of each status and associated monitoring frequencies are:

Status	Description	Definition
B	Beyond Approved Design Storm	Overflows with this status are capacity-related and only occur with storms beyond a certain magnitude that have not been requested/approved Force Majeure events. If the overflow is associated with a project, the level of control associated with the project is used. If the overflow is not associated with a project, the 10-year, 3-hour cloudburst is used.
D	Documented	Overflows with this status are capacity related, recurring wet weather overflows. Each has been reviewed, and a project or solution has been or will be developed to eliminate the capacity problem.
E	Eliminated	Overflows with this status have been eliminated with a project or solution developed specifically to address the overflow problem.
F	Force Majeure	Overflows with this status have only occurred during storms or events where written request and authorization has been approved by regulatory authorities.
L	Limited Capacity due to Flood Operations	Overflows with this status occurred during a river flooding event, when the system was at capacity and could not operate as efficiently during and after wet weather due to limited CSO discharge points.
M	Modeled Overflow	Overflows with this status have not been observed but were identified through hydraulic computer modeling. Field verification is used to determine if the asset is an overflow, in which case the status is updated to Documented (D), or if it does not overflow in three years of documented monitoring activities, the status is updated to No Reported Discharge (N).
N	No Reported Discharge	Overflows with this status have been monitored for at least three years with documentation of monitoring activities and no observed overflows.
Q	Queued for Repair	Overflows with this status have either discharged due to a non-capacity issue that has not been immediately repaired (may require a requisition or contractor to complete) or have discharged for the first time, attributed to capacity, requiring further investigation (including field investigation and / or modeling) to confirm the discharge is capacity-related before categorizing as Documented (D).
R	Repaired - Issue Resolved	Overflows with this status have been corrected by some operation or maintenance activity. Overflows at these locations should not recur.

Status	Description	Definition
S	Suspected	Overflows with this status can be maintenance or capacity related. MSD personnel do not actually witness the overflow, but only see evidence that it occurred. If maintenance issues are identified and corrected, the status is updated to Repaired – Issue Resolved (R). If it does not overflow in three years of documented monitoring activities, the status is updated to No Reported Discharge (N).
X	External Influence	Overflows with this status were due to an outside influence, such as an upset, utility damage (e.g., water main break), LG&E power outage or river flooding (e.g., pump station underwater).

At least once a quarter, if not more often, MSD reviews the status of each asset with a discharge work order during the time since the previous review to determine if any adjustments are needed. Overflow routes and capital project plans are then adjusted accordingly. Enhanced SSO Fact Sheets have been developed and more data, such as information related to the historical event(s) that caused the overflow(s) are now tracked in Hansen and reported based on calendar year. The SSO Fact Sheets are updated on an annual basis. Additionally, information from the SORP and Capacity, Management, Operation and Maintenance (CMOM) activities will be utilized to review the routes on a quarterly basis to determine if they should be modified. If it is determined that additions or deletions are required, the revised routes will be incorporated into the SORP and submitted to EPA and KDEP for approval in the annual update. The SSO Fact Sheets will continue to be updated and published to the Project WIN website on an annual basis.

4.6 Data Retention and Trending

MSD tracks the information related to overflow and bypass locations in Hansen in the form of discharge work orders. Information is tracked on individual assets such as manholes, sewer mains, sewer service lines, pumping stations and WQTCs. The type of information tracked includes but is not limited to, the cause, status, and volume of the overflow or bypass. MSD utilizes this information to conduct a periodic review of system-wide discharge data to document trends in frequency and volume as part of the CMOM program. The information from the CMOM program is used to update the SORP on an as-needed basis.

Section 5: Updates, Availability and Training

5.1 Review and Updates to the Sewer Overflow Response Protocol (SORP)

In accordance with the Amended Consent Decree, MSD conducts an annual review of the SORP each year by the anniversary of the final approval date by Environmental Protection Agency (EPA) and Kentucky Department of Environmental Protection (KDEP) (August 22, 2006). Proposed changes, if any, are submitted to EPA and KDEP for review and approval. Once approval is received, MSD will update the SORP training modules and conduct training for pertinent employees.

5.1.1 Responsibility

The manager in each of the MSD functional areas listed below is responsible for executing an annual, comprehensive review in their respective area(s) of responsibility for overflow monitoring and reporting:

- Wastewater
- Collections System & Emergency Response
- Treatment
- Regulatory Compliance, Records & GIS Services

5.1.2 Scope

Regulatory Compliance is responsible for leading and scheduling an annual review with appropriate personnel. Proposed modifications to the SORP and associated procedures are coordinated, reviewed, approved and distributed by the Regulatory Compliance Administrator or designated staff. This review is inclusive of the required personnel necessary for a full evaluation of the documents regarding changes in procedure, efficiency, technology improvements and regulatory changes.

5.2 Distribution and Availability of SORP

When changes are made to the SORP a new master copy of the SORP is scanned into MSD's eB system and made available to MSD personnel. Historical documents are archived and only the most current version will remain available to MSD personnel.

A copy of the latest version of the SORP is posted on the Project WIN website and available to the public. This site can be accessed at www.msprojectwin.org.

5.3 Training

5.3.1 District Wide Training Program

MSD Training department personnel supervise and administer the overall training program, with support from appropriate managers and supervisors. MSD has developed a comprehensive SORP training program that progresses in complexity from SORP Overview, an awareness level module, to Field Training, which includes instruction and practice with specific response protocol duties.

The SORP Overview training is provided online on an annual basis for all MSD employees, as well as during new employee orientation, which is conducted approximately every two weeks. Field response training is provided online on a quarterly basis and the topics rotate each quarter. This allows for more frequent feedback regarding the quality of field response performance. Corrective training occurs more quickly when performance gaps are identified. Documentation of training activities is performed by MSD's Training department.

5.3.2 Schedule for Training

Each quarter, employees that have the potential to identify, respond or otherwise report overflows and bypasses, receive approximately one hour of Field SORP Training. Each quarter covers specific elements of the SORP process. The quarterly review includes elements of the Consent Decree, time-sensitive notification, documentation and a brief review of reported overflow data. Training on a quarterly basis ensures that field personnel are familiar with current response and reporting procedures and allows employees who are new to the organization an opportunity to learn about requirements and ask questions. Assessments are completed by staff to demonstrate a baseline understanding of the material covered each quarter and to document training attendance.

As the SORP is updated, and changes are approved by EPA and KDEP, content and activities are updated accordingly and personnel trained on any changes. SORP overview training is provided to all MSD employees and contractors and fulfills annual Consent Decree training requirements for staff that do not have specific response duties.

5.3.3 Training Modules

Training frequency and general participation are described below by technical area served; frequency is based on individual job title. Not all staff members within MSD will receive training on each module (except for the annual SORP Overview).

Division / Department / Technical Area	Annual Training	Quarterly Training
Engineering / Development & Stormwater Services	X	X
Engineering / Regulatory Compliance, Records and GIS Services / GIS Services	X	
Engineering / Regulatory Compliance, Records and GIS Services / Regulatory Compliance and Asset Management	X	X
Engineering / Regulatory Compliance, Records and GIS Services / Records	X	
Engineering / Technical Services	X	X
Executive	X	
Executive / Customer Relations & Communications	X	
Executive / Facilities, Safety & Security	X	
Finance Division	X	
Human Resources Division	X	
Information Technology Division	X	
Legal Division	X	X
Operations / Collections System and Flood Protection	X	X
Operations / Fleet Services	X	
Operations / Support Services / Performance	X	
Operations / Support Services Field Engineering	X	X
Operations / Support Services Industrial Waste	X	X
Operations / Treatment Facilities	X	X
Operations / Wastewater and Drainage / Drainage	X	
Operations / Wastewater and Drainage / Sanitary	X	X
Operations / Wastewater and Drainage / TVI	X	X
Supply Chain and Economic Inclusion	X	X

5.3.4 Description of Training Modules

SORP Overview and Process

Objective: Learners gain knowledge of the purpose, history, policies, procedures governing MSD's SORP, as well as divisional and contractor responsibilities, liability, and consequences of violation. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past year.

- This module discusses: SORP's purpose, including the role in protecting the public and environment and the regulatory requirements relative to response, cleanup/mitigation and reporting of overflows, including unauthorized discharges, under the Amended Consent Decree and the KPDES permit;
- Review of key definitions (SSO, CSO, unauthorized discharge, overflow, etc.);
- Review of the history of sewer construction in Louisville and how overflows have evolved over time;
- Review of the Clean Water Act and MSD's obligations under permit; Review of divisional and personal liability and consequences of violations of the SORP;
- A review of any key components changed in the SORP; and
- SORP Process Map.

Preparing for Overflows, Monitoring, and Mobilization (Quarter 1)

Objective: MSD personnel learn about tools available to monitor for dry and wet weather overflows. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

In addition to the details covered under SORP Overview and Process, this module discusses:

- Monitoring methods, equipment, systems and tools;
- Channels of communication, once notification is made;
- First responder actions; and
- Evaluation of needed resources for comprehensive response.

Assessment, Mitigation and Documentation (Quarter 2)

Objective: MSD personnel learn about estimating overflow volumes, setting up appropriate control zones around impacted areas, what they should do to stop/mitigate overflows and what documentation is required. This session includes a video exercise to estimate overflow volumes using the Project WIN portable overflow manhole and volume estimation guide. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

This module discusses:

- How to confirm an overflow is occurring or about to occur;
- How to determine the cause of the overflow;
- How to determine resources required for mitigation of the discharge;
- The definition of an impacted area and the basic components of a proper control zone, when to set a control zone, who sets it, how long it remains in place and proper placement of control zones;
- Different types of control zones (barricades, cones, vehicles, caution tape, signage);
- How to identify safety hazards in the area, including hazardous materials;
- Estimating volumes; and
- Minimum documentation required for the initial report.

Public Notification and Overflow Cleanup (Quarter 3)

Objective: MSD personnel learn about the different ways MSD increases public awareness of overflows in the community. In the second part of the session, detailed instructions for cleaning an impacted area after an overflow are provided. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter. This module discusses:

- Control zones as a public notification;
- Temporary signs, door Hangers and customer notification;
- Time-sensitive notifications for significant discharges;

-
- Permanent signs;
 - Annual notifications, advertisements and publications;
 - Web-based notifications;
 - Cleanup and disinfection of overflow locations, including timeframes and responsibility;
 - Desired end result of cleanup/disinfection, including minimum levels of cleanup and cleanup documentation required; and
 - Types of cleanup and disinfection practices MSD may employ (manual and mechanical) and proper disposal techniques/procedures.

Reporting Follow-up (Quarter 4)

Objective: MSD personnel learn how to complete the Overflow Report Form and data entry requirements are discussed in detail. MSD personnel also learn to enter data directly into the Hansen database for the purpose of documenting overflows. MSD personnel also review each of the various reports that are published and submitted to the KDEP and EPA. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

This module discusses:

- Discharge types and discharging asset types;
- Appropriate timestamps for reporting;
- How to assign work orders in Hansen;
- Problem, condition and result code definitions;
- Recording inspection results;
- Follow-up steps necessary to complete the work order, and the responsibility for data quality;
- Documentation of inspection routes and cleanup service requests;
- Contingency reporting steps in the event of a Hansen outage, email outage, or both;
- Regulatory reporting details and frequency; and

-
- Common data errors.

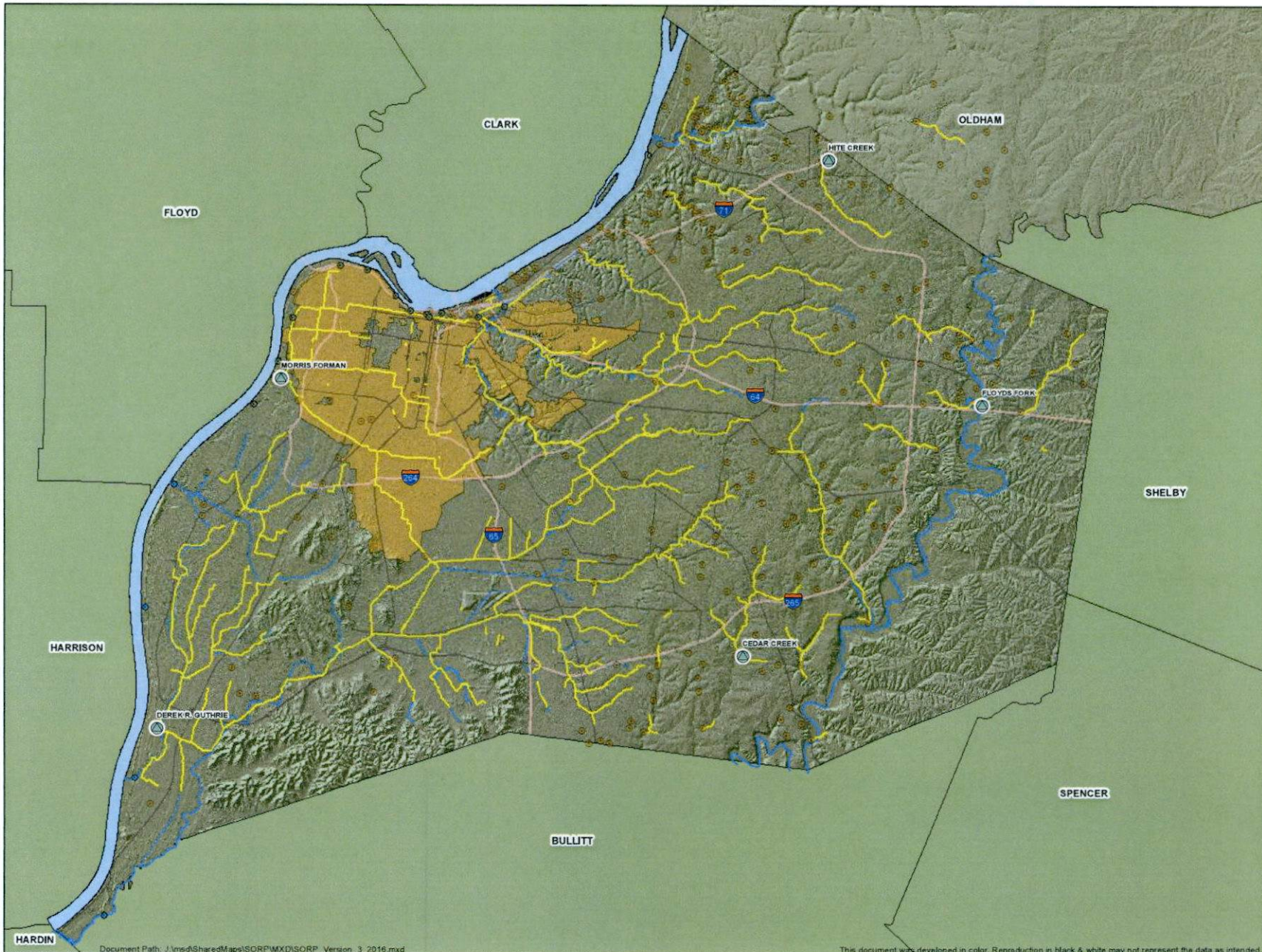
Section 6: Appendix A-K

- A. **MSD COLLECTION, TRANSMISSION AND TREATMENT SYSTEM**
1. MSD KPDES Permitted Water Quality Treatment Centers
 2. Map of Collection and Transmission System Components



<u>WQTC NAME</u>	<u>ASSET ID</u>	<u>KPDES</u>	<u>CAPACITY (MGD)</u>	<u>INSTALLATION DATE</u>	<u>RECORD DRAWING</u>	<u>SERVICE STATUS</u>	<u>OWNED</u>
MORRIS FORMAN 4522 ALGONQUIN PKY 40211	MSD0278	KY0022411	120.0	February 16, 1956	12203-1	I	MSD
DEREK R. GUTHRIE 11621 LOWER RIVER RD 40272	MSD0277	KY0078956	30.0	May 31, 1986	09198-36	I	MSD
CEDAR CREEK 8605 CEDAR CREEK RD 40291	MSD0289	KY0098540	7.5	June 09, 1995	11452-8	I	MSD
FLOYDS FORK 1100 BLUE HERON RD 40245	MSD0294	KY0102784	6.5	February 20, 2001	12445-5	I	MSD
HITE CREEK 5500 HITT RD 40241	MSD0202	KY0022420	6.0	October 01, 1970	07004-1	I	MSD

MSD PERMITTED WQTC



Legend

- MSD Facilities**
- Regional WTPs - 5
- Flood Pump Stations
- Pump Stations
- Major Collection System
- Creeks
- Interstate
- Major Arterial
- Minor Arterial
- Combined Sewer Area



0 0.5 1 2 Miles



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Map Revision - August 2016

B. MSD ORGANIZATIONAL CHART



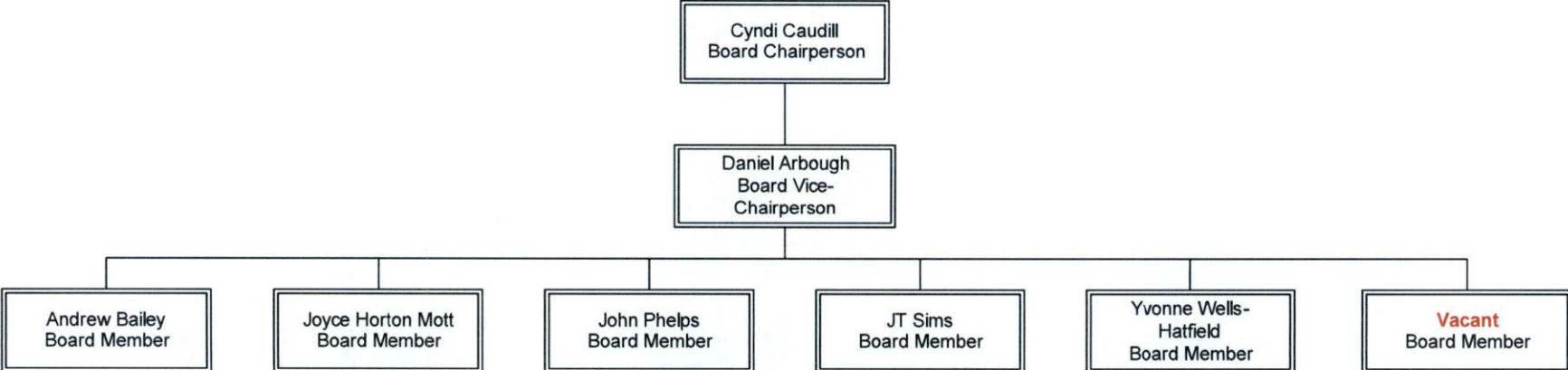
Louisville and Jefferson County
Metropolitan Sewer District

Organizational Chart
Effective 07/05/16

Organizational Summary

	<u>Total</u> <u>Positions</u>	<u>Current</u> <u>Actual</u>	<u>Vacant</u> <u>(Budgeted)</u>	<u>New/</u> <u>Unbudgeted</u> <u>(Vacant)</u>	<u>Exempt</u>	<u>Non-</u> <u>Exempt</u>	<u>Unit</u>	<u>Net</u> <u>Overbudget</u>
Executive Offices Division								
Executive Offices	6	6	0	0	5	1	0	0
Customer Relations	21	19	2	0	4	17	0	0
Facilities, Safety & Security	14	7	7	0	7	7	0	0
Legal Division	9	6	3	0	7	2	0	0
Human Resources Division	16	14	2	0	11	5	0	0
Information Technology Division	33	29	4	0	28	5	0	0
Finance Division	34	24	10	0	15	19	0	0
Engineering Division								
Engineering Admin, Regulatory & GIS	19.5	16	3.5	0	11	8.5	0	0
Engineering Technical Services	37	26	11	0	28	9	0	0
Development & Stormwater Services	43.5	41	2.5	0	19	24.5	0	0
Operations Division								
Administration	2	2	0	0	1	1	0	0
Treatment Facilities	87	83	4	0	18	15	54	0
Treatment Facilities (Maintenance)	38	33	5	0	5	0	33	0
Collections System	86	77	9	0	13	22	51	0
Collections System (Sanitary)	72	68	4	0	8	2	62	0
Drainage and Flood Protection	98	94	4	0	10	4	84	0
Support Services	51	51	0	0	9	26	16	0
Performance Metrics	14	10	4	0	6	8	0	0
DISTRICT TOTAL	681	606	75	0	205	176	300	0

