msd
Safe, clean waterways

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August 22, 2020

Michael Kroeger, Director
Division of Enforcement
Department for Environmental Protection
300 Sower Boulevard
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EPA – Enforcement and Compliance Assurance Division
Attn: Mary Jo Bragan
61 Forsyth Street SW, 9T25
Atlanta, GA 30303

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

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 August 22, 2016, and determined that there are no major revisions requiring a revised SORP to be submitted by August 22, 2020; however the document has been rebuilt in a new format and as such, a new copy of the SORP is enclosed. MSD has made revisions to reflect current software configuration, organizational structure and responsibilities, and to reflect the purchase of the Oldham County system. Updated reconnaissance routes are provided due to changes in overflows requiring inspection. We have included a crosswalk to reflect these revisions. Please discard the previous SORP 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
MSD Chief Strategic Officer

cc: James A. Parrott
Paula Purifoy
File

Transmittal_SORP
Rev. 8/19/2016

Sewer Overflow Response Protocol

Submitted August 22, 2016

Revised August 22, 2020

Louisville & Jefferson County
Metropolitan Sewer District

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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:

- Responding to, cleaning up, and/or minimizing the impact of Sanitary Sewer Overflows (SSOs) and Unauthorized discharges;
- Reporting the location, volume, cause and impact of SSOs and Unauthorized Discharges to KDEP/EPA; and
- 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) - The 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) - The agency responsible for providing wastewater, stormwater, and flood protection services in Jefferson County, and wastewater services in portions

of Oldham County. MSD is also responsible for response, mitigation, cleanup, notification and reporting of overflows, including unauthorized discharges.

Overflow - For the 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

Table 1.1 lists the commonly used acronyms in the SORP.

Table 1.1. Acronyms

ACRONYM	DEFINITION
ACD	Amended Consent Decree
BOD	Biochemical Oxygen Demand
CMOM	Capacity, Management, Operation and Maintenance
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CRCC	Customer Relations Call Center
CRD	Customer Relations Department
CSR	Customer Service Requests
DMR	Discharge Monitoring Report
EGIS	Emergency GIS Dashboard
EPA	United States ?Environmental Protection Agency
EXT	Exterior Overflow
GIS	Geographic Information System
IT	Information Technology
IPS	Infor Public Sector
IDR	Initial Discharge Report
INT	Interior Overflow
IWD	Industrial Waste Department
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System

ACRONYM	DEFINITION
LIMS	Laboratory Information Management System
MSD	Louisville and Jefferson County Metropolitan Sewer District
LWC	Louisville Water Company
LOJIC	Louisville/Jefferson County Information Consortium
MO	Metro Operations
MOSS	Microsoft Office SharePoint Services
NPDES	National Pollution Discharge Elimination System
PI	Plant Information System
PCC	Process Control Center
PSC	Property Service Connection
PVA	Property Valuation Administrator
POTW	Publicly Owned Treatment Works
RTC	Real Time Control
SSO	Sanitary Sewer Overflow
SSS	Sanitary Sewer System
SORP	Sewer Overflow Response Protocol
SIU	Significant Industrial Users
SCADA	Supervisory Control and Data Acquisition
TSS	Total Suspended Solids
USGS	United States Geological Survey
WQTC	Water Quality Treatment Center
WUS	Waters of the United States
WIN	Waterway Improvements Now
WWDRT	Wet Weather Discharge Reconnaissance Team
WO	Work Order

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:

- 3,345 miles of sewer lines
- 77,879 manholes
- 72,065 catch basins & yard drains
- 250 sanitary pump stations
- 16 flood pump stations
- 5 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 and Asset Management 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 5 days per week from 7:00 am to 7:00 pm. From 7:00 pm until 12:30 am on weekdays, and 7:00 am to 12:30 am weekends and holidays, calls are routed to the Dispatch Center at the MSD Central Maintenance Facility (CMF). From 12:30 am to 7:00 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 7 days per week, 24 hours per day. All customer inquiries are designated as customer service requests (CSRs) 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 email. 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 7 days per week, 7:00 am to 12:30 am. Operations personnel monitor the WQTCs 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 7 days per week, 12:30 am 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 Infor Public Sector (IPS) application. 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. Infor Public Sector (IPS)

IPS is the information management software used by MSD to record, track and report information concerning MSD assets. IPS is also used to enter CSRs for customer inquiries that record pertinent information regarding the location, customer's name, and nature of the problem; to initiate work orders (WOs) 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 (EGIS) 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 IPS 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

Figure 2.1. Infor Public Sector (IPS)

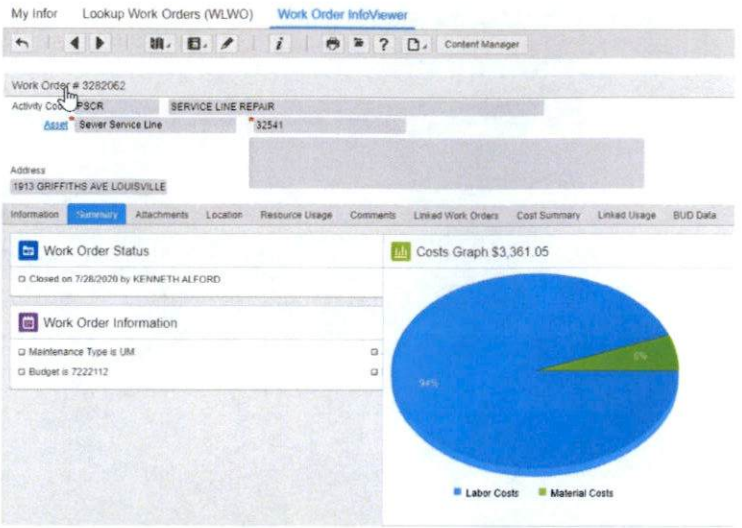


Figure 2.2. Emergency GIS (EGIS) Dashboard

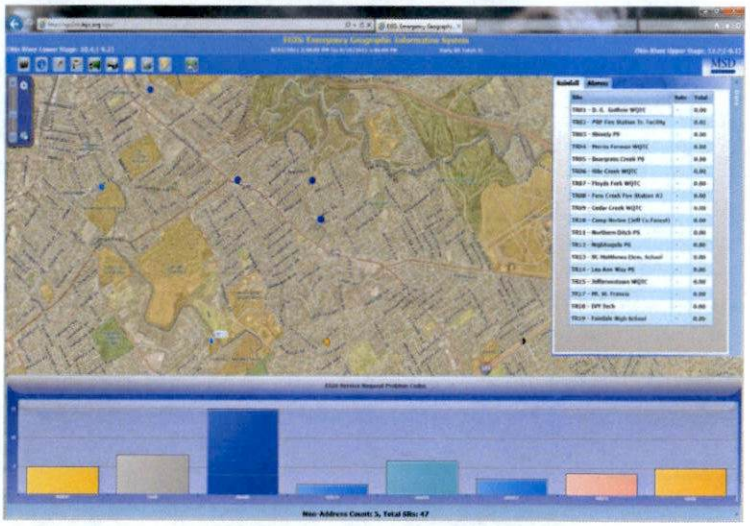


Figure 2.3. Supervisory Control and Data Acquisition (SCADA)