Board Members

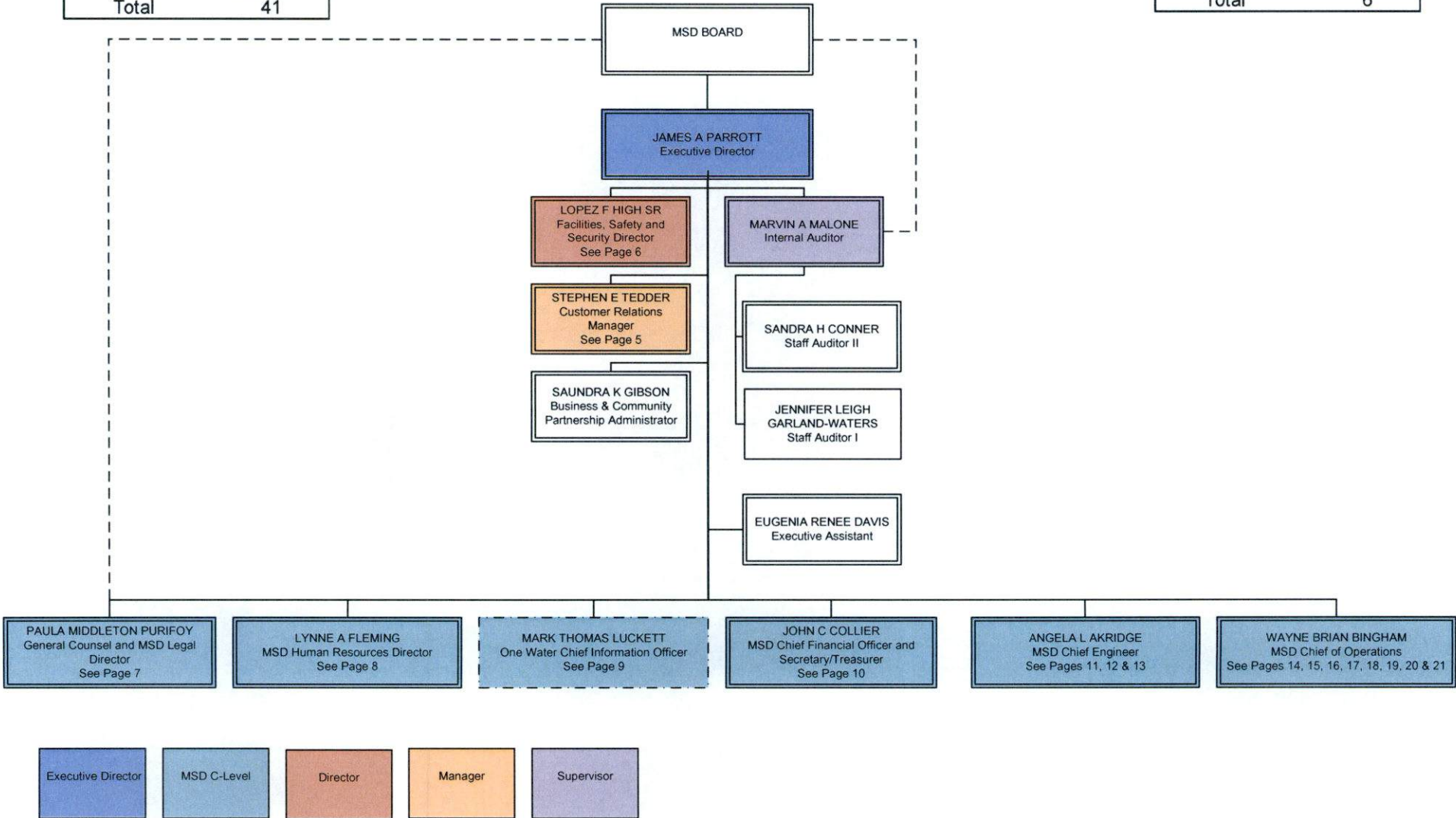


Executive Offices Division

Executive Offices

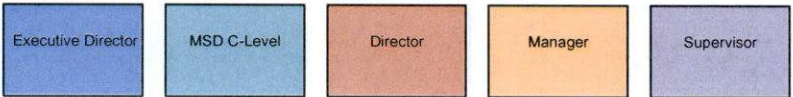
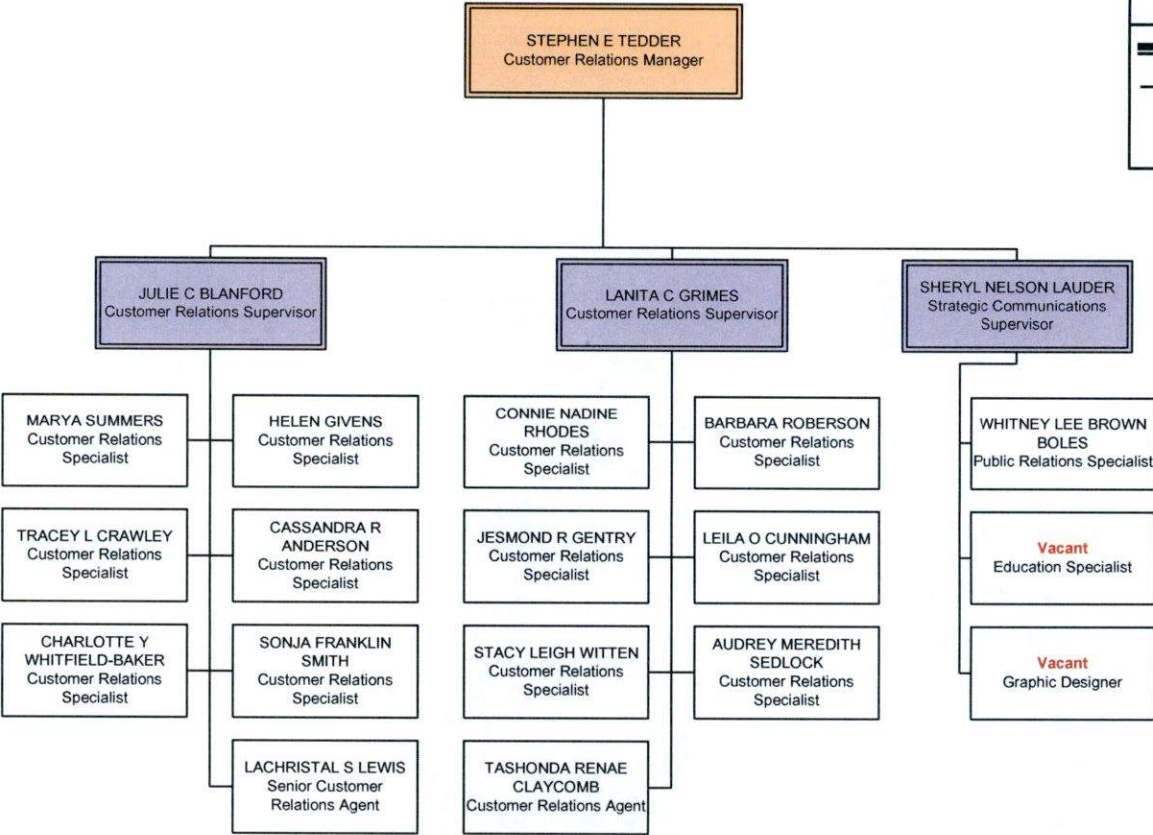
DIVISION BUDGET STATUS	
Actual	32
Vacant	<u>9</u>
Authorized	41
<hr/>	
█ Exempt	16
— Non-Exempt	25
Unit	<u>0</u>
Total	41

BUDGET STATUS	
Actual	6
Vacant	<u>0</u>
Authorized	6
<hr/>	
█ Exempt	5
— Non-Exempt	1
Unit	<u>0</u>
Total	6



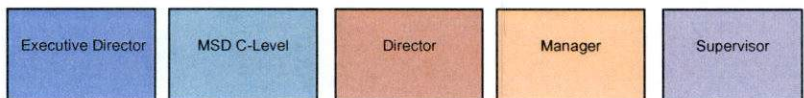
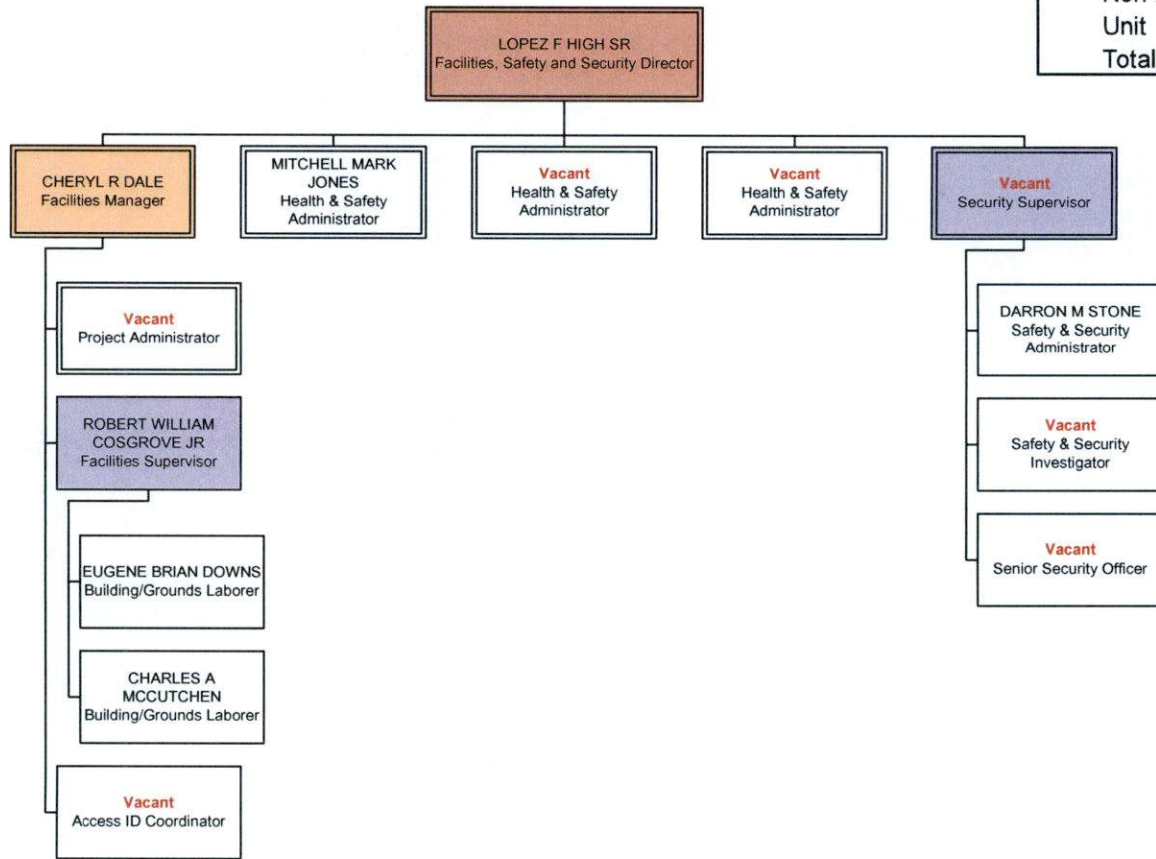
Executive Offices Division Customer Relations

BUDGET STATUS	
Actual	19
Vacant	<u>2</u>
Authorized	21
<hr/>	
 Exempt	4
 Non-Exempt	17
Unit	<u>0</u>
Total	21



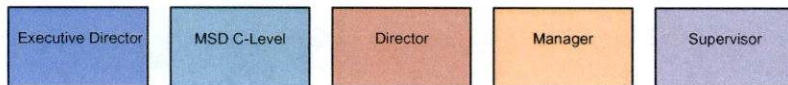
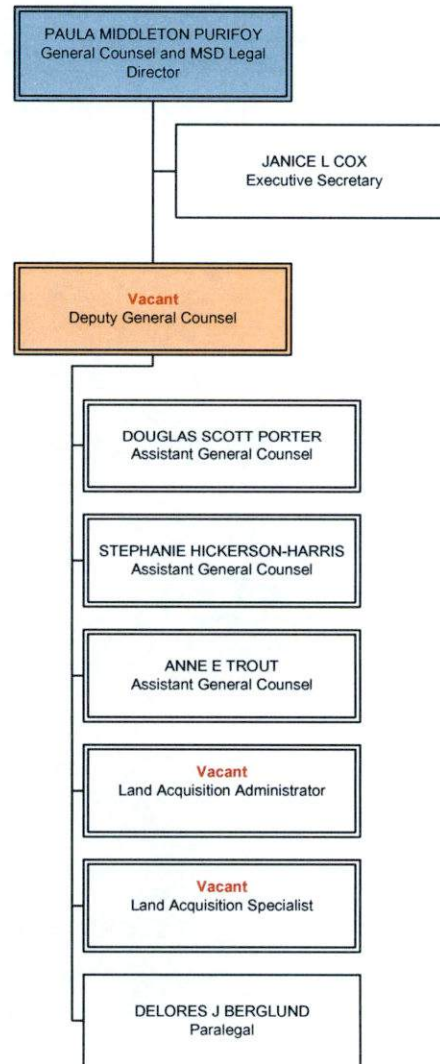
Facilities, Safety & Security

BUDGET STATUS	
Actual	7.0
Vacant	7.0
Authorized	14.0
<hr/>	
█ Exempt	7.0
— Non-Exempt	7.0
Unit	0.0
Total	14.0



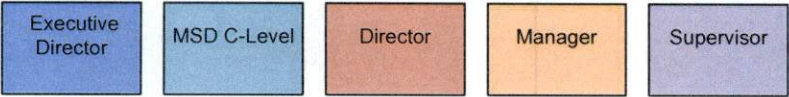
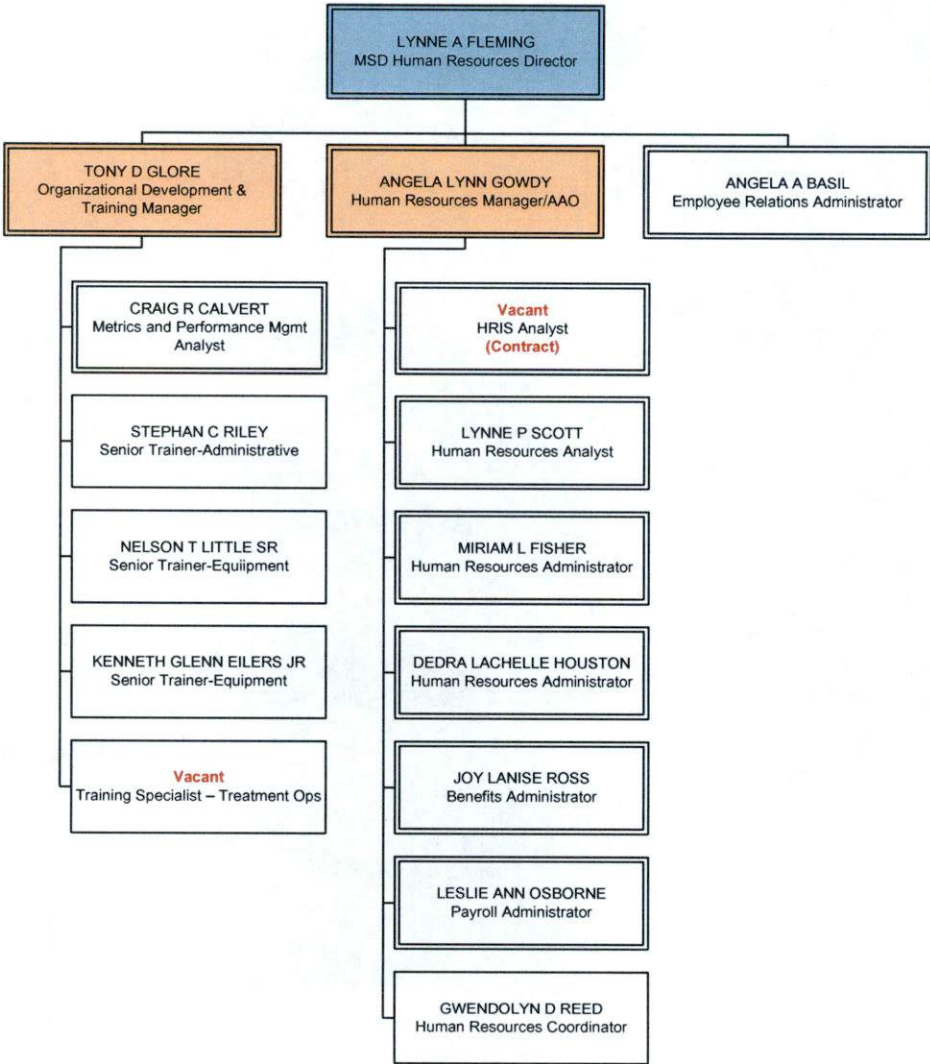
Legal Division

BUDGET STATUS	
Actual	6
Vacant	<u>3</u>
Authorized	9
█ Exempt	7
— Non-Exempt	2
Unit	<u>0</u>
Total	9



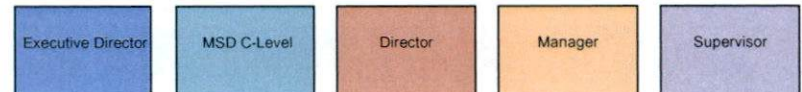
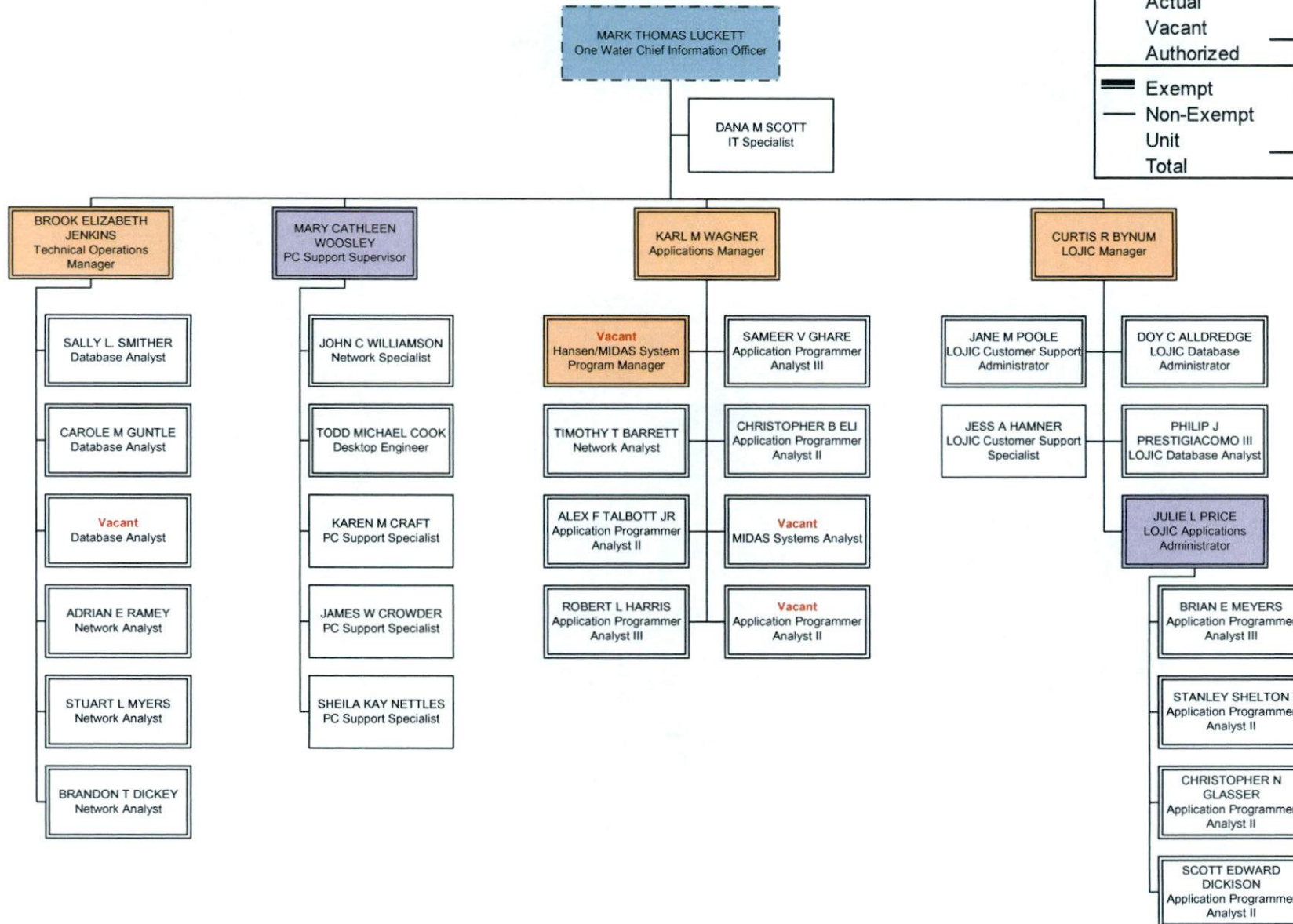
Human Resources Division

BUDGET STATUS	
Actual	14.0
Vacant	<u>2.0</u>
Authorized	16.0
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█ Exempt	11.0
— Non-Exempt	5.0
Unit	<u>0.0</u>
Total	16.0