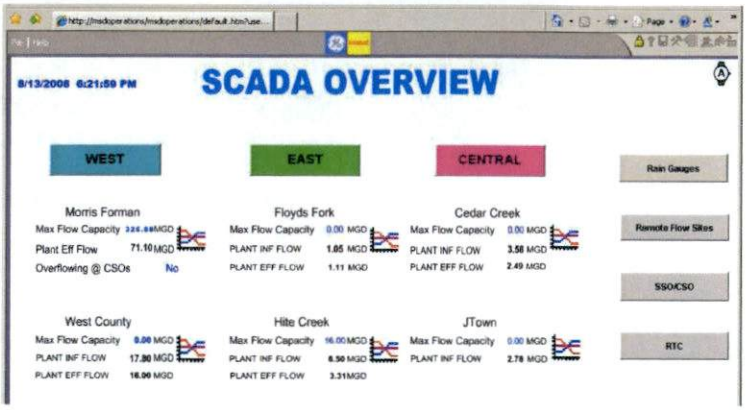
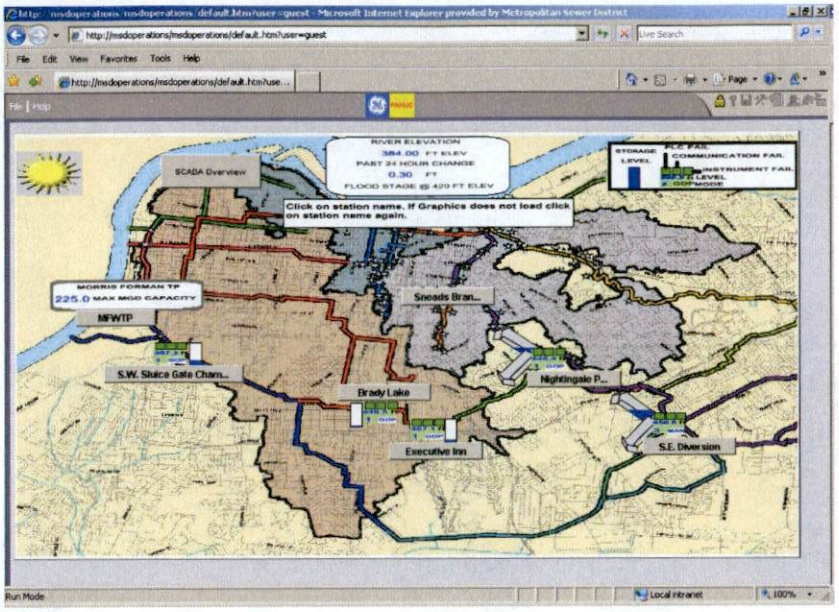


Figure 2.4. Real Time Control (RTC)



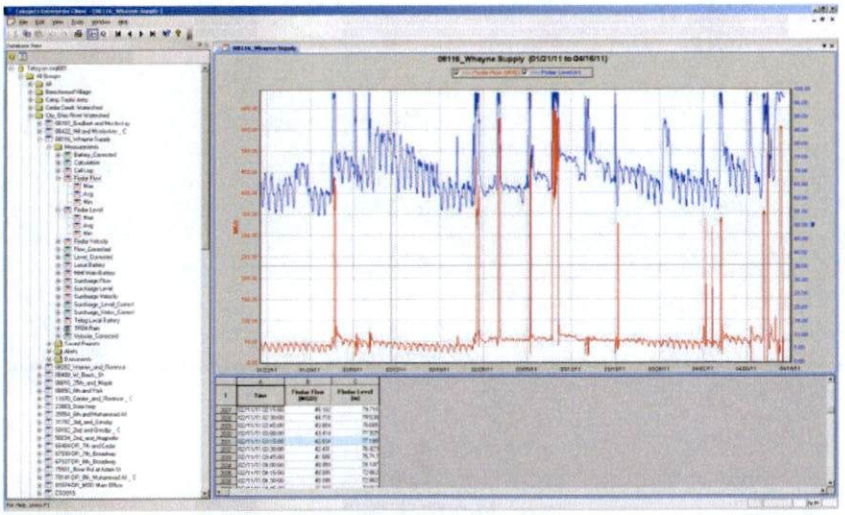
certain rain events. The RTC system performs the following essential wet weather management functions.

- 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.

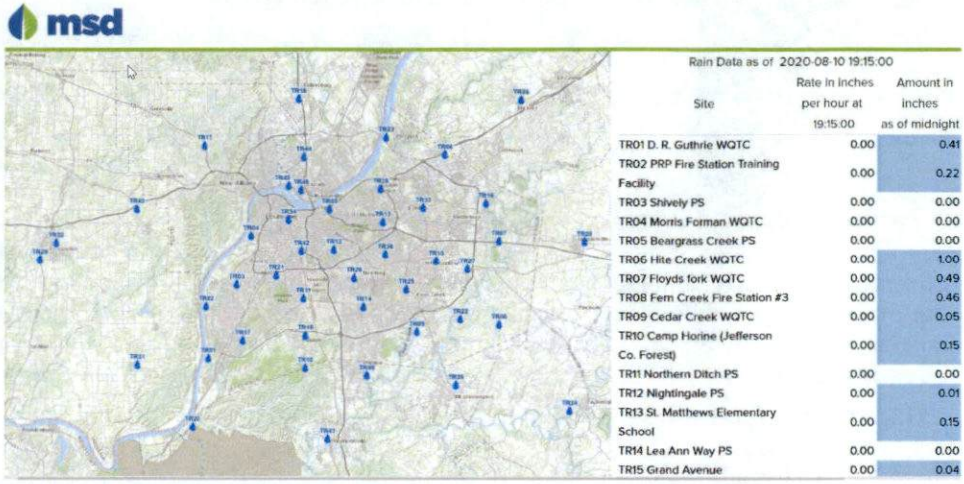
Figure 2.5. Telog



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

Figure 2.6. Rain Gauge Network



Site	Rate in inches per hour at 19:15:00	Amount in inches as of midnight
TR01 D. R. Guthrie WQTC	0.00	0.41
TR02 PRP Fire Station Training Facility	0.00	0.22
TR03 Shively PS	0.00	0.00
TR04 Morris Forman WQTC	0.00	0.00
TR05 Beargrass Creek PS	0.00	0.00
TR06 Hite Creek WQTC	0.00	1.00
TR07 Floyds fork WQTC	0.00	0.49
TR08 Fern Creek Fire Station #3	0.00	0.46
TR09 Cedar Creek WQTC	0.00	0.05
TR10 Camp Horine (Jefferson Co. Forest)	0.00	0.15
TR11 Northern Ditch PS	0.00	0.00
TR12 Nightingale PS	0.00	0.01
TR13 St. Matthews Elementary School	0.00	0.15
TR14 Lea Ann Way PS	0.00	0.00
TR15 Grand Avenue	0.00	0.04

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.

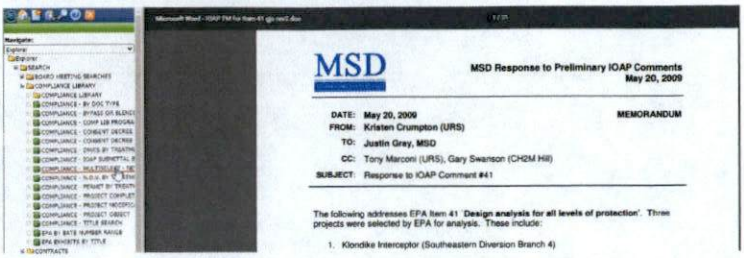
Rainfall conditions are continuously telemetered to MSD's process control center from each of the gauging stations. Information regarding rainfall in the service area can be obtained from MSD's website at raingauge.louisvillemsd.org. The data is refreshed every 5 minutes. The rainfall rate is displayed 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.

Figure 2.7. eB Document Management Software



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 and consultants. Many of the documents stored in eB can be accessed from our GIS System and IPS with direct links to the associated records.

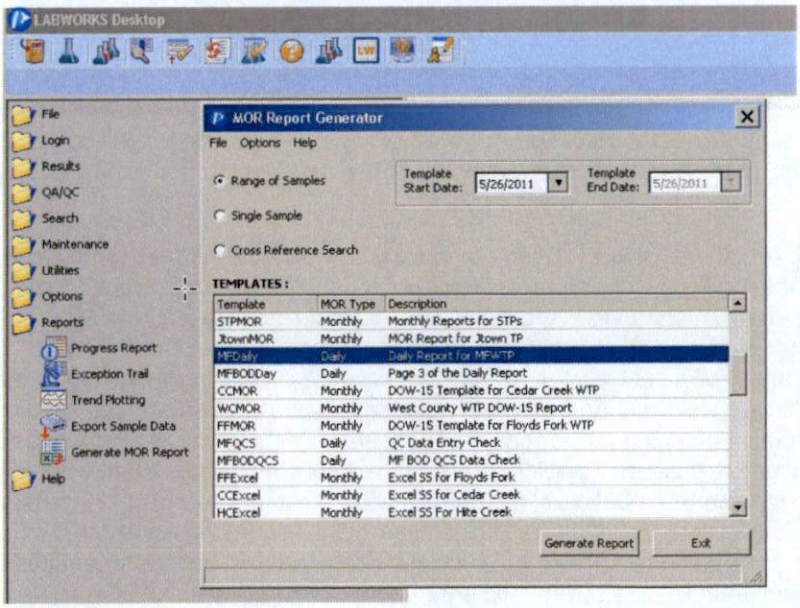
2.3.9. MSD Enterprise Reports

Figure 2.8. MSD Enterprise Reports

In order to ensure reliable, accurate and well formatted reports from the IPS system on MSD activities, MSD IT staff developed and implemented a Microsoft SQL Server Reporting Services (SSRS) web portal called MSD Enterprise Reports. This reporting tool allows any user to produce standard reports from the IPS 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)

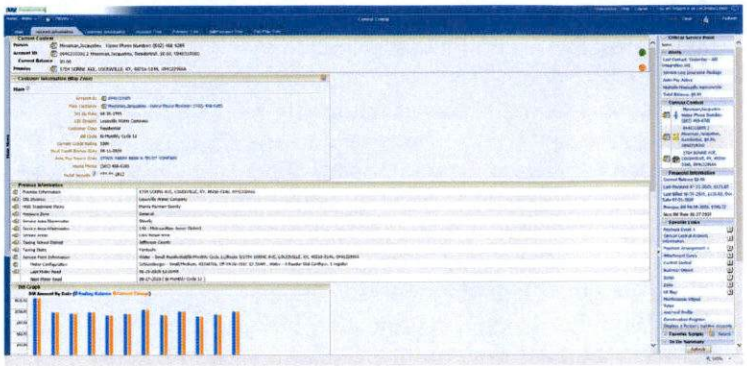
Figure 2.9. Laboratory Information Management System (LIMS)



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)

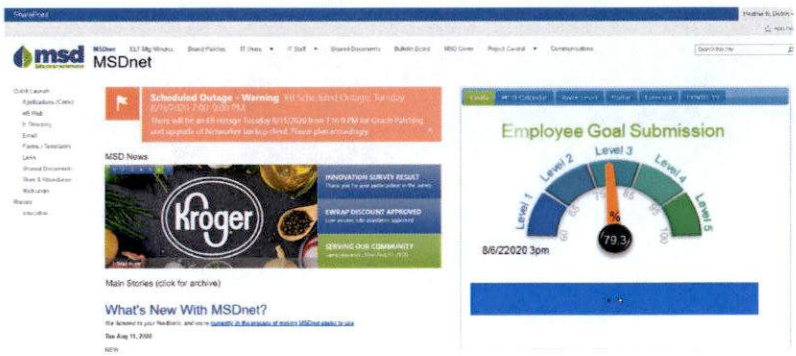
Figure 2.10. Customer Care and Billing (CC&B)



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, Drainage Charges, State Taxes (if applicable) and Senior Citizen Discounts (if applicable).

Figure 2.11. SharePoint

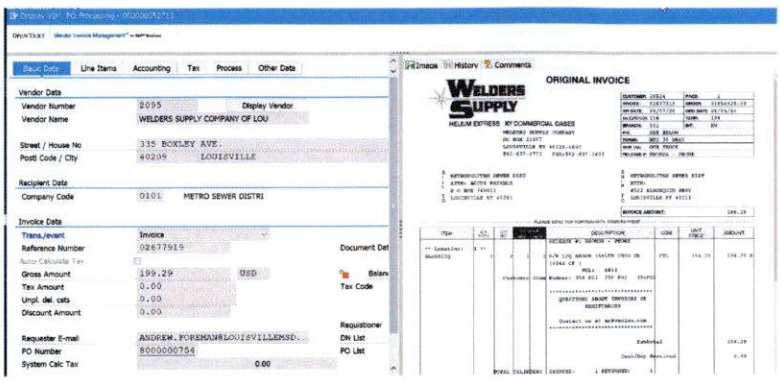


2.3.12. SHAREPOINT

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 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.

Figure 2.12. SAP



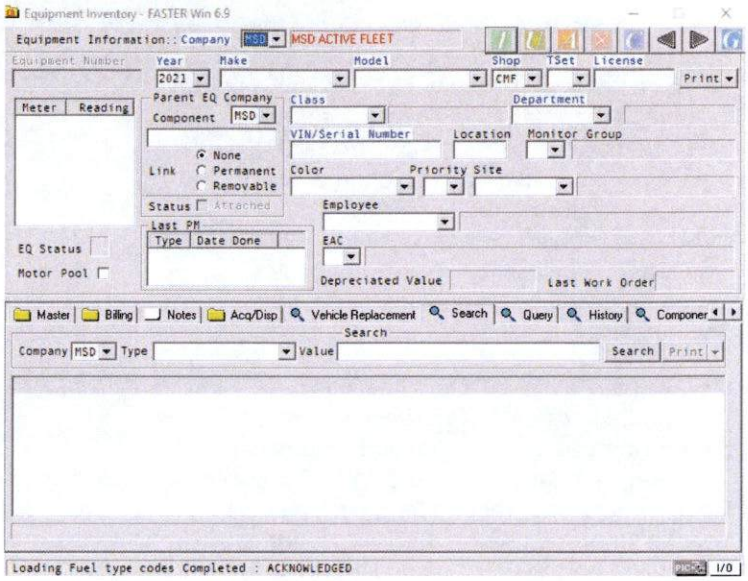
2.3.13. SAP

SAP is an enterprise resource planning product used by MSD for day-to-day financial, human resources and inventory activities. The system is used for 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 SORPelated activities for the Fleet Management department. This information had previously been tracked in the SAP system.

Figure 2.13. FASTER



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 C 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 IPS 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 IPS can be accessed by staff through the internal online IPS application. Customers may also enter CSRs online and may check on their status by clicking on MSD's Online Customer service link at www.louisvillemsd.org.

Discharge work orders are initiated in IPS 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 IPS 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. 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 exacer-

bated 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 D 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 Operations Director for Collections, Flood Protection, & Emergency Response 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.

Operations Treatment staff monitor the WQTCs, the Main Diversion Structure and the Southwestern Pumping Station.

Operations Collections System & Flood Protections staff monitor the other pumping stations through telemetry, notification from the Morris Forman WQTC Process Control Center, reports from the public and from reconnaissance activities.

Operations Wastewater and Drainage staff monitor the eliminated pump locations in Beechwood Village and 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 Operations 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 E for a detailed listing of manholes inspected as part of these groups.

The current list of inspection routes includes:

- Operations Hikes Point Rain Event SSO Inspection Route;
- Operations Jeffersontown Rain Event SSO Inspection Route (specifically called out in the Amended Consent Decree); see Appendix F for a detailed listing of manholes inspected as part of this group.
- Operations Jeffersontown/Fern Creek Rain Event SSO Inspection Route;
- Operations 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 most of the routes. Rain Event SSO Inspection Route Triggers are currently installed at the following locations:

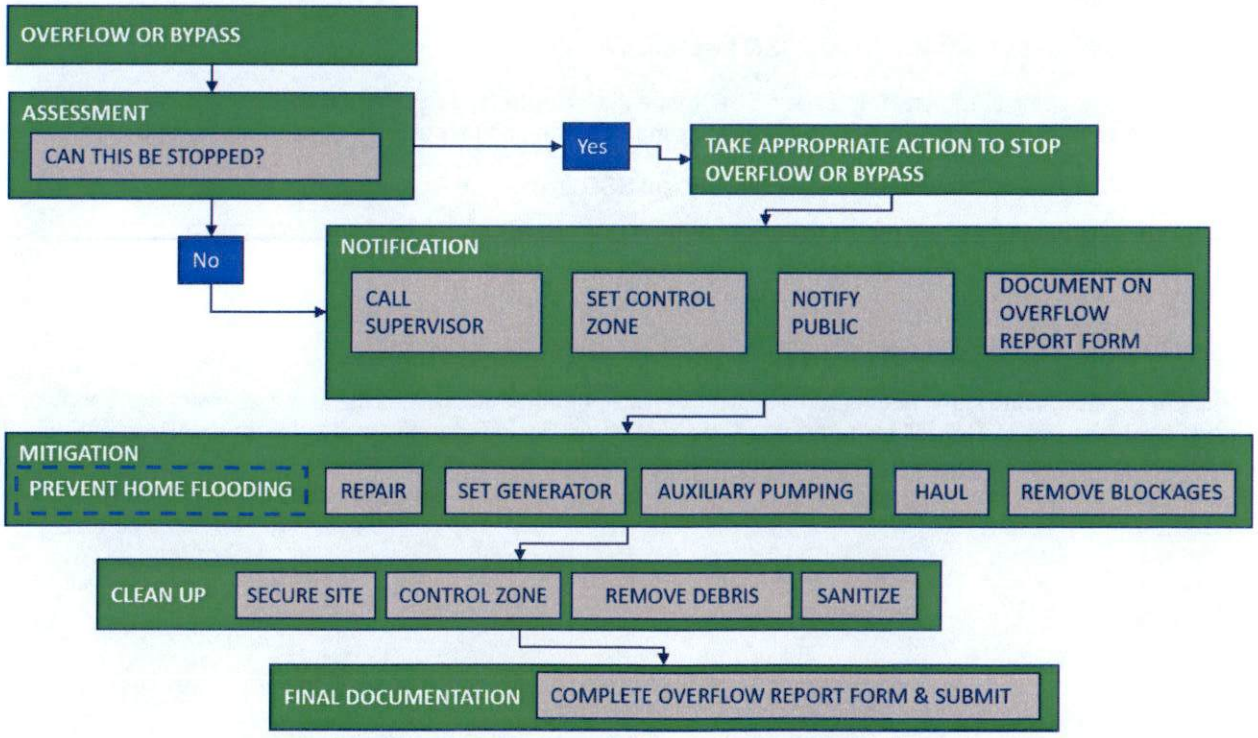
- SSO at Fraizier Road (16649) or SSO at Trevillian Way (51594) for the Operations Hikes Point Rain Event SSO Inspection Route;
- Grand Avenue Rain Gauge (TR15) for the Operations Jeffersontown Rain Event SSO Inspection Route and for the Operations Jeffersontown/Fern Creek Rain Event SSO Inspection Route;
- SSO at Breckinrige Lane (08935-SM), SSO at Mockingbird Valley (26752), SSO at Muddy Fork (40871) SSO at Christian Way (47593), SSO at Old Goose Creek Road (105936), SSO at Whipps Mill Rd (30376), or SSO at Old cannons Lane (IS021A-SI) for the Operations Middle/Muddy Fork Rain Event SSO Inspection Route; and
- SSO at Tucker Station (33003) 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 IPS system. A group project is generated in the IPS 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.

Figure 3.1. SORP Process Map



3.2. Response Procedure Overview

The SORP process map, shown in Figure 3.1, 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.

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 or 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.

Figure 3.2. Overflow Mitigation

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 or the Morris Forman WQTC PCC and request Industrial Waste Department (IWD) assistance. Louisville Metro Fire, Emergency Services, and Health Department personnel will respond to the incident and dictate the resultant protocol to be followed.
- **Oily sheen, hydrocarbon odors or strange color** - Immediately contact Dispatch or the Morris Forman WQTC PCC and ask that an IWD responder be dispatched to the location to determine if a hazardous or other substance is present in the discharge. The IWD Emergency Response Pretreatment Inspector will provide guidance on the appropriate measures to be taken and sampling/cleanup to be performed.
- **Grease** - Immediately contact Dispatch or the Morris Forman WQTC PCC and ask that an IWD 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:

- Location of the overflow or bypass;
- Date and time the overflow or bypass began;
- Initial assessment of the problem; and
- Additional resources required to remedy the situation and stop the overflow or bypass.

Figure 3.3. Control Zone

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 WIN 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. An example of an permanent overflow advisory sign can be found in Appendix G

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 1,000 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 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 works with staff in Regulatory

Compliance, Records and GIS Services to update 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 & Asset Management 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 & Asset Management 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 web notification for a dry weather overflow.

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 IPS system within 10 hours of discovery. Minimum requirements to open a discharge work order in IPS 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

Figure 3.4. Mitigation

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 deci-

sion – 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.

Figure 3.5. Cleanup

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; and
- 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.

Figure 3.7. Overflow

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 IPS to generate the electronic discharge work order. **Work orders must be initiated in IPS 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 H for the Overflow Report Form used to assist with data collection in the field.

IPS data entry includes completing the Information tab and Discharge Reporting tab.

The **Information** tab includes the start and stop dates and times, problem code, and result code.

The **Discharge Reporting** 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

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 I and is updated as needed based on new information or changes in overflow conditions.

Overflow Cause

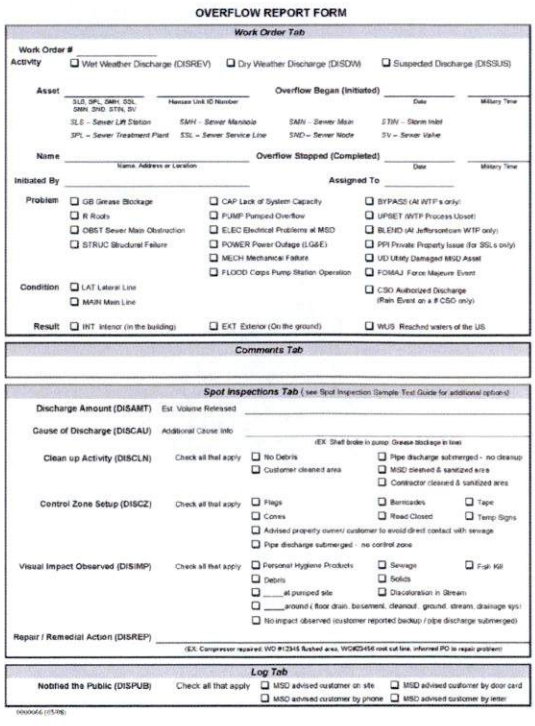
This spot inspection is a summary of the problem or problems that caused the overflow to occur. It is a statement that should support or further define the problem code that was selected for the overflow.

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

This spot inspection should include detailed information related to the cleanup and disinfection of the impacted

Figure 3.6. Overflow Documentation



OVERFLOW REPORT FORM

Work Order Tab

Work Order #

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

Asset _____ (SLG, SPL, SMH, SDL, SMN, SND, STN, SV) _____ (Hansen Unit ID Number) Overflow Began (Initiated) _____ (Date) _____ (Military Time)

SLG – Sewer Lift Station SMH – Sewer Manhole SMN – Sewer Main STM – Storm Inlet
SPL – Sewer Treatment Plant SSL – Sewer Service Line SND – Sewer Node SV – Sewer Valve

Name _____ (Name, Address or Location) Overflow Stopped (Completed) _____ (Date) _____ (Military Time)

Initiated By _____ Assigned To _____

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

Condition ☐ LAT Lateral Line ☐ CSO Authorized Discharge (Rain Event on a # CSO only)
☐ MAIN Main Line

Result ☐ INT Interior (in the building) ☐ EXT Exterior (On the ground) ☐ WUS Reached waters of the US

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: Shell broke in pump Grease blockage in line)

Clean up Activity (DISCLN) Check all that apply ☐ No Debris ☐ Pipe discharge submerged - no cleanup ☐ Customer cleaned area ☐ MSD cleaned & sanitized area ☐ Contractor cleaned & sanitized area

Control Zone Setup (DISCZ) Check all that apply ☐ Flags ☐ Barricades ☐ Tape ☐ Cones ☐ Road Closed ☐ Temp Signs ☐ Advised property owner/ customer to avoid direct contact with sewage ☐ Pipe discharge submerged - no control zone

Visual Impact Observed (DISIMP) Check all that apply ☐ Personal Hygiene Products ☐ Sewage ☐ Fish Kill ☐ Debris ☐ Solids ☐ _____at pumped site ☐ Discoloration in Stream ☐ _____around (floor drain, basement, cleanout , ground, stream, drainage sys) ☐ 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 ☐ MSD advised customer on site ☐ MSD advised customer by door card ☐ MSD advised customer by phone ☐ MSD advised customer by letter

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

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

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

Overflow Repair

This spot inspection includes details about what was done to stop or mitigate the overflow or bypass and may also include known capital projects earmarked as solutions to address known recurring overflows.

Figure 3.8. Overflow Warning Sign

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, vactoredvacuumed 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.

The **Comments** tab information is optional and 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.

Figure 3.9. Roots

The **Log** tab information documents the notification to EPA/KDEP and is system generated when the overflow or bypass reached the WUS.

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.