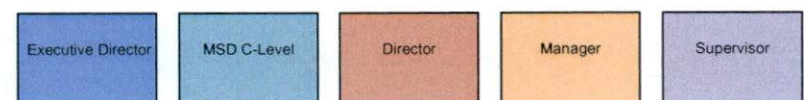
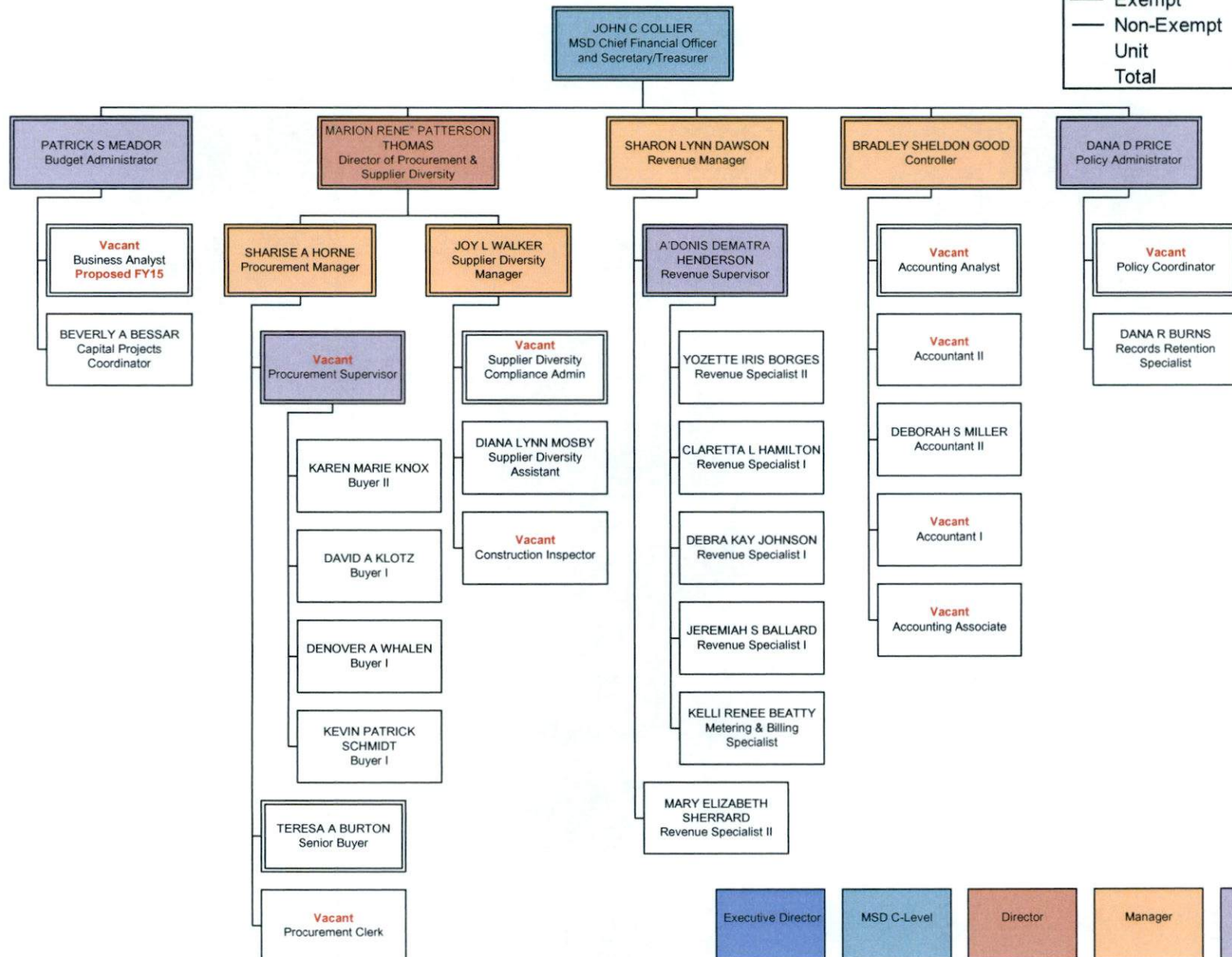
Information Technology Division

BUDGET STATUS	
Actual	29
Vacant	4
Authorized	33
<hr/>	
Exempt	28
Non-Exempt	5
Unit	0
Total	33



Finance Division

BUDGET STATUS	
Actual	24
Vacant	10
Authorized	34
Exempt	15
Non-Exempt	19
Unit	0
Total	34

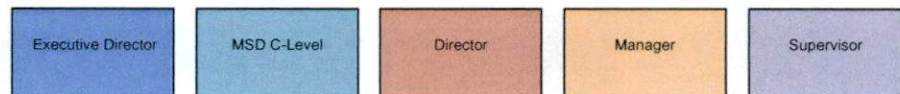
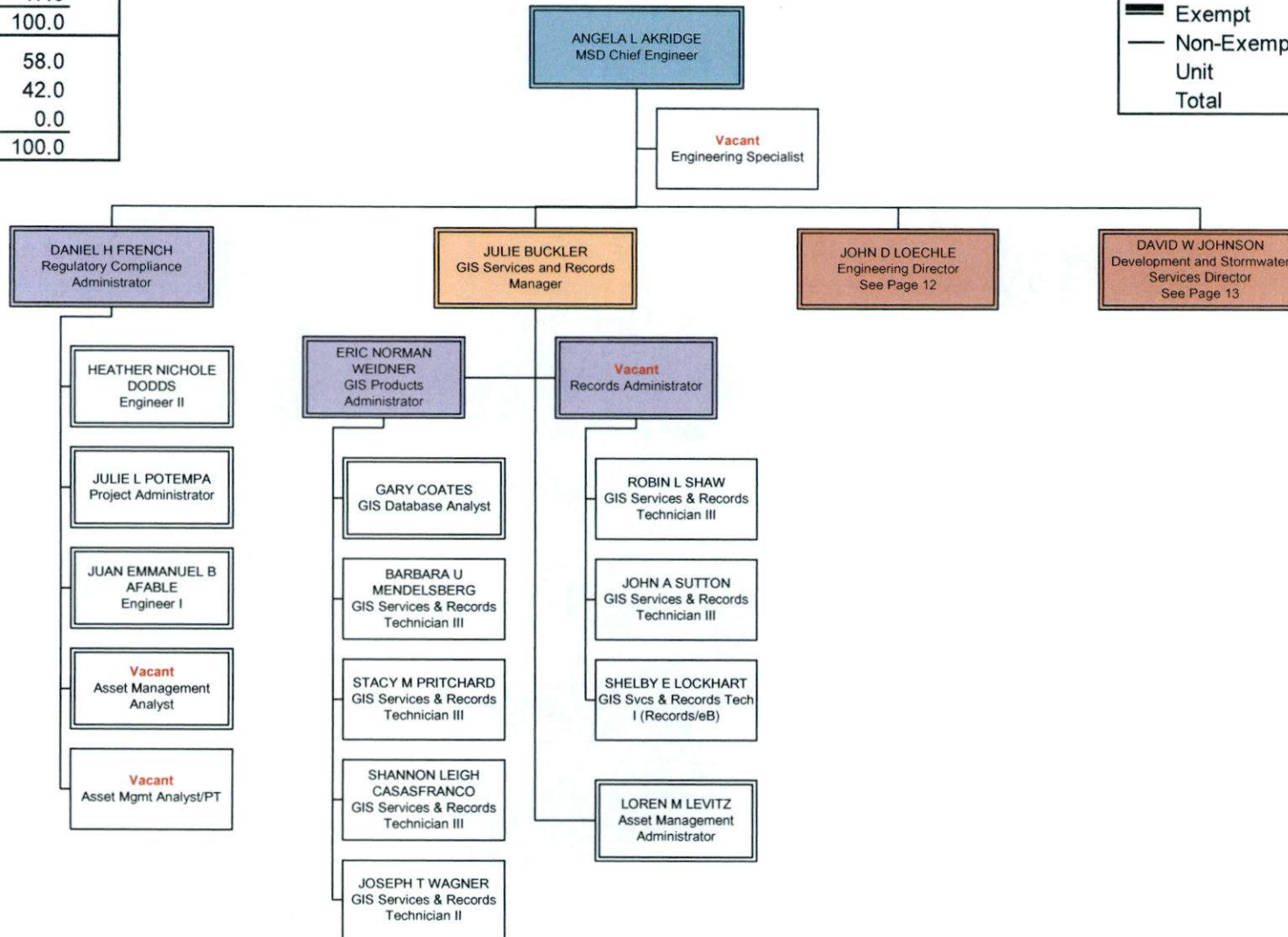


Engineering Division

Engineering Admin, Regulatory and GIS

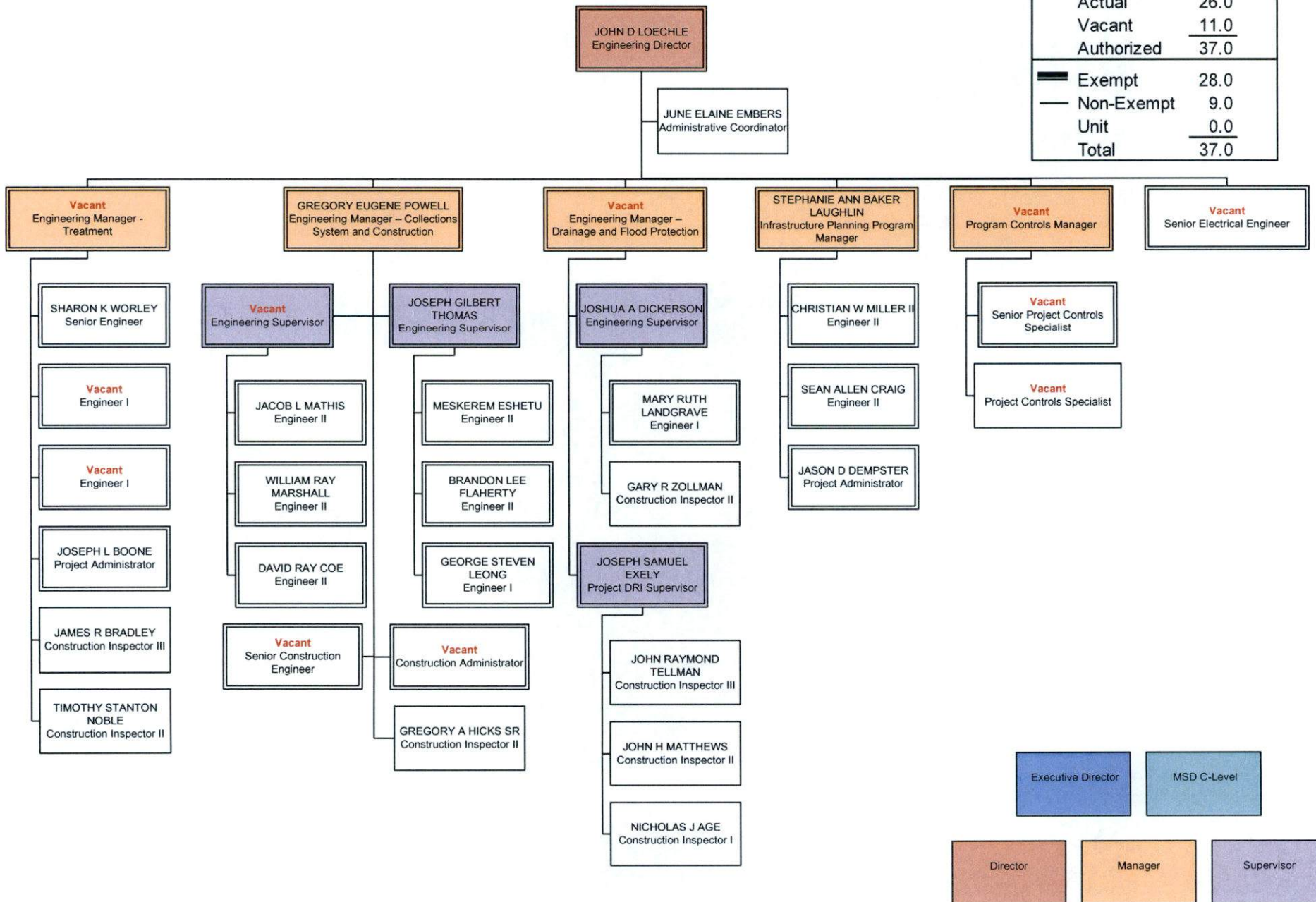
DIVISION BUDGET STATUS	
Actual	83.0
Vacant	17.0
Authorized	100.0
█ Exempt	58.0
— Non-Exempt	42.0
Unit	0.0
Total	100.0

BUDGET STATUS	
Actual	16.0
Vacant	3.5
Authorized	19.5
█ Exempt	11.0
— Non-Exempt	8.5
Unit	0.0
Total	19.5



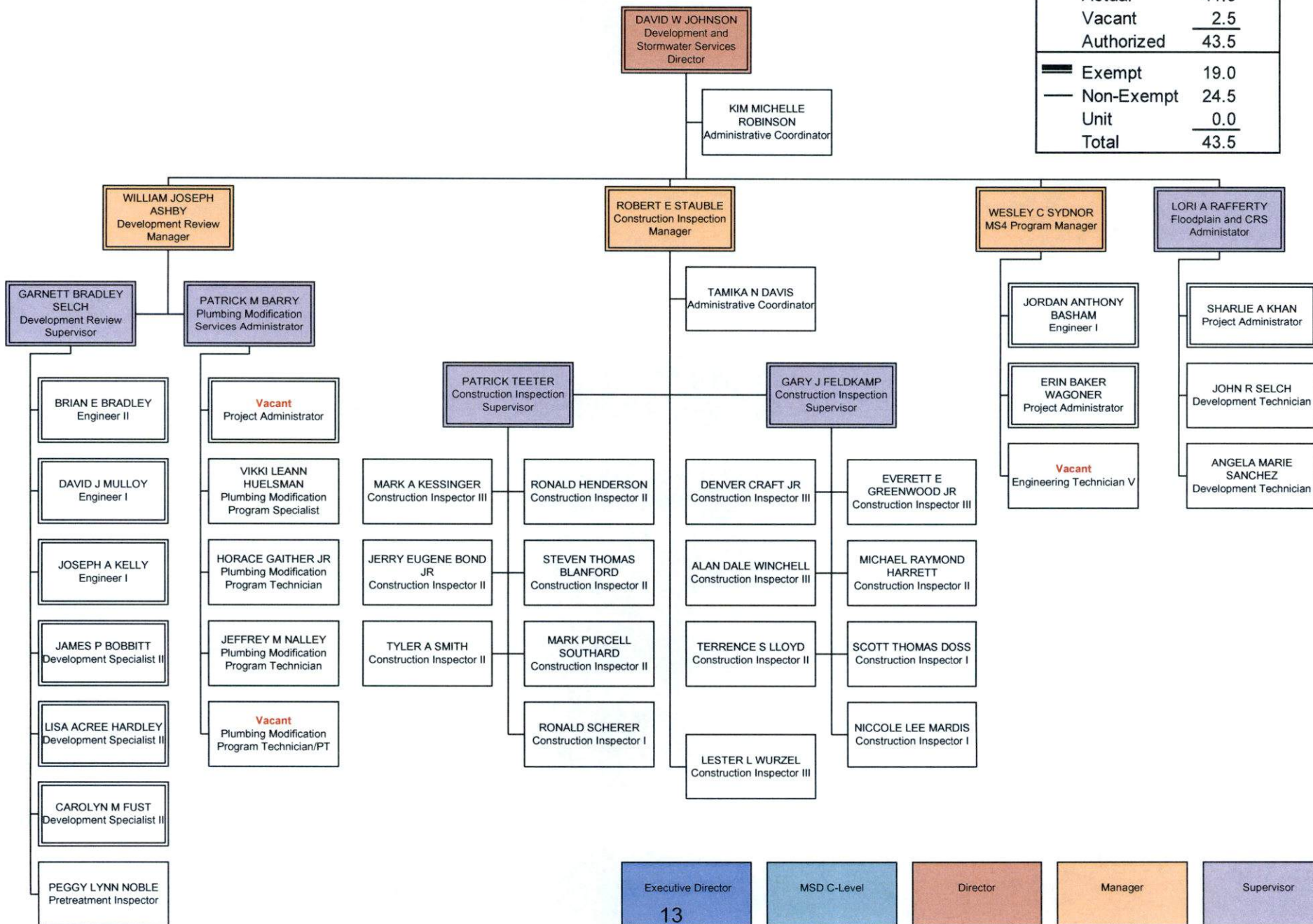
Engineering Division Engineering Technical Services

BUDGET STATUS	
Actual	26.0
Vacant	11.0
Authorized	<u>37.0</u>
<hr/>	
█ Exempt	28.0
— Non-Exempt	9.0
Unit	<u>0.0</u>
Total	<u>37.0</u>



Engineering Division Development & Stormwater Svcs

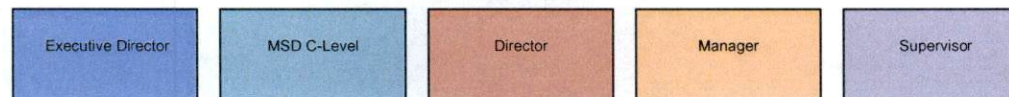
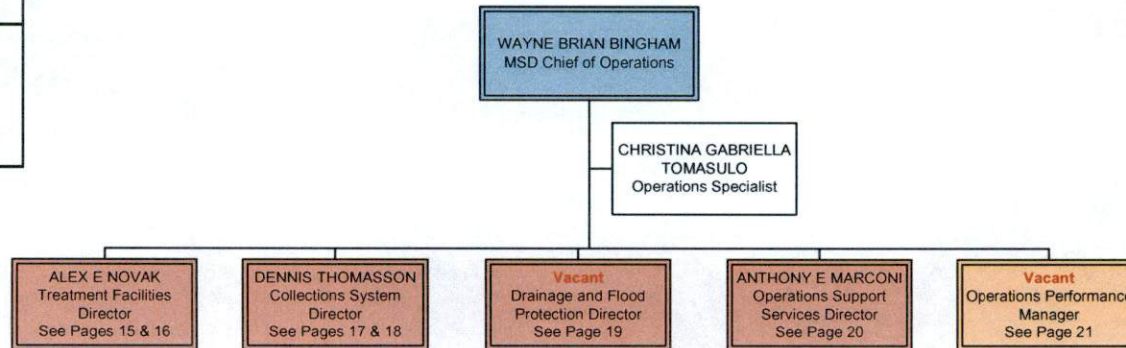
BUDGET STATUS	
Actual	41.0
Vacant	<u>2.5</u>
Authorized	43.5
 Exempt	19.0
 Non-Exempt	24.5
Unit	<u>0.0</u>
Total	43.5



Operations Division Administration

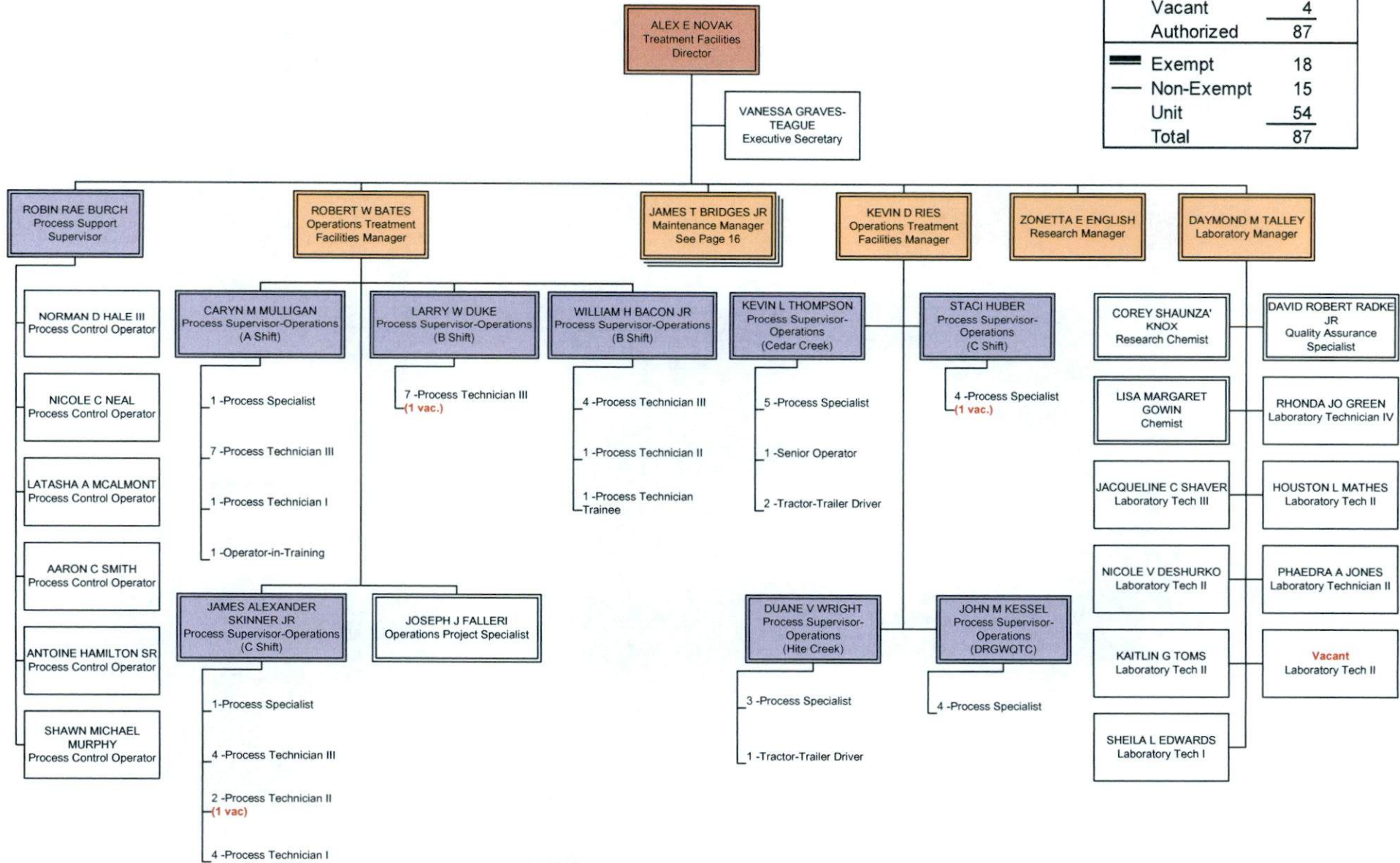
DIVISION BUDGET STATUS	
Actual	418
Vacant	<u>30</u>
Authorized	448
█ Exempt	70
— Non-Exempt	78
Unit	<u>300</u>
Total	448

BUDGET STATUS	
Actual	2
Vacant	<u>0</u>
Authorized	2
█ Exempt	1
— Non-Exempt	1
Unit	<u>0</u>
Total	2



Operations Division Treatment Facilities

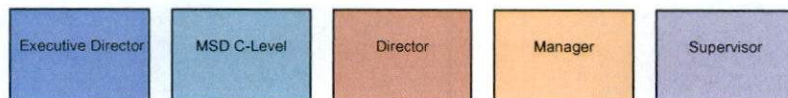
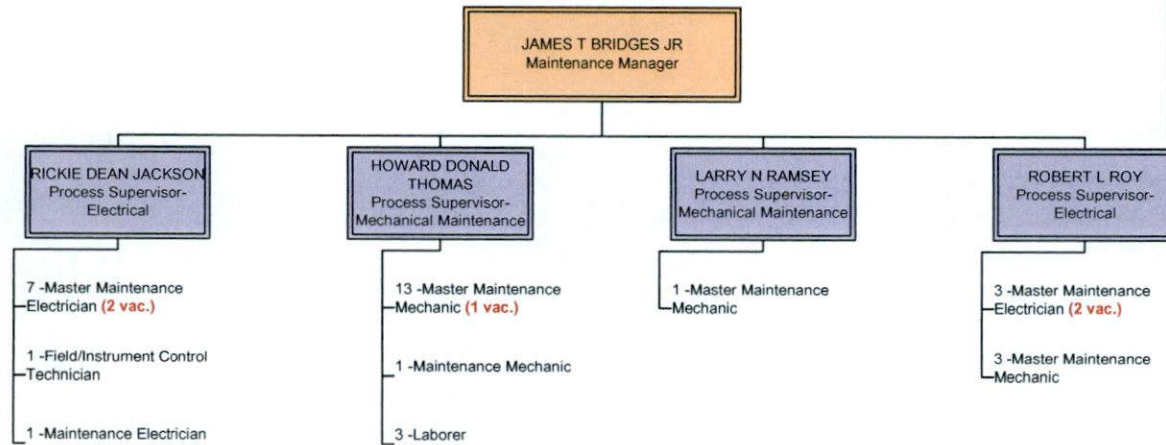
BUDGET STATUS	
Actual	83
Vacant	4
Authorized	87
<hr/>	
Exempt	18
Non-Exempt	15
Unit	54
Total	87



Executive Director	MSD C-Level	Director	Manager	Supervisor
	15			

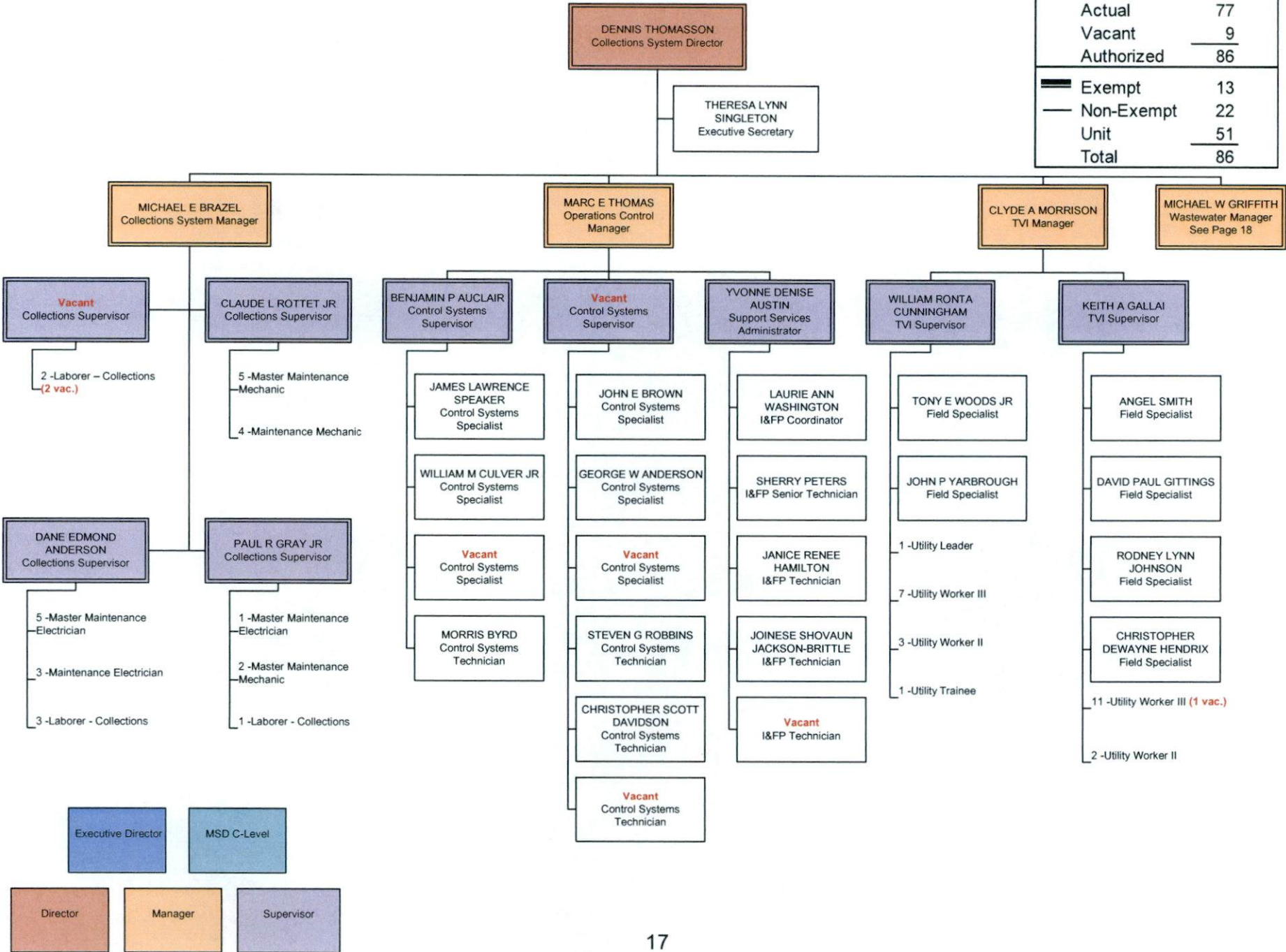
Operations Division Treatment Facilities (Maintenance)

BUDGET STATUS	
Actual	33
Vacant	<u>5</u>
Authorized	38
<hr/>	
█ Exempt	5
— Non-Exempt	0
Unit	<u>33</u>
Total	38



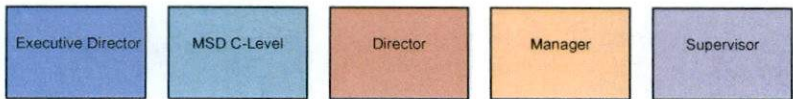
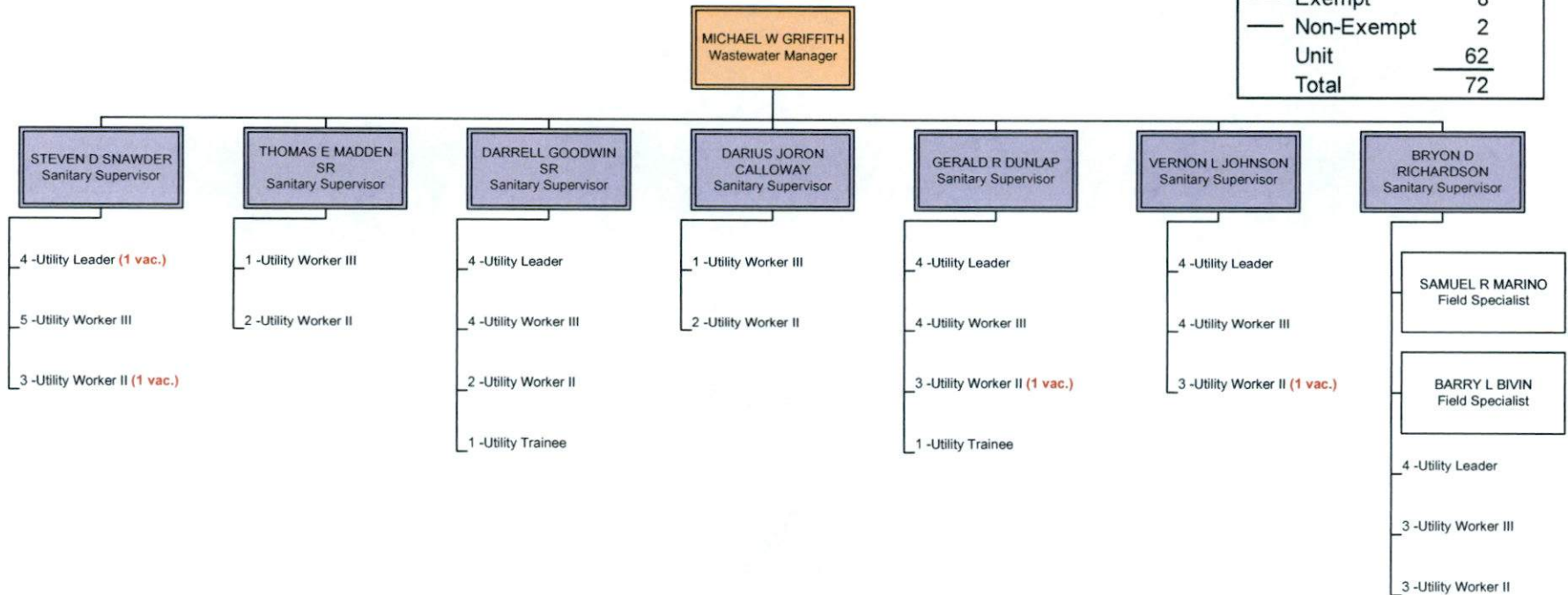
Operations Division Collections System

BUDGET STATUS	
Actual	77
Vacant	9
Authorized	86
<hr style="border: 1px solid black;"/>	
Exempt	13
Non-Exempt	22
Unit	51
Total	86



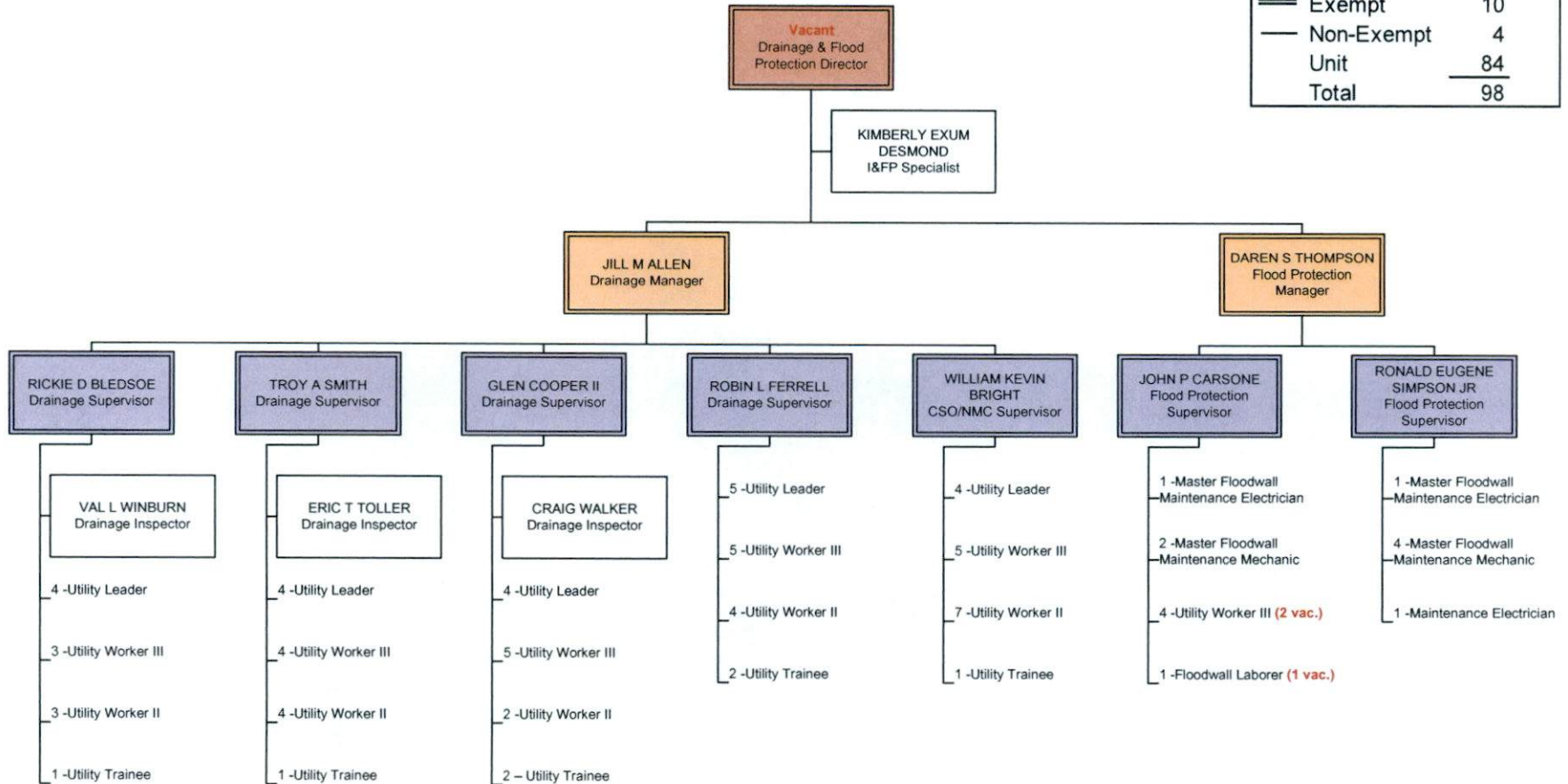
Operations Division Collections System (Sanitary)

BUDGET STATUS	
Actual	68
Vacant	<u>4</u>
Authorized	72
<hr/>	
 Exempt	8
 Non-Exempt	2
Unit	<u>62</u>
Total	72



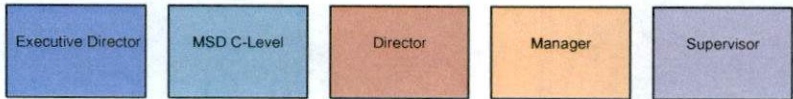
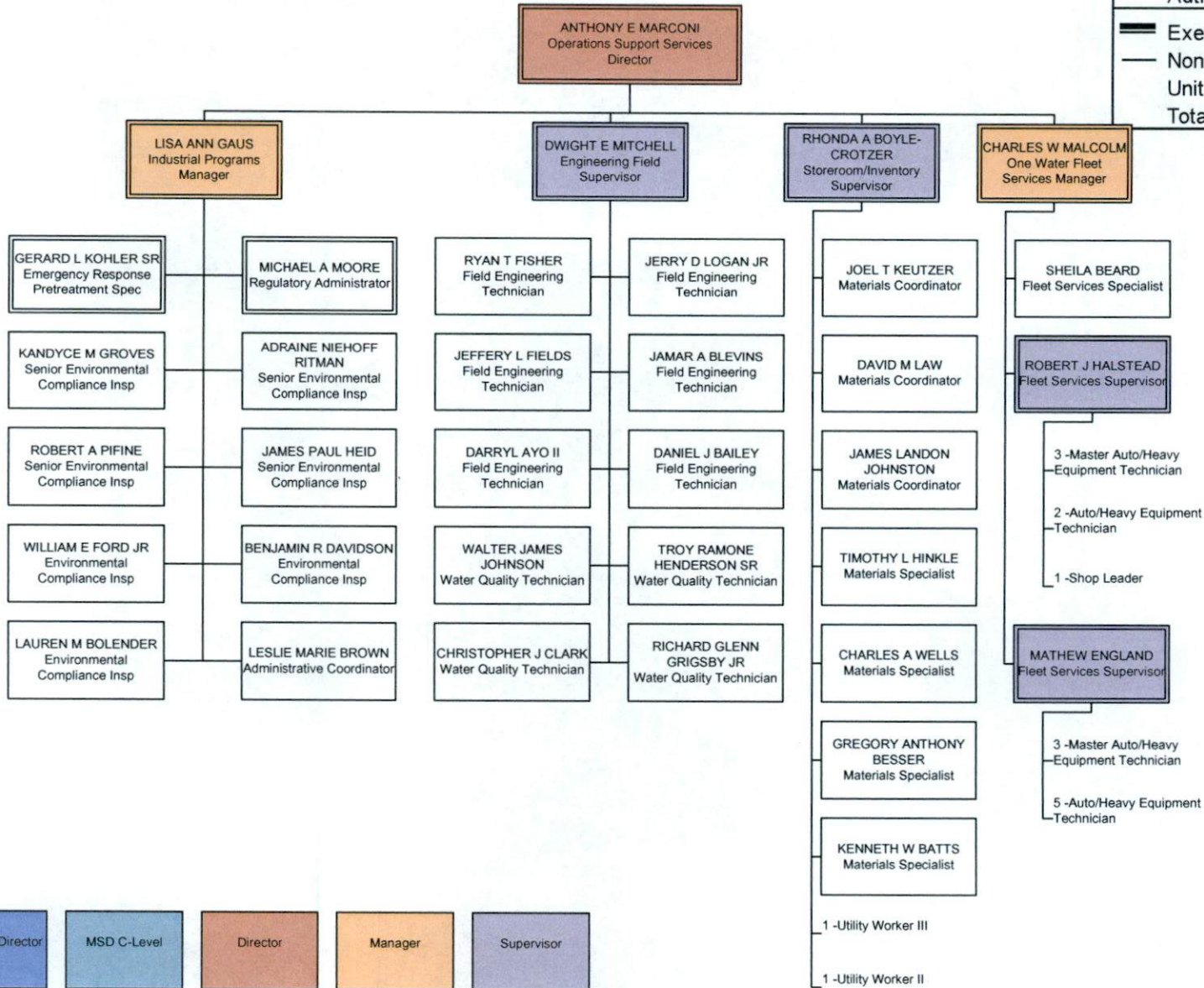
Operations Division Drainage and Flood Protection

BUDGET STATUS	
Actual	94
Vacant	4
Authorized	98
 Exempt	10
 Non-Exempt	4
Unit	84
Total	98



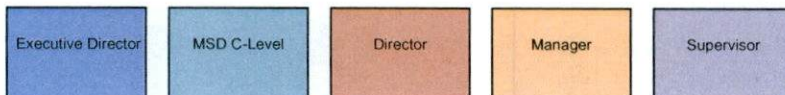
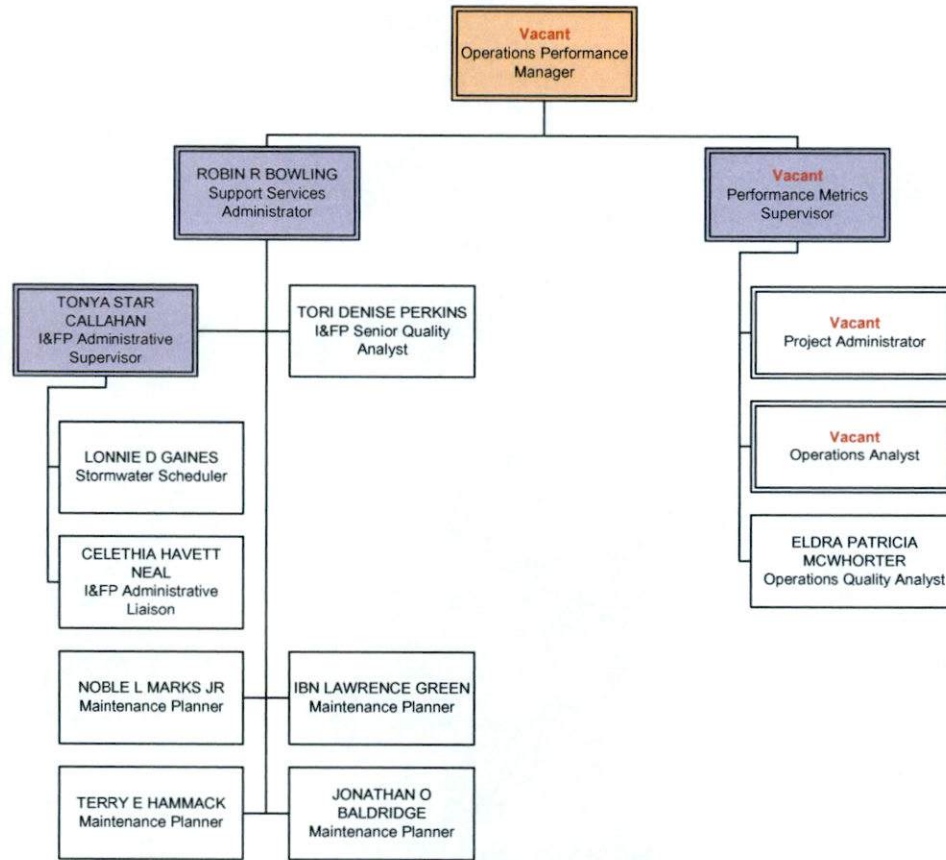
Operations Division Support Services

BUDGET STATUS	
Actual	51
Vacant	0
Authorized	51
 Exempt	9
 Non-Exempt	26
Unit	16
Total	51



Operations Division Performance Metrics

BUDGET STATUS	
Actual	10
Vacant	4
Authorized	14
<hr style="border: none; border-top: 1px solid black;"/>	
 Exempt	6
 Non-Exempt	8
Unit	0
Total	14



C. WET WEATHER DISCHARGE RECONNAISSANCE TEAM SSO INSPECTION ROUTES



Sewer Overflow Response Protocol

August 22, 2019



APPENDIX C - FY19 SSO Inspection Route Changes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Changes</u>
19360	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
29948	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
31073	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
31074	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
81443	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
93705	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
93719	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
98024	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
116106	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
MSD1051-P	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
8429	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
48888	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
49445	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
49446	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
85075	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
85076	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
46602107	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28391	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28392	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28395	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28450	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28551	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28711	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
64505	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
24507	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
27012	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
40475	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Suspected" for more than 3 years
40871	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
65070	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
74512	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow