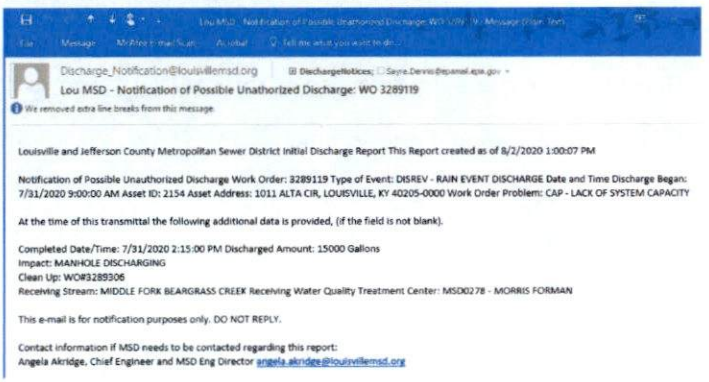
4.1. TWENTY-FOUR HOUR UNAUTHORIZED DISCHARGE NOTIFICATION

Within 24 hours of verification that an unauthorized discharge has occurred, MSD electronically transmits an IDR to the KDEP and 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 eNotifcation 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
- Cleanup information, if known
- Receiving stream
- Receiving WQTC

Figure 4.1. Discharge Notification Email



Discharge_Notification@louisvillemsd.org
Lou MSD - Notification of Possible Unathorized Discharge: WO 3289119

Louisville and Jefferson County Metropolitan Sewer District Initial Discharge Report This Report created as of 8/2/2020 1:00:07 PM

Notification of Possible Unauthorized Discharge Work Order: 3289119 Type of Event: DISREV - RAIN EVENT DISCHARGE Date and Time Discharge Began: 7/31/2020 9:00:00 AM Asset ID: 2154 Asset Address: 1011 ALTA CIR, LOUISVILLE, KY 40205-0000 Work Order Problem: CAP - LACK OF SYSTEM CAPACITY

At the time of this transmittal the following additional data is provided, (if the field is not blank).

Completed Date/Time: 7/31/2020 2:15:00 PM Discharged Amount: 15000 Gallons
Impact: MANHOLE DISCHARGING
Clean Up: WO#3289306
Receiving Stream: MIDDLE FORK BEARGRASS CREEK Receiving Water Quality Treatment Center: MSD0278 - MORRIS FORMAN

This e-mail is for notification purposes only. DO NOT REPLY.

Contact information if MSD needs to be contacted regarding this report:
Angela Akridge, Chief Engineer and MSD Eng Director angela.akridge@louisvillemsd.org

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. MSD has created a template for staff to use for the letter (See Appendix J).

These letters are sent to:

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 J).

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

A monthly Discharge Monitoring Report (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 overflow report covers the same timeframe as the respective DMR packet. See Appendix K for an example of the overflow report.

The following information is stored within IPS 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.

Figure 4.2. Monthly Overflow Report


msd
Safe, clean waterways

IMSAST0004
Overflow Report
6/1/2020 12:00:00 AM to 6/30/2020 12:00:00 AM

KPDES #	Facility ID	Water Quality Treatment Center	Receiving Stream of Treatment Center	Region
KY0022411	MSD270	MORRIS FORMAN	OHIO RIVER	WEST

Facility Type	Facility ID	Facility Address	If Pump Station, Name of Pump Station:	Receiving Stream	Discharge to
Bellefield w/ Manhole	26040	3930 CHAMLAINE PKT		CHENOWETH RUN	GROUND

Activity Code / Description	WO #	Ref. No.	Initiated	Initiated By	Assigned To	Dispch Status	Event Date	Problem	Result	Completed	Condition
DISREP RAIN EVENT DISCHARGE	3270947		06/30/2020	DAVE BROWN	MIT CHEEL	DOCUMENTE D	01/03/2005	LACK OF SYSTEM	UNAUTHORIZED DISCHARGE	06/30/20 09:15 AM	MAIN

Discharge Reporting

Discharge Amount:	3,000 GAL
Cause:	LACK OF SYSTEM CAPACITY HEAVY RAIN.
Clean Up:	WO#3270944
Control Zone:	BARRICADES AND TEMP SIGNS PLACED AROUND DISCHARGE SITE.
Impact:	MANHOLE DISCHARGING
Repair:	LOCATION INCLUDED IN IDAP.
Public Notification:	PUBLIC NOTIFIED THROUGH TEMP SIGNS AT DISCHARGE SITE AND DOOR HANGERS TO AVOID DISCHARGED CONTENT

Notifications

6/30/20 1:00 PM	DISNOT	EMAIL NOTIFICATION OF UNAUTHORIZED DISCHARGE SENT TO DISCHARGENOTICES@LOUISVILLEMSD.ORG, SAYRE.DENNIS@EPA.GOV, EP A.GOV
6/30/20 1:00 PM	DISINO	WAITING TO COMPLETE THE DISCHARGE INFORMATION

7/1/2020 Page 1 of 3 2:37:06 PM

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:

EPA – Enforcement and Compliance Assurance Division
Attn: Mary Jo Bragan
61 Forsyth Street SW, 9T25
Atlanta, GA 30303

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 Sower Boulevard
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 IPS 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 IPS 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 listed in Table 4.1.

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 IPS 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 IPS 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.

Table 4.1. Overflow Status Definitions

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.
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).

SECTION 5: UPDATES, AVAILABILITY AND TRAINING

5.1. REVIEW AND UPDATES TO THE SEWER OVERFLOW RESPONSE PROTOCOL

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 & Drainage
- Collections System, Flood Protection & Emergency Response
- Treatment
- Regulatory Compliance, Records & GIS Services

5.1.2. SCOPE

Regulatory Compliance, Records & GIS Services 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 and Asset 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.msdprojectwin.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 response 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 by-passes, receive approximately one hour of field response 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 shown in Table 5.1 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).

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

Table 5.1. Required Training by Division / Department / Technical Area

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

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 IPS 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:

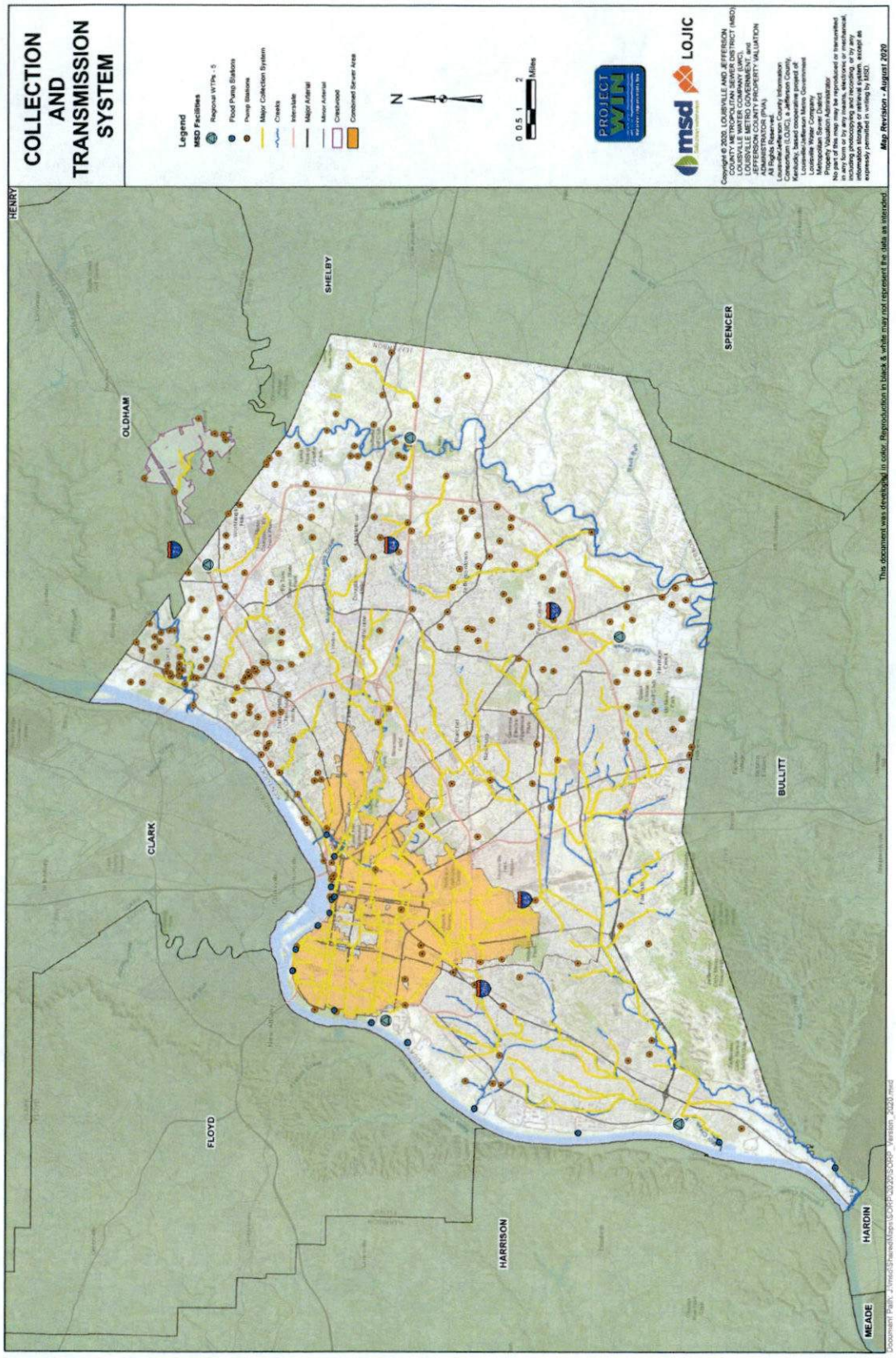
- Discharge types and discharging asset types;
- Appropriate timestamps for reporting;
- How to assign work orders in IPS;
- Problem, condition and result code definitions;
- Recording inspection results;
- Follow-up steps necessary to complete the work order, and the responsibility for data quality;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