APPENDIX C - FY19 SSO Inspection Route Changes

74520	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
89790	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
96019	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
117952	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
117959	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
MSD0302-F	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
08537	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	27-Dec-13	Engineering
17724	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	E	26-Sep-16	Engineering
19360	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	16-Aug-18	Engineering
27116	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	E	26-Sep-16	Engineering
28984	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
28998	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
29239	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Engineering
29949	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	01-Oct-13	Engineering
33003	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	16-Aug-18	Engineering
35309	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	23-Oct-07	Engineering
61667	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	03-Apr-15	Engineering
61738	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	09-Mar-18	Engineering
61739	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	09-Mar-18	Engineering
63094	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
63095	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
63531	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Engineering
65516	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Engineering
67997	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
70158	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
81443	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	09-Sep-18	Engineering
93705	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Engineering
93719	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	05-Nov-18	Engineering
95099	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Engineering

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
95100	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Engineering
97365	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	23-Apr-19	Engineering
98024	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Engineering
MSD1051-PS	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Engineering
08426	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08427	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08429	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	03-May-19	Regulatory Services
08430	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Jun-11	Regulatory Services
08431	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08717	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
10793	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
13931	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Mar-08	Regulatory Services
13943	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
13946	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
16649	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Regulatory Services
18298	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	B	08-Oct-13	Regulatory Services
18654	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Jun-11	Regulatory Services
23211	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Feb-00	Regulatory Services
23212	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
30680	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	30-May-04	Regulatory Services
30681	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	18-Oct-04	Regulatory Services
36763	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	29-Jul-09	Regulatory Services
44396	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
44397	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	27-May-04	Regulatory Services
49445	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
49446	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
49513	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	24-Mar-18	Regulatory Services
49601	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	05-Dec-17	Regulatory Services
49847	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	28-Feb-11	Regulatory Services
51160	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
51161	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
51180	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Regulatory Services
51301	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
51594	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	12-Sep-06	Regulatory Services
66232	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	24-Mar-18	Regulatory Services
66349	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
85075	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
85076	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
99259	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	29-Jul-09	Regulatory Services
104223	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-May-05	Regulatory Services
104224	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	14-Jul-15	Regulatory Services
104231	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	31-Dec-17	Regulatory Services
34093540	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	17-Nov-13	Regulatory Services
34093542	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	17-Nov-13	Regulatory Services
46602107	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
28249	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	12-Mar-06	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

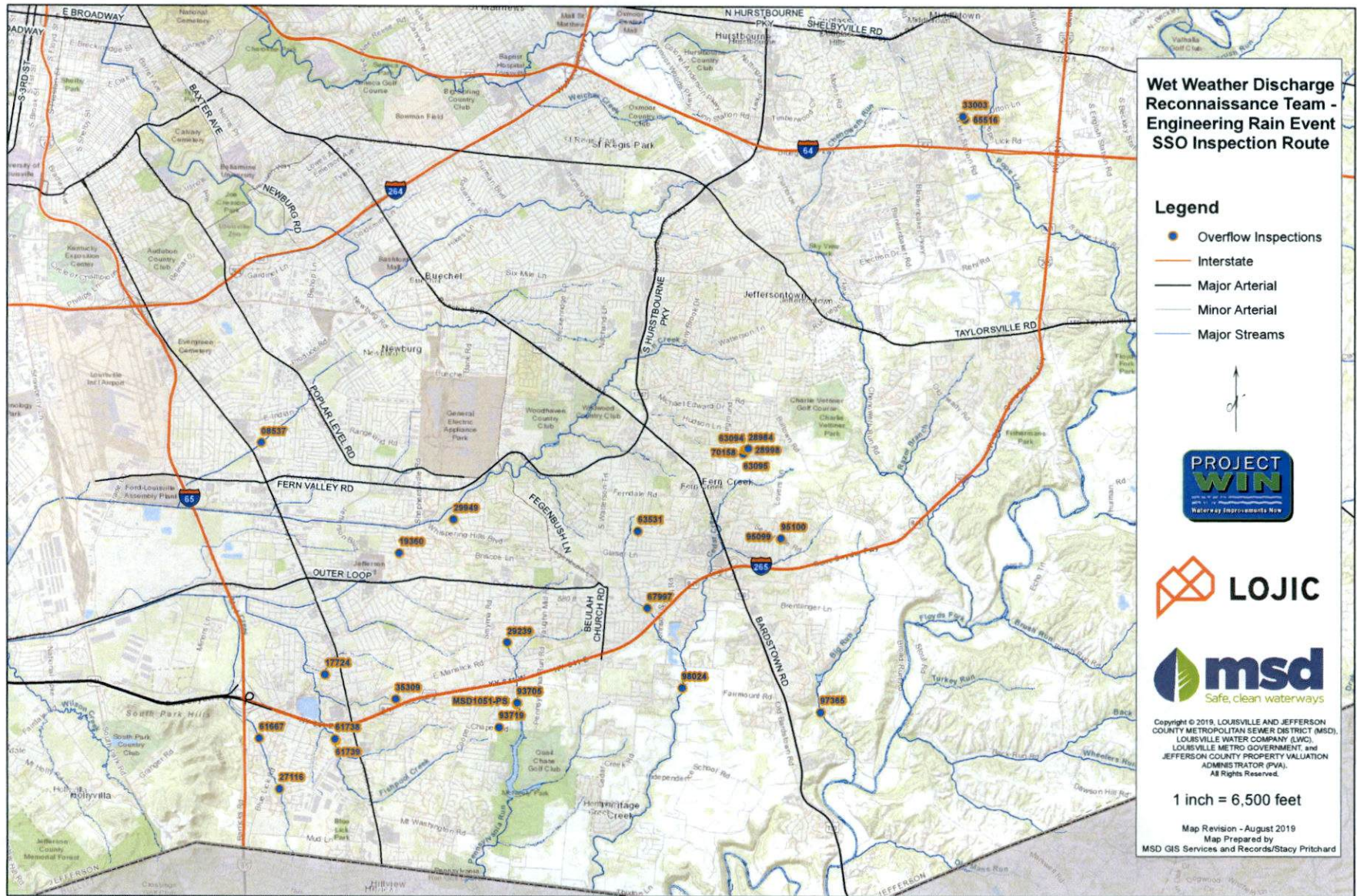
<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
28250	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28336	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	30-Aug-05	Regulatory Services
28340	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28413	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	20-Mar-02	Regulatory Services
28414	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28415	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	19-Dec-02	Regulatory Services
28416	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
28417	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
28450	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	01-Apr-19	Regulatory Services
28451	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	28-Oct-15	Regulatory Services
28453	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	28-Oct-15	Regulatory Services
28711	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
31733	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	27-Feb-19	Regulatory Services
01793	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
02098	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	12-Feb-19	Regulatory Services
02119	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Regulatory Services
02932	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	19-Mar-08	Regulatory Services
02933	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	04-Mar-08	Regulatory Services
02935	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	19-Mar-08	Regulatory Services
15195	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12-Jul-15	Regulatory Services
16455	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	12-Feb-19	Regulatory Services
21171	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	L	12-Feb-19	Regulatory Services
24155	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	26-Jun-13	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
24448	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	24-Feb-18	Regulatory Services
24507	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	12-Feb-19	Regulatory Services
26752	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	14-Jan-13	Regulatory Services
27005	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11-Jan-14	Regulatory Services
27007	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Feb-14	Regulatory Services
27012	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-19	Regulatory Services
30376	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	29-Nov-11	Regulatory Services
40445	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	21-Apr-19	Regulatory Services
40471	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	18-Jul-15	Regulatory Services
40559	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	26-Jan-12	Regulatory Services
40871	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-19	Regulatory Services
41374	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Mar-08	Regulatory Services
43726	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
45796	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	10-May-14	Regulatory Services
45829	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-11	Regulatory Services
45835	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	02-Sep-03	Regulatory Services
45900	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
46621	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	R	22-Feb-12	Regulatory Services
46623	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	03-Apr-15	Regulatory Services
46627	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	12-Feb-19	Regulatory Services
47034	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	22-Nov-11	Regulatory Services
47582	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Regulatory Services
47583	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	06-Feb-08	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
47593	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	19-Mar-08	Regulatory Services
47596	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Feb-14	Regulatory Services



**Wet Weather Discharge
Reconnaissance Team -
Engineering Rain Event
SSO Inspection Route**

Legend

- Overflow Inspections
- Interstate
- Major Arterial
- Minor Arterial
- Major Streams



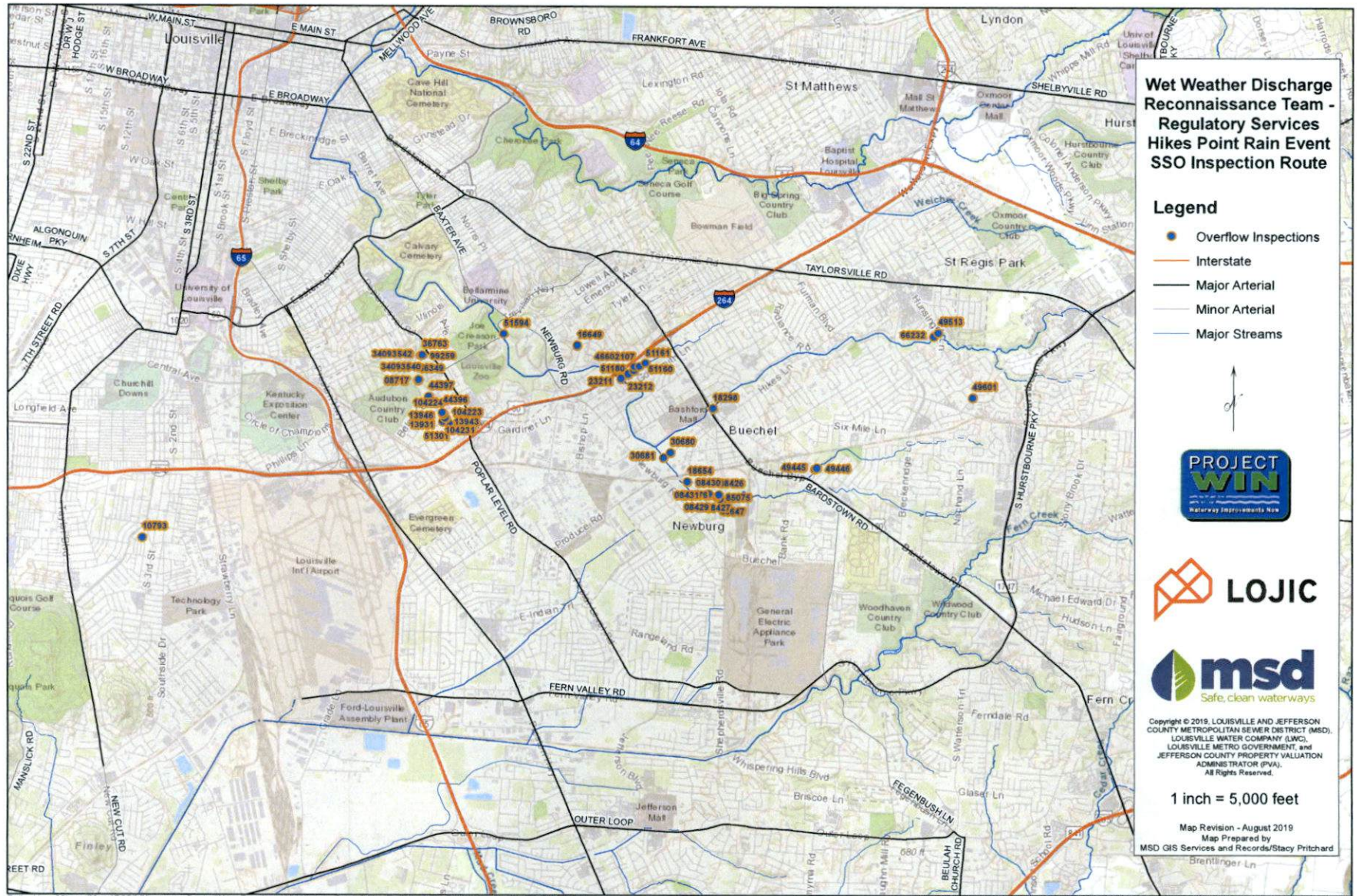
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Map Revision - August 2019
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard

Path: J:\mxd\Shared\Maps\SSO\InspectionRoutes\Map_Templates\2019\Engineering_RAIN_EVENT_SSO_INSPECTION_ROUTE_2019.mxd

This document was developed in color. Reproduction in black & white may not represent the data as intended.



**Wet Weather Discharge
Reconnaissance Team -
Regulatory Services
Hikes Point Rain Event
SSO Inspection Route**

Legend

- Overflow Inspections
- Interstate
- Major Arterial
- Minor Arterial
- Major Streams



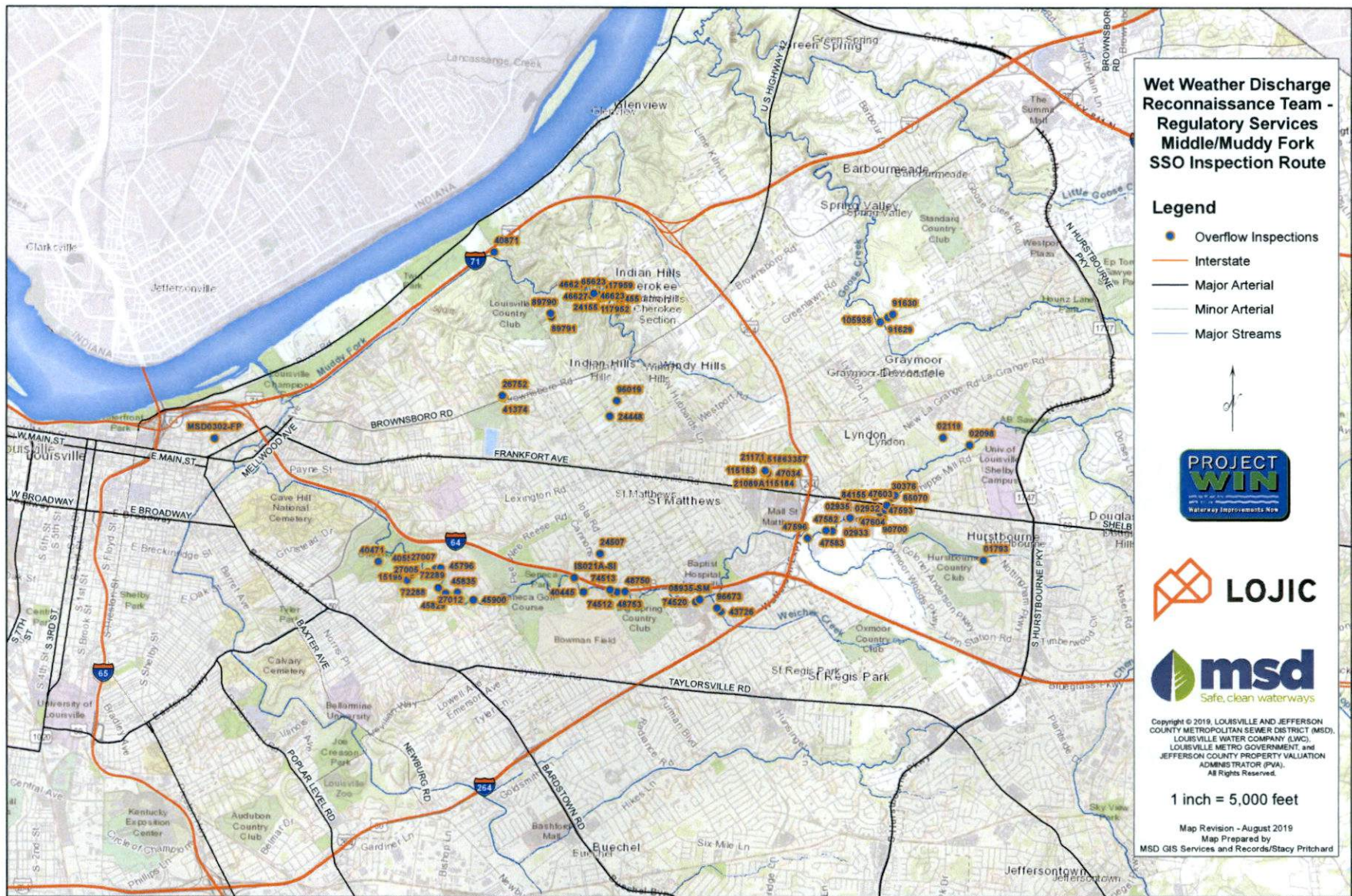
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1 inch = 5,000 feet

Map Revision - August 2019

Map Prepared by
MSD GIS Services and Records/Stacy Pritchard
Brenlinger Ln





Wet Weather Discharge Reconnaissance Team - Regulatory Services Middle/Muddy Fork SSO Inspection Route

Legend

-  Overflow Inspections
-  Interstate
-  Major Arterial
-  Minor Arterial
-  Major Streams



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1 inch = 5,000 feet

Map Revision - August 2019
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard

D. OVERFLOWS RESPONSE MATRIX

Appendix D - Response To Overflows Matrix

Overflow Locations	Discharge Work Order Activity	Potential Overflow Causes (Problem Code) and (DISCAU)	Extent of Overflow Impact Possibilities (Result Code)	Type of Overflow Impact (DISIMP)	Control Zone Options (DISCZ)	Event-Based Public Notification (DISPUB)	Overflow Repair/Mitigation Options (DISREP)	Potential Cleanup Options (DISCLN)
Manhole (SMH)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Lack of System Capacity ELEC - Electrical Problems (MSD) FLOOD – COE FPS Operations GB - Grease Blockage MECH – Mechanical Failure OBST - Obstruction POWER - Power Outage (LG&E) PUMP – Pumped location R - Roots STRUC - Structural Failure UD - Utility Damage	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Fish kill Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Permanent signage Advised customer Temporary signage Door hangers Radio public service announcement	Containment Filtration Flow Diversion Pump and Haul Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vector removal
Pump Station (SLS)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Lack of System Capacity ELEC - Electrical Problems (MSD) GB - Grease Blockage MECH – Mechanical Failure OBST - Obstruction POWER - Power Outage (LG&E) PUMP – Pumped location STRUC - Structural Failure UD - Utility Damage	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Fish kill Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Permanent signage Advised customer Temporary signage Door hangers Radio public service announcement	Containment Filtration Flow Diversion Pump and Haul Portable Generator Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vector removal



Appendix D - Response To Overflows Matrix

Overflow Locations	Discharge Work Order Activity	Potential Overflow Causes (Problem Code) and (DISCAU)	Extent of Overflow Impact Possibilities (Result Code)	Type of Overflow Impact (DISIMP)	Control Zone Options (DISCZ)	Event-Based Public Notification (DISPUB)	Overflow Repair/Mitigation Options (DISREP)	Potential Cleanup Options (DISCLN)
Wastewater Treatment Plant (STP)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	BLEND - Blending (JTWTP Only) BYPAS – Bypass at WWTP) CAP - Lack of System Capacity ELEC - Electrical Problems (MSD) GB - Grease Blockage MECH – Mechanical Failure STRUC - Structural Failure UPSET – WWTP Process upset	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Fish kill Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Permanent signage Temporary signage Advised customer Door hangers Radio public service announcement	Containment Filtration Pump and Haul Portable Generator Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vector removal
Sewer Main (SMN)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	STRUC - Structural Failure UD - Utility Damage	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Fish kill Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Advised customer Temporary signage Door hangers	Containment Filtration Flow Diversion Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vector removal
Property Service Connection (SSL)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Lack of System Capacity ELEC - Electrical Problems (MSD) GB - Grease Blockage MECH – Mechanical Failure OBST - Obstruction POWER - Power Outage (LG&E) PPI – Private Property Issue R - Roots STRUC - Structural Failure UD - Utility Damage	INT - Internal - Basement backup EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Property damage	Barricades/cones Caution tape Flags	Advised customer Temporary signage Door hangers	Containment Filtration Flow Diversion Repair If Private Property issue, advise property owner to contact licensed plumber	MSD Personnel clean and sanitize the Area MSD Contractors removes contaminated materials, cleans and sanitize area If Private Property issue, advise Property Owner to clean up the area



Appendix D - Response To Overflows Matrix

Overflow Locations	Discharge Work Order Activity	Potential Overflow Causes (Problem Code) and (DISCAU)	Extent of Overflow Impact Possibilities (Result Code)	Type of Overflow Impact (DISIMP)	Control Zone Options (DISCZ)	Event-Based Public Notification (DISPUB)	Overflow Repair/Mitigation Options (DISREP)	Potential Cleanup Options (DISCLN)
Storm Pump Station (STLS)	Dry Weather (DISDW)	FLOOD - COE FPS Operations	WUS - Waters of the U.S.	Sewer solids/debris Stream Discoloration None observed - underwater	Barricades/cones Caution tape Flags Traffic control from Metro/Police No control zone required - underwater	Permanent signage Temporary signage	Operate Station In Accordance with COE manual	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vactor removal
Catch Basin (STIN)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Wet weather surcharge	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Advised customer Temporary signage Door hangers	Containment Filtration Flow Diversion Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vactor removal
Sewer Valve (SV)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	MECH - Mechanical STRUC - Structural Failure UD - Utility Damage	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Advised customer Temporary signage Door hangers	Containment Filtration Flow Diversion Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vactor removal
Sewer Node (SND)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Wet weather surcharge STRUC - Structural Failure	EXT - External - Soil/Pavement WUS - Waters of the U.S.	Sewer solids/debris Stream Discoloration	Barricades/cones Caution tape Flags Traffic control from Metro/Police	Advised customer Temporary signage Door hangers	Containment Filtration Flow Diversion Repair	MSD Personnel clean and sanitize the Area MSD Contractors clean and sanitize the area Rake and bag debris Vactor removal

E. VOLUME ESTIMATION GUIDE

Overflow Volume Estimation

200 GPM



100 GPM



25 GPM



250 GPM



125 GPM



50 GPM



300 GPM



150 GPM



75 GPM



F. OVERFLOW ADVISORY WARNING SIGN

WARNING

ADVERTENCIA

The surface water in this area contains contaminants caused by a temporary overflow of a sanitary sewer. Avoid contact with water due to increased health risks. For more information, visit our website or call the telephone number below.