APPENDIX A MSD COLLECTION, TRANSMISSION, AND TREATMENT SYSTEM

APPENDIX A-1 MSD KPDES PERMITTED WATER QUALITY TREATMENT CENTERS (WQTCs)

WQTC NAME	ASSET ID	KPDES	CAPACITY (MGD)	INSTALLATION DATE	RECORD DRAWING	SERVICE STATUS	OWNED
HITE CREEK	MSD0202	KY0022420	6.00	10/1/1970	07004-1	I	MSD
DEREK R. GUTHRIE	MSD0277	KY0078956	30.00	5/31/1986	09198-36	I	MSD
MORRIS FORMAN	MSD0278	KY0022411	120.00	2/16/1956	12203-1	I	MSD
CEDAR CREEK	MSD0289	KY0098540	7.50	6/9/1995	11452-8	I	MSD
FLOYDS FORK	MSD0294	KY0102784	6.50	2/20/2001	12445-5	I	MSD
ASH AVENUE	MSD0410	KY0024724	0.30	1/1/1972	13165-7	I	MSD
OHIO RIVER	MSD0407	KY0106143	1.50	1/1/2007	16355-1	I	MSD
LAKEWOOD VALLEY	MSD0408	KY0039870	0.10	1/1/1976	16318-16	I	MSD
MOCKINGBIRD VALLEY	MSD0409	KY0076813	0.04	1/1/1978	16328-2	I	MSD
KSR	MSD0411	KY0040126	0.65	1/1/1991	16351-2	I	MSD
LOCKWOOD	MSD0412	KY0054674	0.05	1/1/1975	FLD	I	MSD
COUNTRY VILLAGE	MSD0413	KY0060577	0.06	1/1/1966	16274-1	I	MSD
SOUTH OLDHAM	MSD0414	KY0111716	1.25	3/14/2016	16360-1	I	MSD

APPENDIX A-2 COLLECTION AND TRANSMISSION SYSTEM


COLLECTION AND TRANSMISSION SYSTEM
Legend
MSD Facilities
Regional WTPs - 5
Flood Pump Stations
Pump Stations
Major Collection System
Creeks
Interstate
Major Arterial
Minor Arterial
Catchment
Combined Sewer Area
N
0 0.5 1 2
Miles
PROJECT WIN
msd
LOJIC
HENRY
SHELBY
SPENCER
OLDHAM
BULLITT
CLARK
FLOYD
HARRISON
HARDIN
MEADE

APPENDIX B MSD ORGANIZATIONAL CHART

Louisville and Jefferson County
Metropolitan Sewer District

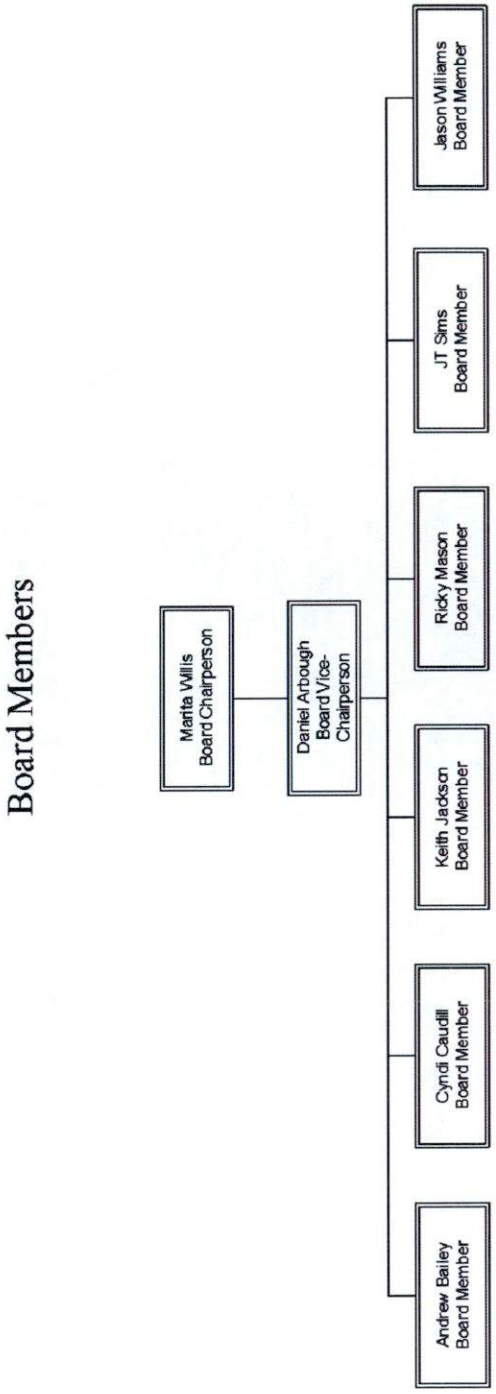
Organizational Chart
Effective 07/06/2020

1

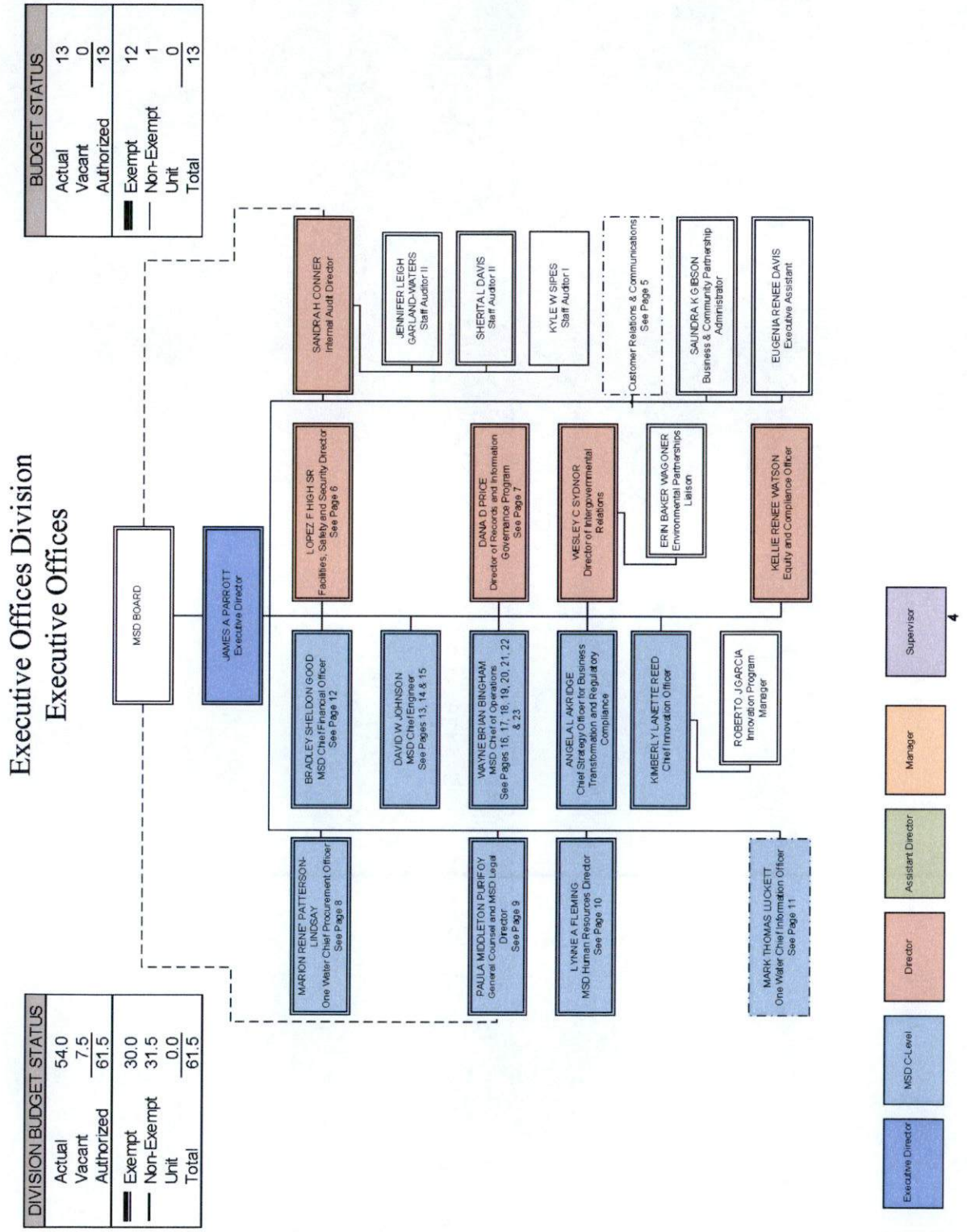
msd Safe, clean waterways

Organizational Summary

	Total Positions	Current Actual	Vacant (Budgeted)	New/ Unbudgeted (Vacant)	Exempt	Non-Exempt	Unit	Net Overbudget
Executive Offices Division								
Executive Offices	13	13	0	0	12	1	0	0
Customer Relations & Communications	18	15	3	0	4	14	0	0
Facilities, Safety & Security	21.5	17	4.5	0	11	10.5	0	0
Records and Information Governance	9	9	0	0	3	6	0	0
Supply Chain and Economic Inclusion Division	23	21	2	0	10	13	0	0
Legal Division	10	8	2	0	7	3	0	0
Human Resources Division	18	16	2	0	12	6	0	0
Information Technology Division	32	28	4	0	27	5	0	0
Finance Division	20	17	3	0	6	14	0	0
Engineering Division								
Eng Admin, Reg Compliance, Records & GIS	14.5	14	0.5	0	10	4.5	0	0
Engineering Technical Services	35.5	28.5	7	0	26	9.5	0	0
Development & Stormwater Services	44	44	0	0	20	24	0	0
Operations Division								
Administration	3	2	1	0	2	1	0	0
Treatment Facilities	92	82	10	0	20	18	54	0
Treatment Facilities (Maintenance)	38	38	0	0	5	0	33	0
Collections System and Flood Protection	77	69	8	0	15	22	40	0
Wastewater and Drainage	118	113	5	0	10	11	97	0
Wastewater and Drainage (Sanitary)	76	75	1	0	8	2	66	0
Support Services	36	27	9	0	11	25	0	0
Fleet Services	19	18	1	0	4	1	14	0
DISTRICT TOTAL	**717.5**	**654.5**	**63**	**0**	**223**	**190.5**	**304**	**0**

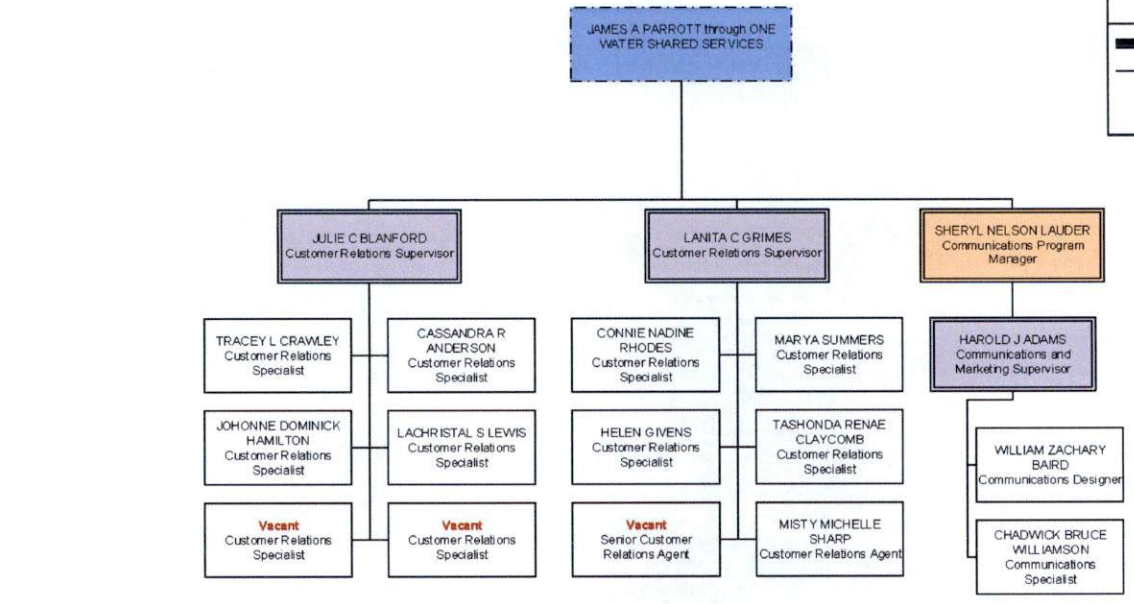

Board Members
Marita Wills
Board Chairperson
Daniel Arbough
Board Vice-
Chairperson
Andrew Bailey
Board Member
Cyndi Caudill
Board Member
Keith Jackson
Board Member
Ricky Mason
Board Member
JT Sims
Board Member
Jason Williams
Board Member

3


Executive Offices Division
Executive Offices
BUDGET STATUS
Actual 13
Vacant 0
Authorized 13
Exempt 12
Non-Exempt 1
Unit 0
Total 13
MSD BOARD
JAMES A PARROTT
Executive Director
SANDRA H CONNER
Internal Audit Director
JENNIFER LEIGH GARLAND-WATERS
Staff Auditor II
SHERITA L DAVIS
Staff Auditor II
KYLE W SIPES
Staff Auditor I
Customer Relations & Communications
See Page 5
SAUNDRA K GIBSON
Business & Community Partnership Administrator
EUGENIA RENEE DAVIS
Executive Assistant
LOPEZ F HIGH SR
Facilities, Safety and Security Director
See Page 6
DANA D PRICE
Director of Records and Information Governance Program
See Page 7
WESLEY C SYDNOR
Director of Intergovernmental Relations
ERIN BAKER WAGONER
Environmental Partnerships Liaison
KELLIE RENEE WATSON
Equity and Compliance Officer
BRADLEY SHELDON GOOD
MSD Chief Financial Officer
See Page 12
DAVID W JOHNSON
MSD Chief Engineer
See Pages 13, 14 & 15
WAYNE BRIAN BINGHAM
MSD Chief of Operations
See Pages 16, 17, 18, 19, 20, 21, 22 & 23
ANGELA L AKRIDGE
Chief Strategy Officer for Business Transformation and Regulatory Compliance
KIMBERLY LANETTE REED
Chief Innovation Officer
ROBERTO J GARCIA
Innovation Program Manager
MARION RENEE PATTERSON-LINDSAY
One Water Chief Procurement Officer
See Page 8
PAULA MIDDLETON PURIFOY
General Counsel and MSD Legal Director
See Page 9
LYNNE A FLEMING
MSD Human Resources Director
See Page 10
MARK THOMAS LUCKETT
One Water Chief Information Officer
See Page 11
DIVISION BUDGET STATUS
Actual 54.0
Vacant 7.5
Authorized 61.5
Exempt 30.0
Non-Exempt 31.5
Unit 0.0
Total 61.5
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor
4