El agua de superficie en esta área contiene contaminantes causados por un desborde temporal del alcantarillado sanitario. Evite contacto físico con esta agua debido al alto riesgo de salud. Para más información, visite nuestro sitio en el Internet o llame al teléfono que aparece a continuación.

G. OVERFLOW REPORT FORM

OVERFLOW REPORT FORM

Work Order Tab

Work Order # _____

Activity Wet Weather Discharge (DISREV) Dry Weather Discharge (DISDW) Suspected Discharge (DISSUS)

Asset _____ **Overflow Began (Initiated)** _____

SLS, SPL, SMH, SSL, SMN, SND, STIN, SV Hansen Unit ID Number Date Military Time

SLS – Sewer Lift Station SMH – Sewer Manhole SMN – Sewer Main STIN – Storm Inlet

SPL – Sewer Treatment Plant SSL – Sewer Service Line SND – Sewer Node SV – Sewer Valve

Name _____ **Overflow Stopped (Completed)** _____

Name, Address or Location Date Military Time

Initiated By _____ **Assigned To** _____

Problem

<input type="checkbox"/> GB Grease Blockage	<input type="checkbox"/> CAP Lack of System Capacity	<input type="checkbox"/> BYPASS (At WTP's only)
<input type="checkbox"/> R Roots	<input type="checkbox"/> PUMP Pumped Overflow	<input type="checkbox"/> UPSET (WTP Process Upset)
<input type="checkbox"/> OBST Sewer Main Obstruction	<input type="checkbox"/> ELEC Electrical Problems at MSD	<input type="checkbox"/> BLEND (At Jeffersontown WTP only)
<input type="checkbox"/> STRUC Structural Failure	<input type="checkbox"/> POWER Power Outage (LG&E)	<input type="checkbox"/> PPI Private Property Issue (for SSLs only)
	<input type="checkbox"/> MECH Mechanical Failure	<input type="checkbox"/> UD Utility Damaged MSD Asset
	<input type="checkbox"/> FLOOD Corps Pump Station Operation	<input type="checkbox"/> FOMAJ Force Majeure Event

Condition

<input type="checkbox"/> LAT Lateral Line	<input type="checkbox"/> CSO Authorized Discharge (Rain Event on a # CSO only)
<input type="checkbox"/> MAIN Main Line	

Result

<input type="checkbox"/> INT Interior (In the building)	<input type="checkbox"/> EXT Exterior (On the ground)	<input type="checkbox"/> WUS Reached waters of the US
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Comments Tab

Spot Inspections Tab (see Spot Inspection Sample Text Guide for additional options)

Discharge Amount (DISAMT) Est. Volume Released _____

Cause of Discharge (DISCAU) Additional Cause Info _____
(EX: Shaft broke in pump; Grease blockage in line)

Clean up Activity (DISCLN) Check all that apply

<input type="checkbox"/> No Debris	<input type="checkbox"/> Pipe discharge submerged - no cleanup
<input type="checkbox"/> Customer cleaned area	<input type="checkbox"/> MSD cleaned & sanitized area
	<input type="checkbox"/> Contractor cleaned & sanitized area

Control Zone Setup (DISCZ) Check all that apply

<input type="checkbox"/> Flags	<input type="checkbox"/> Barricades	<input type="checkbox"/> Tape
<input type="checkbox"/> Cones	<input type="checkbox"/> Road Closed	<input type="checkbox"/> Temp Signs
<input type="checkbox"/> Advised property owner/ customer to avoid direct contact with sewage		
<input type="checkbox"/> Pipe discharge submerged - no control zone		

Visual Impact Observed (DISIMP) Check all that apply

<input type="checkbox"/> Personal Hygiene Products	<input type="checkbox"/> Sewage	<input type="checkbox"/> Fish Kill
<input type="checkbox"/> Debris	<input type="checkbox"/> Solids	
<input type="checkbox"/> _____ at pumped site	<input type="checkbox"/> Discoloration in Stream	
<input type="checkbox"/> _____ around (floor drain, basement, cleanout, ground, stream, drainage sys)		
<input type="checkbox"/> No impact observed (customer reported backup / pipe discharge submerged)		

Repair / Remedial Action (DISREP) _____
(EX: Compressor repaired: WO #12345 flushed area, WO#23456 root cut line, informed PO to repair problem)

Log Tab

Notified the Public (DISPUB) Check all that apply

<input type="checkbox"/> MSD advised customer on site	<input type="checkbox"/> MSD advised customer by door card
<input type="checkbox"/> MSD advised customer by phone	<input type="checkbox"/> MSD advised customer by letter

H. DISCHARGE REPORT – IMSAST004



Report Selections: Excluding PPI, CSO, Result: WUS, Act Code: DISDW, DISREV

KPDES # KY0025194	Facility ID MSD0255	Water Quality Treatment Center JEFFERSONTOWN	Receiving Stream of Treatment Center CHENOWETH RUN	Region CENT
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Facility Type	Facility ID	Facility Address	If Pump Station, Name of Pump Station:	Receiving Stream	Discharge to
SPL Sewer Treatment Plant	MSD0255	10725 OLD TAYLORSVILLE RD		CHENOWETH RUN	STREAM

Activity Code / Description	WO #	Initiated	Initiated By	Assigned To	Disch Status	Event Date	Problem	Result	Completed	Condition
DISREV: RAIN EVENT DISCHARGE	1185849	01/01/11 07:38 AM	ELDER	WRIGHT	DOCUMENTED	01/14/07	BLENDING AT JTOWN WQTC	UNAUTHORIZED DISCHARGE - WATERS	01/01/11 06:34 PM	

Spot Inspections:

Peak Plant Flow when Blending:	11,740,000 GPD
Total Plant Flow when Blending:	7,094,000 GAL
Discharge Amount:	839,840 GAL
Cause:	LACK OF SYSTEM CAPACITY - HEAVY RAIN IN AREA
Clean Up:	NO CLEAN UP PERFORMED - PIPES DISCHARGE UNDERWATER, DIRECTLY INTO STREAM
Control Zone:	PERMENANT SIGNS, - PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM
Impact:	NO IMPACT OBSERVED - FACILITY DISCHARGE UNDER ELEVATED CREEK LEVEL
Repair:	NOGOTATIONS ARE UNDERWAY TO ALLOW TEMPORARY BLENDING AT THIS LOCATION

Notifications:

01/01/11 09:48 AM	DISPUB	Project Win http://www.msdlouky.org/projectwin/ PERMANENT SIGNS PPOSTED IN AREA
01/01/11 01:00 AM	DISNOT	Email notification of unauthorized discharge sent to ireland.sean@epa.gov, eppc.ert@ky.gov and LisaA.Jeffries@ky.gov
01/01/11 01:00 AM	DISSNO	Supplemental Email notification of unauthorized discharge has been sent to ireland.sean@epa.gov, eppc.ert@ky.gov and LisaA.Jeffries@ky.gov



Report Selections: Excluding PPI, CSO, Result: WUS, Act Code: DISDW, DISREV

KPDES # KY0078956	Facility ID MSD0277	Water Quality Treatment Center DEREK R. GUTHRIE	Receiving Stream of Treatment Center OHIO RIVER	Region WEST
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Facility Type	Facility ID	Facility Address	If Pump Station, Name of Pump Station:	Receiving Stream	Discharge to
SMH Sewer Manhole	64054	7014 JOHN PAUL LN		PENNSYLVANIA RUN	GROUND

<u>Activity Code / Description</u>	<u>WO #</u>	<u>Initiated</u>	<u>Initiated By</u>	<u>Assigned To</u>	<u>Disch Status</u>	<u>Event Date</u>	<u>Problem</u>	<u>Result</u>	<u>Completed</u>	<u>Condition</u>
DISDW: DRY WEATHER DISCHARGE	1193984	01/27/11 12:58 PM	SINGLETON	KESSEL	REPAIRED - ISSUE RESOLVED	01/27/11	MECHANICAL FAILURE	UNAUTHORIZED DISCHARGE - WATERS	01/27/11 01:07 PM	

Spot Inspections:

Discharge Amount:	225 GAL
Cause:	BREAKER FOR THE AIR COMPRESSOR THAT RUNS THE BUBBLER SYSTEM TRIPPED.
Clean Up:	MSD CLEANED & SANITIZED THE AREA. LIME WAS SPREAD AROUND THE AREA.
Control Zone:	TAPE & TEMPORARY SIGNS POSTED
Impact:	SEWAGE WATER OBSERVED
Repair:	VACTORED DISCHARGE SITE & WET WELL. REPAIRED ELECTRICAL SERVER & REPLACED AIR COMPRESSOR.

Notifications:

01/27/11 02:01 PM	DISPUB	TAPE & TEMPORARY SIGNS POSTED
01/27/11 01:02 PM	DISNOT	Email notification of unauthorized discharge sent to ireland.sean@epa.gov, eppc.ert@ky.gov and LisaA.Jeffries@ky.gov



Report Selections: Excluding PPI, CSO, Result: WUS, Act Code: DISDW, DISREV

KPDES # KY0022411	Facility ID MSD0278	Water Quality Treatment Center MORRIS FORMAN	Receiving Stream of Treatment Center OHIO RIVER	Region WEST
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Facility Type	Facility ID	Facility Address	If Pump Station, Name of Pump Station:	Receiving Stream	Discharge to
SMH Sewer Manhole	CSO208	1700 SPRING DR		MIDDLE FORK BEARGRASS CREEK	STREAM

Activity Code / Description	WO #	Initiated	Initiated By	Assigned To	Disch Status	Event Date	Problem	Result	Completed	Condition
DISDW: DRY WEATHER DISCHARGE	1196084	01/31/11 04:45 PM	FRENCH	GRIFFITH	REPAIRED - ISSUE RESOLVED	01/31/11	OBSTRUCTION-NOT GREASE / ROOTS	UNAUTHORIZED DISCHARGE - WATERS	01/31/11 05:15 PM	

Spot Inspections:

Discharge Amount:	12,074 GAL
Cause:	POSSIBLE OBSTRUCTION IN SIPHON.
Clean Up:	NO CLEANUP OCCURRED. OVERFLOW DISCHARGES DIRECTLY TO STREAM.
Control Zone:	NO CONTROL ZONE ESTABLISHED, PIPE DISCHARGES DIRECTLY TO STREAM. PERMANENT OVERFLOW ADVISORY SIGNS POSTED.
Impact:	NO IMPACT OVSERVED, OVERFLOW REPORTED THROUGH TELEMETRY.
Repair:	SIPHON OBSTRUCTION CLEARED ITSELF.

Notifications:

02/01/11 12:58 AM	DISNOT	Email notification of unauthorized discharge sent to ireland.sean@epa.gov, eppc.ert@ky.gov and LisaA.Jeffries@ky.gov
02/01/11 12:58 AM	DISSNO	Supplemental Email notification of unauthorized discharge has been sent to ireland.sean@epa.gov, eppc.ert@ky.gov and LisaA.Jeffries@ky.gov
02/03/11 09:39 AM	DISPUB	Notification made with permanent overflow warning signs posted along Beargrass Creek

Total Facilities Printed: 3
Total Work Orders Printed: 3

I. 5-DAY LETTER TEMPLATES



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.540.6000 | LouisvilleMSD.org

35T

Mr. Charlie Roth, District Supervisor
KY Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, KY 40222-5084

Re: Bypass Report for the:

Dear Mr. Roth:

This plant experienced a bypass even and has been reported through our electronic notification system at approximately AM on January , 20 , referencing Work Order as a Dry Weather Discharge. This letter serves as a written report of the bypass as required by 401 KAR 5:065.

Provided below are the details of the bypass event:

- Description of the noncompliance and its cause: 35T
- Period of noncompliance: Starting AM on January , 20 , and stopping AM on January , 20 .
- Steps taken or planned to reduce, elimination and prevent recurrence Enter text here.
- Additional comments: Enter text here

Please advise if you have any questions concerning this information. You can contact me on my office telephone at ()- - , my cell phone at ()- - or via email at @louisvillemsd.org.

Sincerely,

cc: Courtney Seitz, KDEP
Lynne Brosius, KDOW
Paula Purifoy, MSD
eB File



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.540.6000 | LouisvilleMSD.org

Date

Mr. Charlie Roth, District Supervisor
KY Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, KY 40222-5084

Re: Potential to Bypass Notification for:

Dear Mr. Roth:

This water quality treatment center has the potential to bypass treatment due to _____ scheduled for Date. This scheduled event will occur, provided that conditions for minimizing the bypass potential exist. The anticipated duration event is _____.

Precautionary measures in place to prevent a bypass include:

-

Please advise if you have any questions concerning this information. You can contact me on my office telephone at ()- - , my cell phone at ()- - or via email at @louisvillemsd.org.

Sincerely,

cc: Courtney Seitz, KDEP
Lynne Brosius, KDOW
Paula Purifoy, MSD
eB File



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.540.6000 | LouisvilleMSD.org

Date

Mr. Charlie Roth, District Supervisor
KY Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, KY 40222-5084

Re: Upset Report for the _____

Dear Mr. Roth:

This plant experienced an upset event which occurred and has been reported through our electronic notification system at approximately 9:28 AM on August 26, 2011 referencing Work Order 123456 as a _____.

Provided below are the details of the upset event:

- Description of the noncompliance and its cause: MSD staff observed mixed liquor, black in color, indicating disruption of biological process. Excessive solids were observed flowing over the clarifier weir, at a level that has the potential to result in noncompliance with the permit limits at this WQTC.
 - MSD's initial upset kit sampling has determined that the upset was due to the receipt of a toxic discharge of _____, suspected to be received from _____.
 - MSD's initial upset kit sampling has determined that the upset was due to the receipt of a toxic discharge of _____ from an unknown source which is under investigation.
 - MSD's initial upset kit sampling did not indicate the presence of any substance that would cause an upset. Additional investigation will attempt to determine the cause of this upset.
- Period of noncompliance: Starting _____ AM on _____, 20____ and stopping _____ AM on _____, 20____.
- Steps taken or planned to reduce, eliminate and prevent recurrence:
 - MSD will contact industrial discharge users within the service area to investigate possible sources.
 - MSD will review industrial permits/HMPC plan within the service area.
 - MSD will conduct additional operational investigations and collection system sampling if required.
 - MSD will initiate appropriate enforcement actions under the Enforcement Response Plan and MSD Wastewater/Stormwater Discharge Regulations, if a source is identified.
- Additional comments: MSD will provide a written update regarding the resolution of this incident in the Amended Consent Decree Quarterly Report.

Please advise if you have any questions concerning this information. You can contact me on my office telephone at ()- - , my cell phone at ()- - or via email at [@msdlouky.org](mailto:msdlouky.org).

Sincerely,

Process Supervisor-Operations

cc: Courtney Seitz, KDEP
Lynne Brosius, KDOW
Paula Purifoy, Dan French, John Kessel, Daymond Talley - MSD

eB File

J. JEFFERSONTOWN SIPHON, MANHOLE INSPECTION ROUTES AND DATA COLLECTION REQUIREMENTS

RS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)

Beginning July 1, 2008, MSD began remotely monitoring the water surface elevation in the siphon head box upstream of the Jeffersontown WQTC. The siphon overflows when the water level in the box reaches 6.4 feet (elevation 604.14). When the level monitor indicates a level of 4 feet, the first warning notification is sent to key staff. When the water level reaches 6 feet a second electronic notification is sent out and MSD inspects the siphon and manholes on the gravity interceptor within 2,000 feet of the headworks of the Jeffersontown WQTC that may overflow. Generally 2.5 inches of rain (depending on conditions) is required to generate an alarm from the siphon. Regulatory Services (RS) inspects the entire route when an alarm is received for this location. This route includes all manholes within 2000 linear feet of the Jeffersontown WQTC headworks. The inspections are documented using a group work order. The Hansen Group ID for this inspection route is RS SSO ROUTE JT1. There are 26 manhole locations that are inspected along this route.

When the inspections identify an overflow, the occurrence is documented and reported in accordance with the approved SORP for the Initial Discharge Report 24-hour notification. In addition the Discharge reports on these overflows include the items listed below. Items d, h, i and j are data that are not captured on the majority of overflows within MSD's collection system. These are specific to the Jeffersontown siphon and the manholes within 2,000' of the Jeffersontown WQTC headworks.

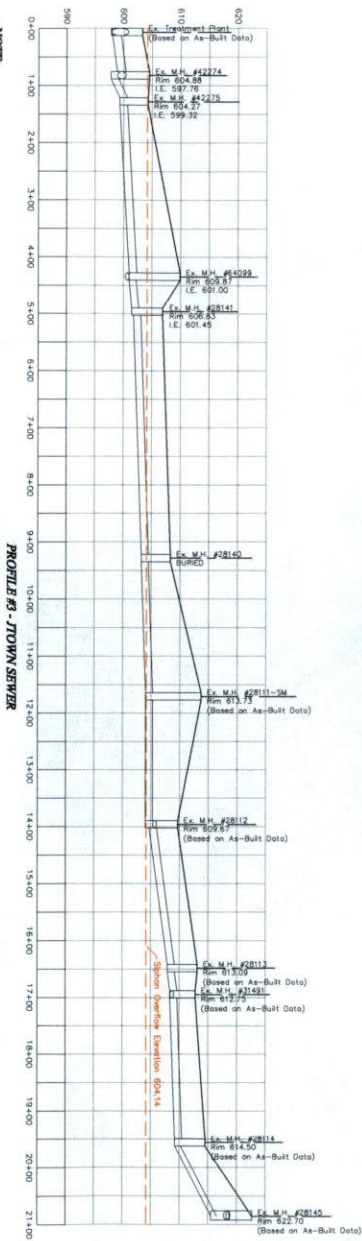
- a. Specific location of any discharge from the siphon or manhole;
- b. Estimated volume of any discharge from the siphon or manhole;
- c. Estimated start and ending time of day of any discharge from the siphon or manhole;
- d. Time at which any alarm may have been activated or text message received to indicate the water level of the siphon box;
- e. Time of day MSD personnel arrived at the location of any discharge from the siphon or manhole;
- f. Description of the cause and impact of any discharge from the siphon or manhole;
- g. Description of MSD's activities to minimize, respond to and clean up any overflow from a siphon or manhole;
- h. Jeffersontown WQTC flow (rate) at the documented start time of any overflow event;
- i. Total daily flow (volume) at the Jeffersontown WQTC for the day of any inspection; and
- j. Rainfall records for the event that includes the day of the inspection, obtained from the automatic, telemetered rain gauge at the Jeffersontown WQTC.

MSD includes the above-mentioned overflow documentation, created as a result of a discharge, in the Amended Consent Decree Quarterly and Annual Reports.

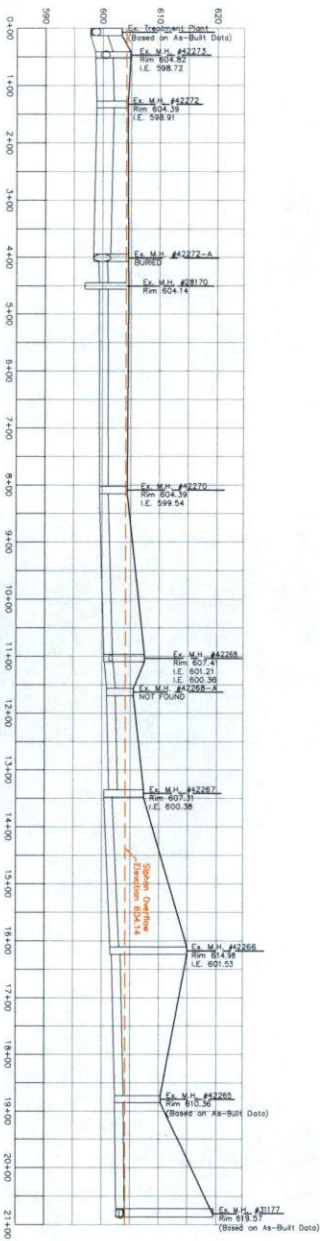
Manholes within 2,000 LF of Jeffersontown WWTP - PLAN (7-14-08)



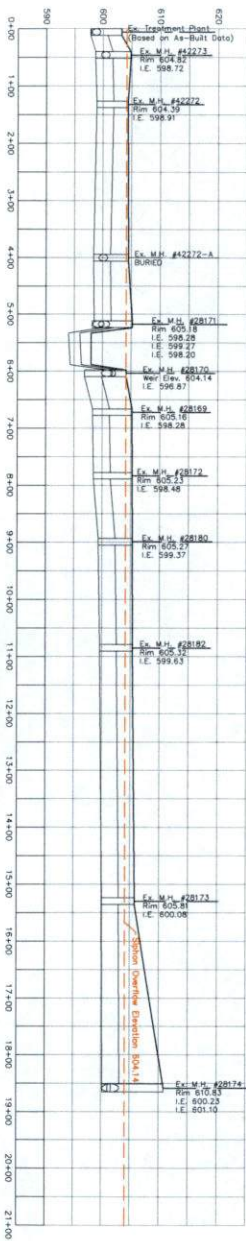
NOTE:
Information based on field survey except as noted



PROFILE #2 - TOWN RELIEF INTERCEPTOR



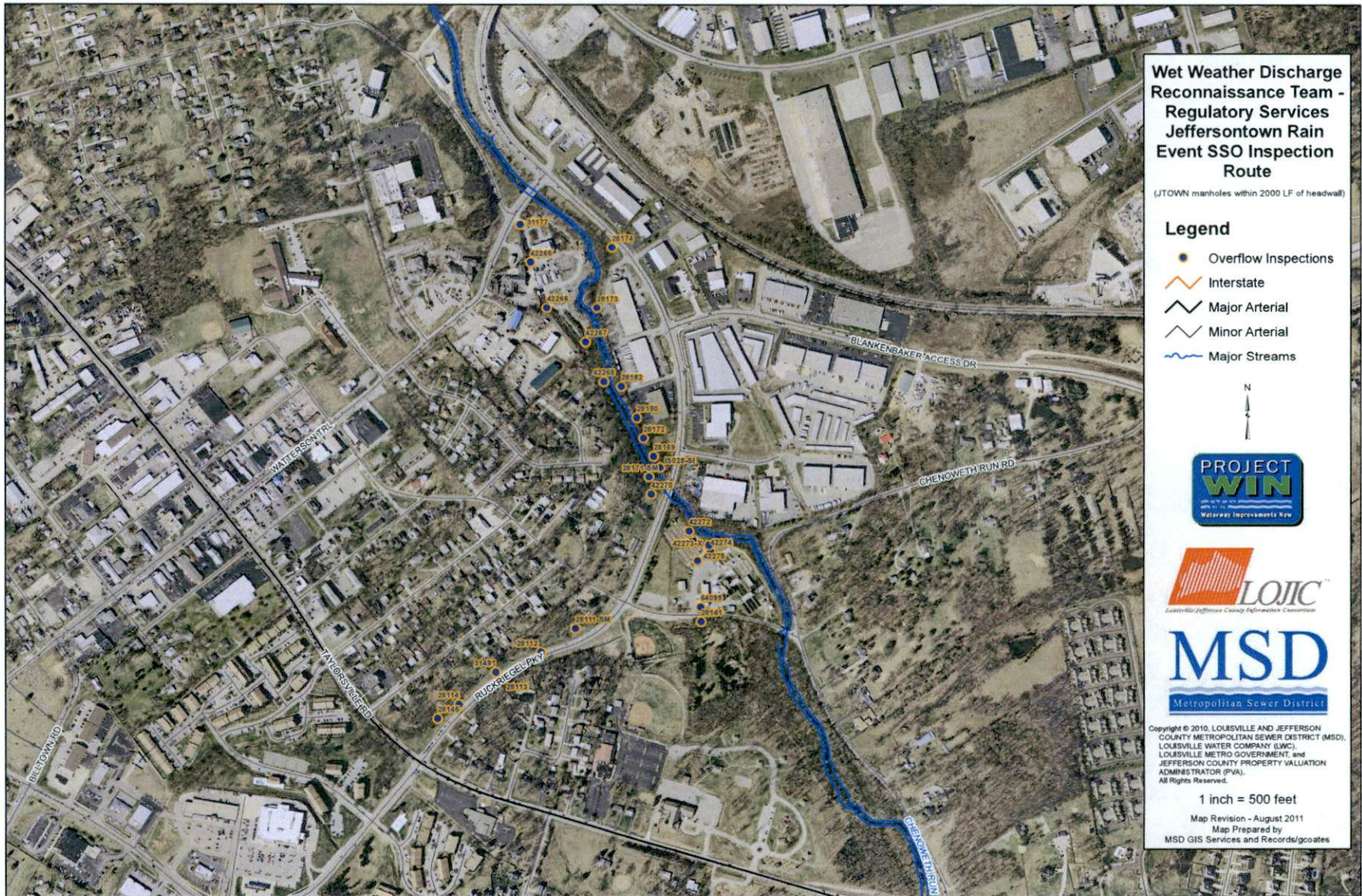
PROFILE #1 - TOWN INTERCEPTOR



SHEET	2
DATE	JUNE 26, 2008
CHECKED BY	MS
DRAWN BY	MS
DESIGNED BY	MS
VERTICAL SCALE	1"=10'
HORIZONTAL SCALE	1"=100'
OWNER/DEVELOPER	MSD
ENGINEER	MSD

PROJECT:
Manholes within 2,000 LF
of Jeffersontown WWTP
PROFILES (7-14-08)



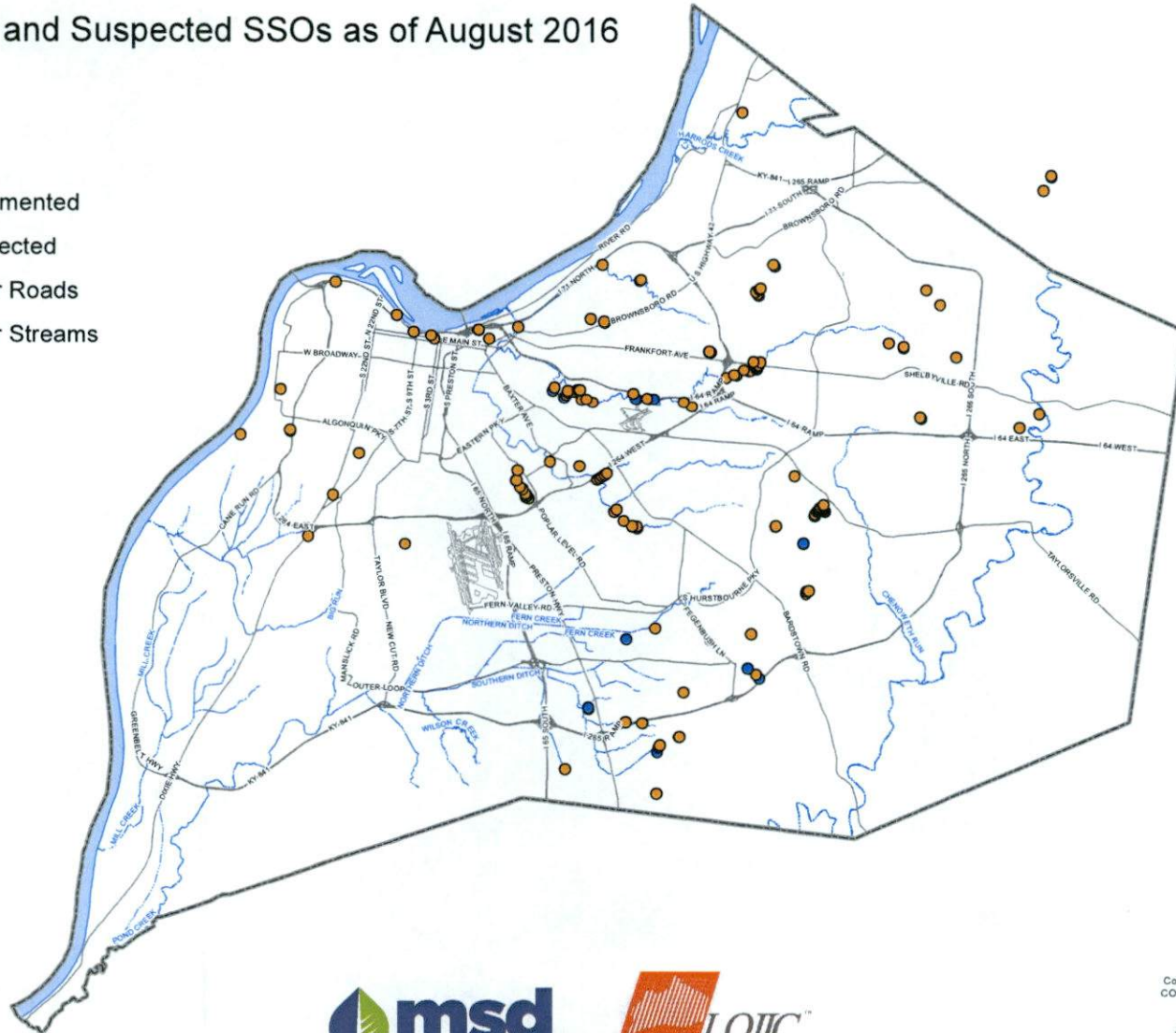
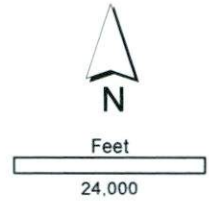


K. DOCUMENTED AND SUSPECTED OVERFLOWS AS OF AUGUST 2016

Documented and Suspected SSOs as of August 2016

SSOs

- Documented
- Suspected
- Major Roads
- Major Streams



Date: 8/12/2016



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700 West Liberty Street
Louisville, KY 40203-1911

502.587.0603

CustomerRelations@LouisvilleMSD.org

SECTION 4: OVERFLOW REPORTING AND MONITORING PROCEDURES

The collection and reporting of information required to meet regulatory reporting requirements under 401 KAR 5:015 is an essential component of the overflow response process. It is imperative that information relayed by response personnel from the field is complete and accurate. In addition to its use for regulatory reporting, this information is crucial to tracking the overflow history of assets such as manholes, sewer lines, and pumping stations. MSD utilizes this data to make decisions about response and abatement strategies.

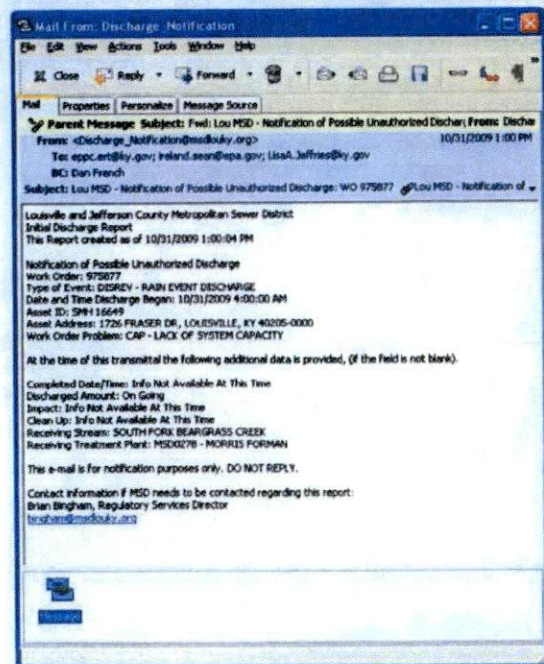
The sections below detail the means and methods by which MSD reports unauthorized discharges and submits overflow information to the KDEP and EPA.

4.1 Twenty-Four Hour Unauthorized Discharge Notification

Within 24 hours of verification that an unauthorized discharge has occurred, MSD electronically transmits an Initial Discharge Report (IDR) to the Kentucky Department of Environmental Protection (KDEP) and Environmental Protection Agency (EPA). The IDR contains information as required by 401 KAR 5:015 and 40 CFR 122.41 (L)(6). The IDR currently loaded into the state eNotification system and sent to the following email address: sayre.dennis@epa.gov. KDEP and EPA can request changes to this recipient list and MSD will make the programming changes as requested.

The following information is provided in the IDR:

- Work Order number
- Type of event (wet or dry)
- Problem type
- Start date and time
- Location of unauthorized discharge (Asset ID and address)
- Completed date and time, if known
- Estimated volume, if known
- Impact, if known
- Clean up information, if known
- Receiving Stream
- Receiving Water Quality Treatment Center



If the Discharge Work Order is not completed when it is transmitted to KDEP and EPA, a supplemental notification with additional information is sent once the work order is completed. If after initial reporting it is determined that the overflow was not required to be reported, MSD provides an updated list in the monthly discharge report submitted with the Discharge Monitoring Report (DMR).

4.2 Water Quality Treatment Center (WQTC) Upset & Bypass Reporting

MSD reports, monitors and maintains records of WQTC upsets and bypasses. These events are initially reported through the IDR process defined in section 4.1. These occurrences are followed up with a 5 day letter. These records are included in the Quarterly and Annual Reports submitted to EPA and KDEP.

4.2.1 10-Day Potential to Bypass Notification

MSD complies with the advance notice requirements, per 401 KAR 5:065 Section 2 and 40 CFR 122.41 (m)(3) and identified in the KPDES Permit for each WQTC, for an anticipated bypass necessary to perform scheduled maintenance. This includes a minimum of 10-days advance written notification and justification to KDEP.

MSD issues a potential to bypass letter for preventative maintenance activities which are perceived to have the potential to cause a bypass. These letters are written and submitted ten days in advance of the maintenance activity. Each letter includes conditions that will be administered to prevent a bypass from occurring while the scheduled maintenance is performed.

These letters are sent to:

Mr. Todd Giles
District Supervisor, Kentucky Division of Water
Louisville Regional Office
9116 Leesgate Road
Louisville, KY 40222-5084

4.2.2 5-day Follow Up Letter

MSD complies with the notice requirements, per 401 KAR 5:065, Section 2 and 40 CFR 122.41 (L)(6) and identified in the KPDES Permit for each WQTC, for unanticipated bypasses and plant upsets. These occurrences are reported within 24 hours of becoming aware of the situation through the IDR process. In addition, 5-day follow up letters are sent to KDEP Louisville field office as described below. MSD has created a template for staff to use for each type of 5-day letter (See **Appendix I**).

Upset letters include the following components:

- Beginning/ending date and time;
- Volume of wastewater upset;
- Cause of the upset; and
- Mitigation activities performed.

Bypass letters include the following components:

- Beginning/ending date and time;
- Volume of wastewater bypass;
- Cause of the bypass; and
- Mitigation activities performed.

4.3 Water Quality Treatment Center Monthly Reporting

4.3.1 Discharge Monitoring Report (DMR)

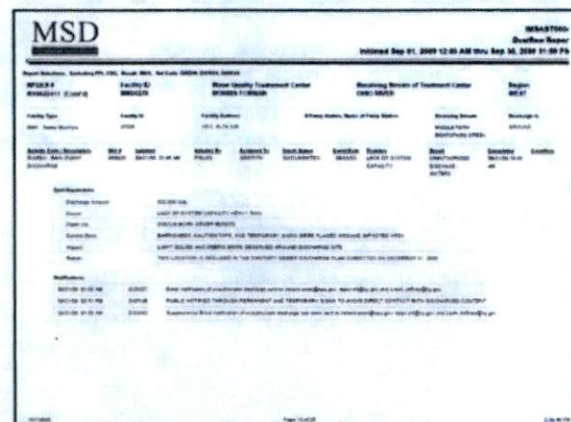
A monthly DMR is compiled for each of the WQTCs owned by MSD. The DMR is submitted along with a copy of the monthly operating report and monthly overflow report for the service area per the KPDES permit regulations.

4.3.2 Monthly Overflow Report

MSD includes a summary of unauthorized discharges occurring within a given sewershed in the respective WQTC DMR packet. The monthly discharge report covers the same timeframe as the respective DMR packet. See **Appendix H** for an example of the overflow report.

The following information is stored within Hansen and reported to KDEP using the report IMSAST0004 – Discharge Report:

- Sewershed name and specific location of the unauthorized discharge;
- Start date and time of the unauthorized discharge;
- Stop date and time of the unauthorized discharge;
- Description of the cause of the unauthorized discharge;
- Impact of the unauthorized discharge;
- Description of actions taken to mitigate the unauthorized discharge;
- Estimated volume of the unauthorized discharge;
- Description of cleanup actions taken; and
- Description of the type of notifications.



Start Date/Time	Stop Date/Time	Description of Discharge	Impact	Actions Taken	Notifications
08/22/19 01:00 AM	08/22/19 01:00 AM	Small volume of unauthorized discharge...	Minimal impact...	Public notified...	...
08/22/19 02:15 PM	08/22/19 02:15 PM
08/22/19 03:30 PM	08/22/19 03:30 PM

4.4 Amended Consent Decree Reports

4.4.1 Quarterly Discharge Report

MSD submits a summary of the previous quarter unauthorized discharges (WUS) to EPA and KDEP in the Amended Consent Decree Quarterly Report. Quarterly Reports are due by the 30th day of the month following the end of the quarter.

4.4.2 Annual Discharge Report

MSD submits a summary of previous fiscal year unauthorized discharges (WUS), Exterior overflows (EXT) and backups into buildings (INT) that are caused by a problem on the main to EPA and KDEP in the Amended Consent Decree Annual Report. Annual Reports are due by December 30 following the end of the fiscal year. These reports are sent to:

One copy to:

Chief, NPDES Permitting & Enforcement Branch
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

One copy to:

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Two copies to:

Michael Kroeger, Director
Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

4.5 Status and Monitoring of Overflows

MSD tracks the status of overflow occurrences on assets such as manholes, sewer lines, and pumping stations in Hansen and utilizes the information to make decisions about response and abatement strategies. MSD reviews all discharge work orders on a monthly basis and adjusts the asset status code as needed.

The status is used to document within Hansen the current condition of a particular asset relative to whether an overflow has occurred. The different categories and definitions of each status and associated monitoring frequencies are:

Status	Description	Definition
B	Beyond Approved Design Storm	Overflows with this status are capacity-related and only occur with storms beyond a certain magnitude that have not been requested/approved Force Majeure events. If the overflow is associated with a project, the level of control associated with the project is used. If the overflow is not associated with a project, the 10-year, 3-hour cloudburst is used.
D	Documented	Overflows with this status are capacity related, recurring wet weather overflows. Each has been reviewed, and a project or solution has been or will be developed to eliminate the capacity problem.
E	Eliminated	Overflows with this status have been eliminated with a project or solution developed specifically to address the overflow problem.
F	Force Majeure	Overflows with this status have only occurred during storms or events where written request and authorization has been approved by regulatory authorities.
L	Limited Capacity due to Flood Operations	Overflows with this status occurred during a river flooding event, when the system was at capacity and could not operate as efficiently during and after wet weather due to limited CSO discharge points.
M	Modeled Overflow	Overflows with this status have not been observed but were identified through hydraulic computer modeling. Field verification is used to determine if the asset is an overflow, in which case the status is updated to Documented (D), or if it does not overflow in three years of documented monitoring activities, the status is updated to No Reported Discharge (N).
N	No Reported Discharge	Overflows with this status have been monitored for at least three years with documentation of monitoring activities and no observed overflows.
Q	Queued for Repair	Overflows with this status have either discharged due to a non-capacity issue that has not been immediately repaired (may require a requisition or contractor to complete) or have discharged for the first time, attributed to capacity, requiring further investigation (including field investigation and / or modeling) to confirm the discharge is capacity-related before categorizing as Documented (D).
R	Repaired - Issue Resolved	Overflows with this status have been corrected by some operation or maintenance activity. Overflows at these locations should not recur.

Status	Description	Definition
S	Suspected	Overflows with this status can be maintenance or capacity related. MSD personnel do not actually witness the overflow, but only see evidence that it occurred. If maintenance issues are identified and corrected, the status is updated to Repaired – Issue Resolved (R). If it does not overflow in three years of documented monitoring activities, the status is updated to No Reported Discharge (N).
X	External Influence	Overflows with this status were due to an outside influence, such as an upset, utility damage (e.g., water main break), LG&E power outage or river flooding (e.g., pump station underwater).

At least once a quarter, if not more often, MSD reviews the status of each asset with a discharge work order during the time since the previous review to determine if any adjustments are needed. Overflow routes and capital project plans are then adjusted accordingly. Enhanced SSO Fact Sheets have been developed and more data, such as information related to the historical event(s) that caused the overflow(s) are now tracked in Hansen and reported based on calendar year. The SSO Fact Sheets are updated on an annual basis. Additionally, information from the SORP and Capacity, Management, Operation and Maintenance (CMOM) activities will be utilized to review the routes on a quarterly basis to determine if they should be modified. If it is determined that additions or deletions are required, the revised routes will be incorporated into the SORP and submitted to EPA and KDEP for approval in the annual update. The SSO Fact Sheets will continue to be updated and published to the Project WIN website on an annual basis.

4.6 Data Retention and Trending

MSD tracks the information related to overflow and bypass locations in Hansen in the form of discharge work orders. Information is tracked on individual assets such as manholes, sewer mains, sewer service lines, pumping stations and WQTCs. The type of information tracked includes but is not limited to, the cause, status, and volume of the overflow or bypass. MSD utilizes this information to conduct a periodic review of system-wide discharge data to document trends in frequency and volume as part of the CMOM program. The information from the CMOM program is used to update the SORP on an as-needed basis.

Section 5: Updates, Availability and Training

5.1 Review and Updates to the Sewer Overflow Response Protocol (SORP)

In accordance with the Amended Consent Decree, MSD conducts an annual review of the SORP each year by the anniversary of the final approval date by Environmental Protection Agency (EPA) and Kentucky Department of Environmental Protection (KDEP) (August 22, 2006). Proposed changes, if any, are submitted to EPA and KDEP for review and approval. Once approval is received, MSD will update the SORP training modules and conduct training for pertinent employees.

5.1.1 Responsibility

The manager in each of the MSD functional areas listed below is responsible for executing an annual, comprehensive review in their respective area(s) of responsibility for overflow monitoring and reporting:

- Wastewater
- Collections System & Emergency Response
- Treatment
- Regulatory Compliance, Records & GIS Services

5.1.2 Scope

Regulatory Compliance is responsible for leading and scheduling an annual review with appropriate personnel. Proposed modifications to the SORP and associated procedures are coordinated, reviewed, approved and distributed by the Regulatory Compliance Administrator or designated staff. This review is inclusive of the required personnel necessary for a full evaluation of the documents regarding changes in procedure, efficiency, technology improvements and regulatory changes.

5.2 Distribution and Availability of SORP

When changes are made to the SORP a new master copy of the SORP is scanned into MSD's eB system and made available to MSD personnel. Historical documents are archived and only the most current version will remain available to MSD personnel.

A copy of the latest version of the SORP is posted on the Project WIN website and available to the public. This site can be accessed at www.msprojectwin.org.

5.3 Training

5.3.1 District Wide Training Program

MSD Training department personnel supervise and administer the overall training program, with support from appropriate managers and supervisors. MSD has developed a comprehensive SORP training program that progresses in complexity from SORP Overview, an awareness level module, to Field Training, which includes instruction and practice with specific response protocol duties.

The SORP Overview training is provided online on an annual basis for all MSD employees, as well as during new employee orientation, which is conducted approximately every two weeks. Field response training is provided online on a quarterly basis and the topics rotate each quarter. This allows for more frequent feedback regarding the quality of field response performance. Corrective training occurs more quickly when performance gaps are identified. Documentation of training activities is performed by MSD's Training department.

5.3.2 Schedule for Training

Each quarter, employees that have the potential to identify, respond or otherwise report overflows and bypasses, receive approximately one hour of Field SORP Training. Each quarter covers specific elements of the SORP process. The quarterly review includes elements of the Consent Decree, time-sensitive notification, documentation and a brief review of reported overflow data. Training on a quarterly basis ensures that field personnel are familiar with current response and reporting procedures and allows employees who are new to the organization an opportunity to learn about requirements and ask questions. Assessments are completed by staff to demonstrate a baseline understanding of the material covered each quarter and to document training attendance.

As the SORP is updated, and changes are approved by EPA and KDEP, content and activities are updated accordingly and personnel trained on any changes. SORP overview training is provided to all MSD employees and contractors and fulfills annual Consent Decree training requirements for staff that do not have specific response duties.

5.3.3 Training Modules

Training frequency and general participation are described below by technical area served; frequency is based on individual job title. Not all staff members within MSD will receive training on each module (except for the annual SORP Overview).

Division / Department / Technical Area	Annual Training	Quarterly Training
Engineering / Development & Stormwater Services	X	X
Engineering / Regulatory Compliance, Records and GIS Services / GIS Services	X	
Engineering / Regulatory Compliance, Records and GIS Services / Regulatory Compliance and Asset Management	X	X
Engineering / Regulatory Compliance, Records and GIS Services / Records	X	
Engineering / Technical Services	X	X
Executive	X	
Executive / Customer Relations & Communications	X	
Executive / Facilities, Safety & Security	X	
Finance Division	X	
Human Resources Division	X	
Information Technology Division	X	
Legal Division	X	X
Operations / Collections System and Flood Protection	X	X
Operations / Fleet Services	X	
Operations / Support Services / Performance	X	
Operations / Support Services Field Engineering	X	X
Operations / Support Services Industrial Waste	X	X
Operations / Treatment Facilities	X	X
Operations / Wastewater and Drainage / Drainage	X	
Operations / Wastewater and Drainage / Sanitary	X	X
Operations / Wastewater and Drainage / TVI	X	X
Supply Chain and Economic Inclusion	X	X

5.3.4 Description of Training Modules

SORP Overview and Process

Objective: Learners gain knowledge of the purpose, history, policies, procedures governing MSD's SORP, as well as divisional and contractor responsibilities, liability, and consequences of violation. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past year.

- This module discusses: SORP's purpose, including the role in protecting the public and environment and the regulatory requirements relative to response, cleanup/mitigation and reporting of overflows, including unauthorized discharges, under the Amended Consent Decree and the KPDES permit;
- Review of key definitions (SSO, CSO, unauthorized discharge, overflow, etc.);
- Review of the history of sewer construction in Louisville and how overflows have evolved over time;
- Review of the Clean Water Act and MSD's obligations under permit; Review of divisional and personal liability and consequences of violations of the SORP;
- A review of any key components changed in the SORP; and
- SORP Process Map.

Preparing for Overflows, Monitoring, and Mobilization (Quarter 1)

Objective: MSD personnel learn about tools available to monitor for dry and wet weather overflows. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

In addition to the details covered under SORP Overview and Process, this module discusses:

- Monitoring methods, equipment, systems and tools;
- Channels of communication, once notification is made;
- First responder actions; and
- Evaluation of needed resources for comprehensive response.

Assessment, Mitigation and Documentation (Quarter 2)

Objective: MSD personnel learn about estimating overflow volumes, setting up appropriate control zones around impacted areas, what they should do to stop/mitigate overflows and what documentation is required. This session includes a video exercise to estimate overflow volumes using the Project WIN portable overflow manhole and volume estimation guide. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

This module discusses:

- How to confirm an overflow is occurring or about to occur;
- How to determine the cause of the overflow;
- How to determine resources required for mitigation of the discharge;
- The definition of an impacted area and the basic components of a proper control zone, when to set a control zone, who sets it, how long it remains in place and proper placement of control zones;
- Different types of control zones (barricades, cones, vehicles, caution tape, signage);
- How to identify safety hazards in the area, including hazardous materials;
- Estimating volumes; and
- Minimum documentation required for the initial report.

Public Notification and Overflow Cleanup (Quarter 3)

Objective: MSD personnel learn about the different ways MSD increases public awareness of overflows in the community. In the second part of the session, detailed instructions for cleaning an impacted area after an overflow are provided. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter. This module discusses:

- Control zones as a public notification;
- Temporary signs, door Hangers and customer notification;
- Time-sensitive notifications for significant discharges;

-
- Permanent signs;
 - Annual notifications, advertisements and publications;
 - Web-based notifications;
 - Cleanup and disinfection of overflow locations, including timeframes and responsibility;
 - Desired end result of cleanup/disinfection, including minimum levels of cleanup and cleanup documentation required; and
 - Types of cleanup and disinfection practices MSD may employ (manual and mechanical) and proper disposal techniques/procedures.

Reporting Follow-up (Quarter 4)

Objective: MSD personnel learn how to complete the Overflow Report Form and data entry requirements are discussed in detail. MSD personnel also learn to enter data directly into the Hansen database for the purpose of documenting overflows. MSD personnel also review each of the various reports that are published and submitted to the KDEP and EPA. This session includes a knowledge assessment that is recorded during the session and maintained in the personnel training file as a record of attendance and successful completion of the training. The module also provides an update on MSD's overflow response, IOAP, CMOM, and NMC performance over the past quarter.

This module discusses:

- Discharge types and discharging asset types;
- Appropriate timestamps for reporting;
- How to assign work orders in Hansen;
- Problem, condition and result code definitions;
- Recording inspection results;
- Follow-up steps necessary to complete the work order, and the responsibility for data quality;
- Documentation of inspection routes and cleanup service requests;
- Contingency reporting steps in the event of a Hansen outage, email outage, or both;
- Regulatory reporting details and frequency; and

-
- Common data errors.

Section 6: Appendix A-K

C. WET WEATHER DISCHARGE RECONNAISSANCE TEAM SSO INSPECTION ROUTES

APPENDIX C - FY19 SSO Inspection Route Changes

Asset Unit ID	Hansen Group ID	Hansen Group Description	Changes
19360	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
29948	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
31073	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
31074	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
81443	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
93705	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
93719	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
98024	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
116106	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
MSD1051-P	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
8429	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
48888	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
49445	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
49446	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
85075	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
85076	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
46602107	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28391	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28392	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28395	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28450	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28551	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
28711	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
64505	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
24507	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
27012	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
40475	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Suspected" for more than 3 years
40871	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
65070	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
74512	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow

APPENDIX C - FY19 SSO Inspection Route Changes

74520	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
89780	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
96019	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
117852	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
117859	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
MSD0302-F	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

Asset Unit ID	Hansen Group ID	Hansen Group Description	Status	Status Date	Route Responsibility
06537	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	27-Dec-13	Engineering
17724	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	E	28-Sep-16	Engineering
19360	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	16-Aug-18	Engineering
27116	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	E	26-Sep-16	Engineering
28984	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
28998	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
29239	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Engineering
29949	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	01-Oct-13	Engineering
33003	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	16-Aug-18	Engineering
35309	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	23-Oct-07	Engineering
61667	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	03-Apr-15	Engineering
61738	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	09-Mar-18	Engineering
61739	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	09-Mar-18	Engineering
63094	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
63095	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
63531	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Engineering
65516	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Engineering
67997	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Engineering
70158	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Engineering
81443	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	09-Sep-18	Engineering
93705	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Engineering
93719	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	05-Nov-18	Engineering
95099	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Engineering

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
95100	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Engineering
97365	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	23-Apr-19	Engineering
98024	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Engineering
MSD1051-PS	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Engineering
08426	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08427	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08429	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	03-May-19	Regulatory Services
08430	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Jun-11	Regulatory Services
08431	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	25-Feb-11	Regulatory Services
08717	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
10793	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
13831	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Mar-08	Regulatory Services
13943	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
13948	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
16649	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Jan-02	Regulatory Services
18298	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	B	08-Oct-13	Regulatory Services
18654	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Jun-11	Regulatory Services
23211	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	22-Feb-00	Regulatory Services
23212	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
30680	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	30-May-04	Regulatory Services
30681	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	18-Oct-04	Regulatory Services
38763	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	29-Jul-09	Regulatory Services
44396	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

Asset Unit ID	Hanson Group ID	Hanson Group Description	Status	Status Date	Route Responsibility
44397	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	27-May-04	Regulatory Services
49445	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
49446	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
49513	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	24-Mar-18	Regulatory Services
49601	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	05-Dec-17	Regulatory Services
49647	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	28-Feb-11	Regulatory Services
51160	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
51161	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
51180	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Regulatory Services
51301	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
51594	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	12-Sep-08	Regulatory Services
66232	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	24-Mar-18	Regulatory Services
66349	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	15-Dec-17	Regulatory Services
85075	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
85076	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-18	Regulatory Services
89259	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	29-Jul-09	Regulatory Services
104223	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-May-05	Regulatory Services
104224	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	14-Jul-15	Regulatory Services
104231	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	31-Dec-17	Regulatory Services
34093540	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	17-Nov-13	Regulatory Services
34093542	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	17-Nov-13	Regulatory Services
46602107	RS SSO ROUTE HP	RS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-18	Regulatory Services
28249	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	12-Mar-06	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

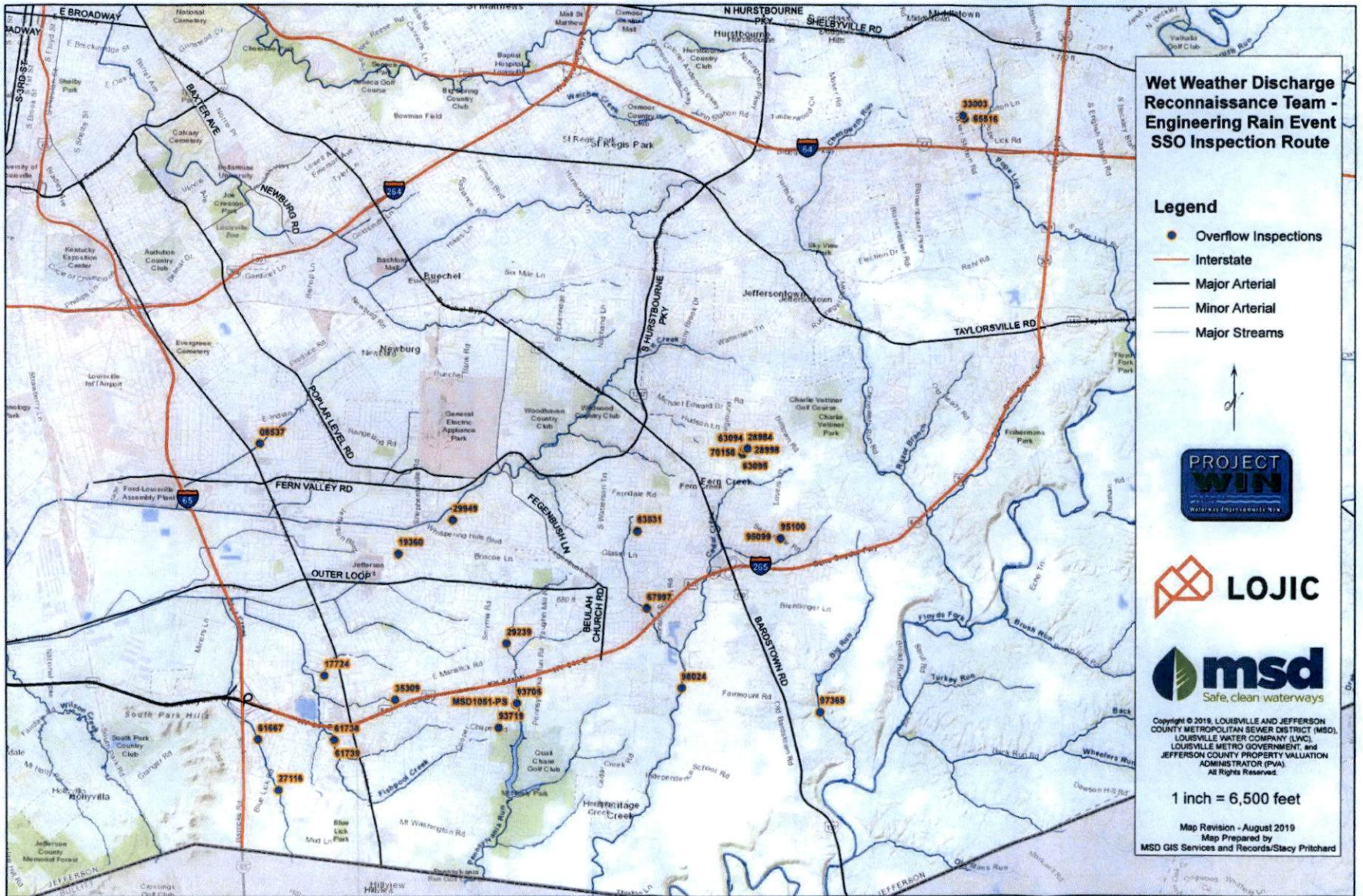
Asset Unit ID	Hansen Group ID	Hansen Group Description	Status	Status Date	Route Responsibility
28250	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28338	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	30-Aug-05	Regulatory Services
28340	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28413	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	20-Mar-02	Regulatory Services
28414	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	03-Jan-05	Regulatory Services
28415	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	18-Dec-02	Regulatory Services
28418	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
28417	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	04-Apr-08	Regulatory Services
28450	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	01-Apr-19	Regulatory Services
28451	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	28-Oct-15	Regulatory Services
28453	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	28-Oct-15	Regulatory Services
28711	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	24-Sep-18	Regulatory Services
31733	RS SSO ROUTE JT2	RS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	27-Feb-18	Regulatory Services
01703	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	20-Apr-19	Regulatory Services
02098	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	12-Feb-18	Regulatory Services
02119	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	26-Feb-18	Regulatory Services
02932	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	19-Mar-08	Regulatory Services
02933	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	04-Mar-08	Regulatory Services
02935	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	18-Mar-08	Regulatory Services
15195	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12-Jul-15	Regulatory Services
16455	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	12-Feb-18	Regulatory Services
21171	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	L	12-Feb-19	Regulatory Services
24155	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	28-Jun-13	Regulatory Services

APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

Asset Unit ID	Hansen Group ID	Hansen Group Description	Status	Status Date	Route Responsibility
24448	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	24-Feb-18	Regulatory Services
24507	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	12-Feb-18	Regulatory Services
28762	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	14-Jan-13	Regulatory Services
27005	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11-Jan-14	Regulatory Services
27007	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Feb-14	Regulatory Services
27012	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-18	Regulatory Services
30376	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	29-Nov-11	Regulatory Services
40445	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	21-Apr-19	Regulatory Services
40471	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	16-Jul-15	Regulatory Services
40559	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	26-Jan-12	Regulatory Services
40871	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-18	Regulatory Services
41374	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Mar-08	Regulatory Services
43726	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
45758	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	10-May-14	Regulatory Services
45829	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	09-Mar-11	Regulatory Services
45835	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	02-Sep-03	Regulatory Services
45900	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	27-Dec-15	Regulatory Services
46621	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	R	22-Feb-12	Regulatory Services
46623	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	03-Apr-15	Regulatory Services
46627	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	12-Feb-19	Regulatory Services
47034	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	22-Nov-11	Regulatory Services
47582	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Dec-11	Regulatory Services
47583	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	08-Feb-08	Regulatory Services






APPENDIX C - Wet Weather Discharge Reconnaissance Team (WWDRT) SSO Inspection Routes

<u>Asset Unit ID</u>	<u>Hansen Group ID</u>	<u>Hansen Group Description</u>	<u>Status</u>	<u>Status Date</u>	<u>Route Responsibility</u>
47593	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	19-Mar-08	Regulatory Services
47598	RS SSO ROUTE MMF	RS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	05-Feb-14	Regulatory Services



**Wet Weather Discharge
Reconnaissance Team -
Engineering Rain Event
SSO Inspection Route**

Legend

-  Overflow Inspections
-  Interstate
-  Major Arterial
-  Minor Arterial
-  Major Streams



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1 inch = 6,500 feet

Map Revision - August 2019
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard



**Wet Weather Discharge
Reconnaissance Team -
Regulatory Services
Hikes Point Rain Event
SSO Inspection Route**

- Legend**
- Overflow Inspections
 - Interstate
 - Major Arterial
 - Minor Arterial
 - Major Streams



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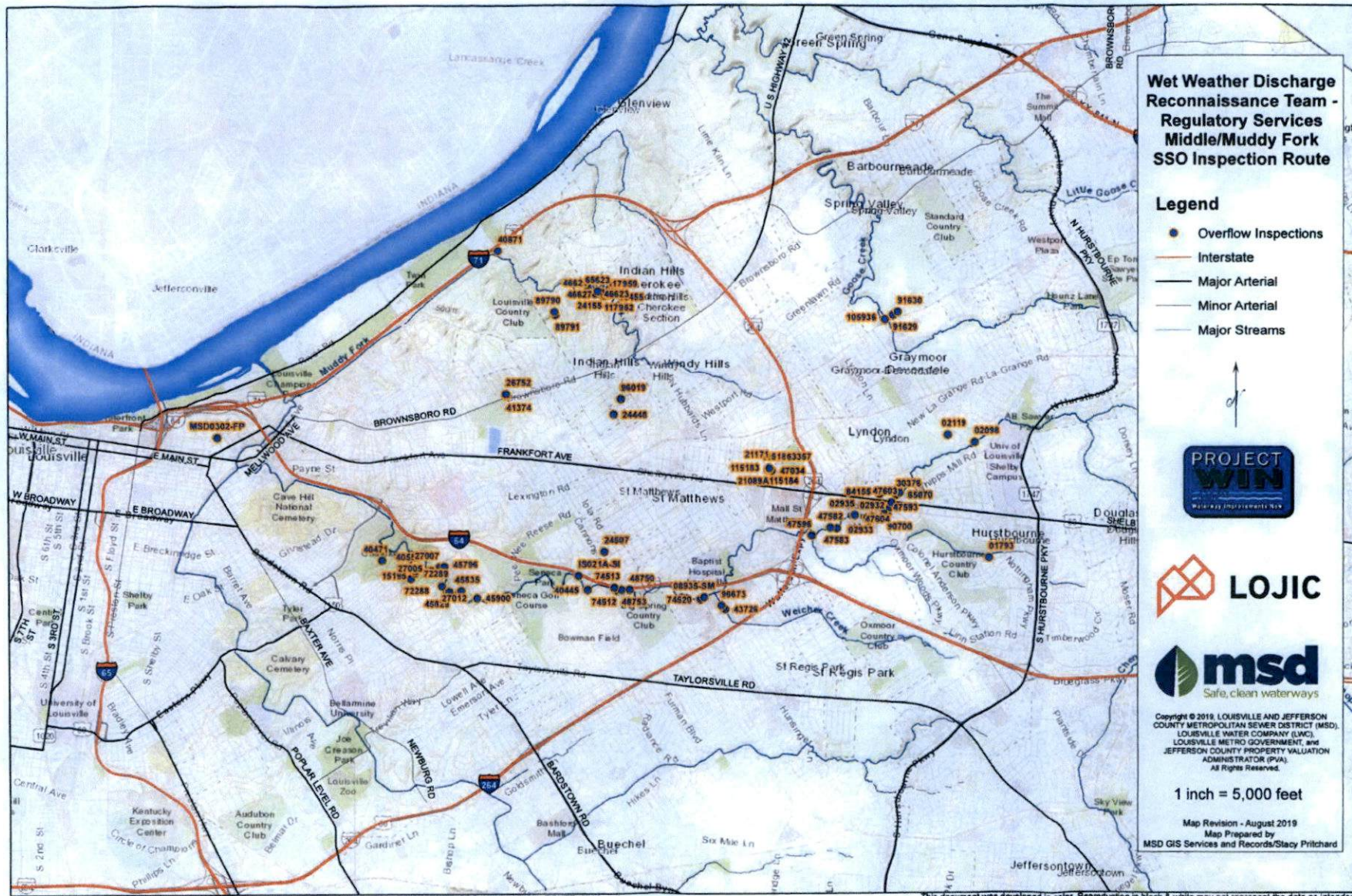
1 inch = 5,000 feet

Map Revision - August 2019
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard

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Wet Weather Discharge Reconnaissance Team - Regulatory Services Middle/Muddy Fork SSO Inspection Route

Legend

- Overflow Inspections
- Interstate
- Major Arterial
- Minor Arterial
- Major Streams



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1 inch = 5,000 feet

Map Revision - August 2019
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard

Path: I:\msd\Share\Maps\SSO\SSOinspectionRoutes\Map_Templates\2019\Middle_Muddy_Fork_RAIN_EVENT_SSO_INSPECTION_ROUTE_2019.mxd

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