Executive Offices Division
Customer Relations & Communications

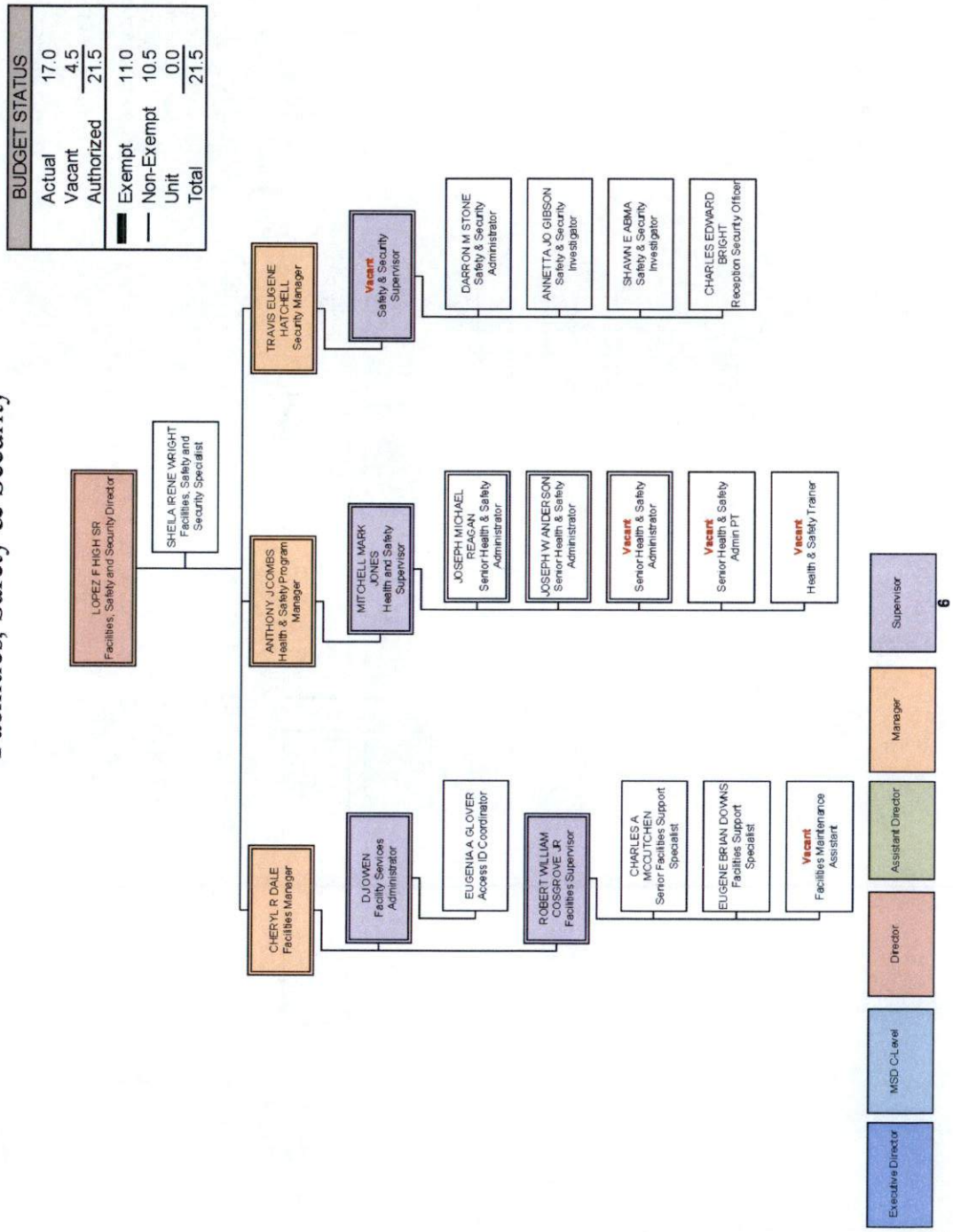
BUDGET STATUS	
Actual	15
Vacant	3
Authorized	18
Exempt	4
Non-Exempt	14
Unit	0
Total	18

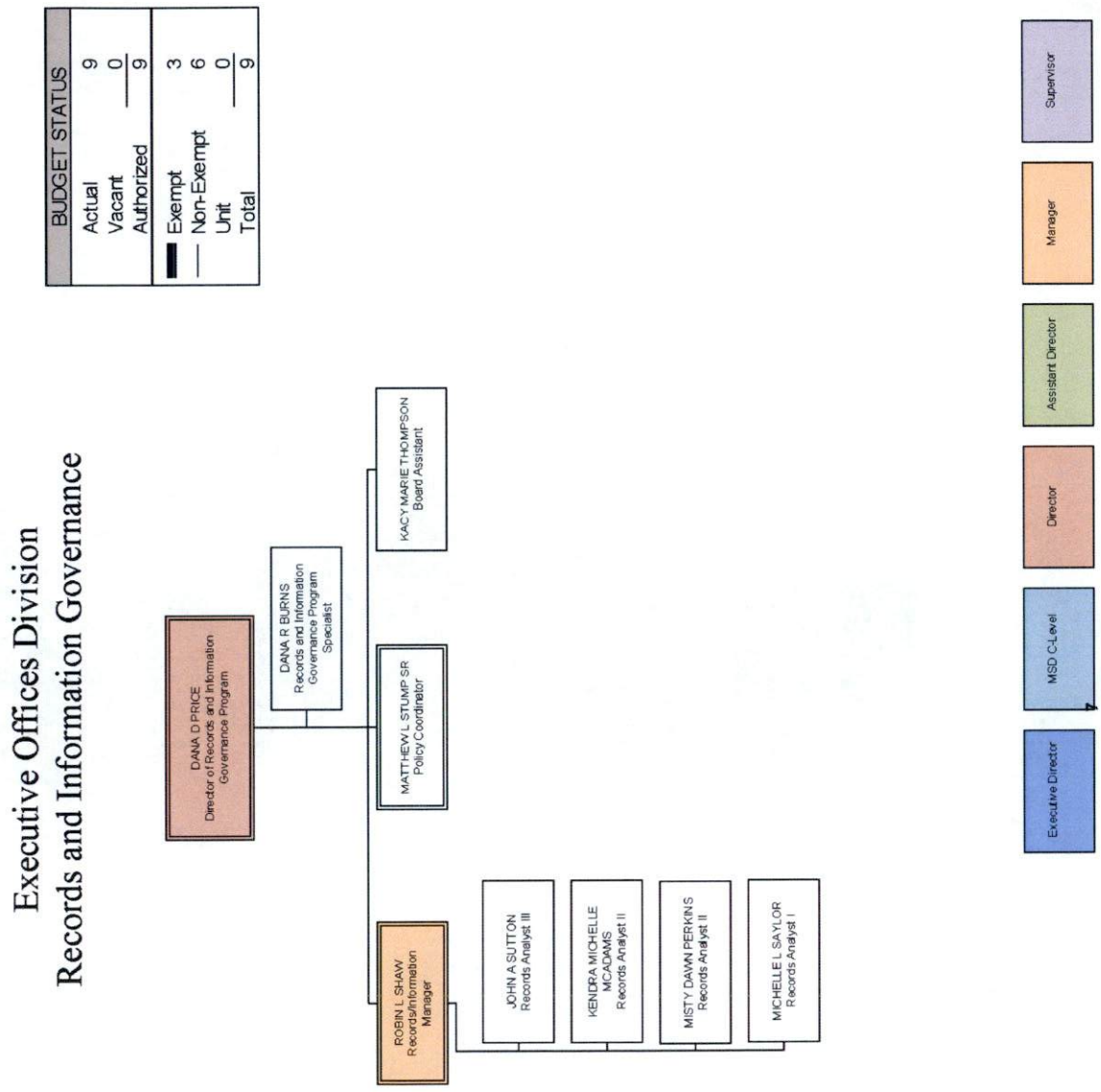


Note:

- Customer Relations Supervisors also report to Manager – Customer Care (LW) through One Water Shared Services
- Communications Program Manager also reports to VP – Communications, Marketing & Economic Development (LW) through One Water Shared Services

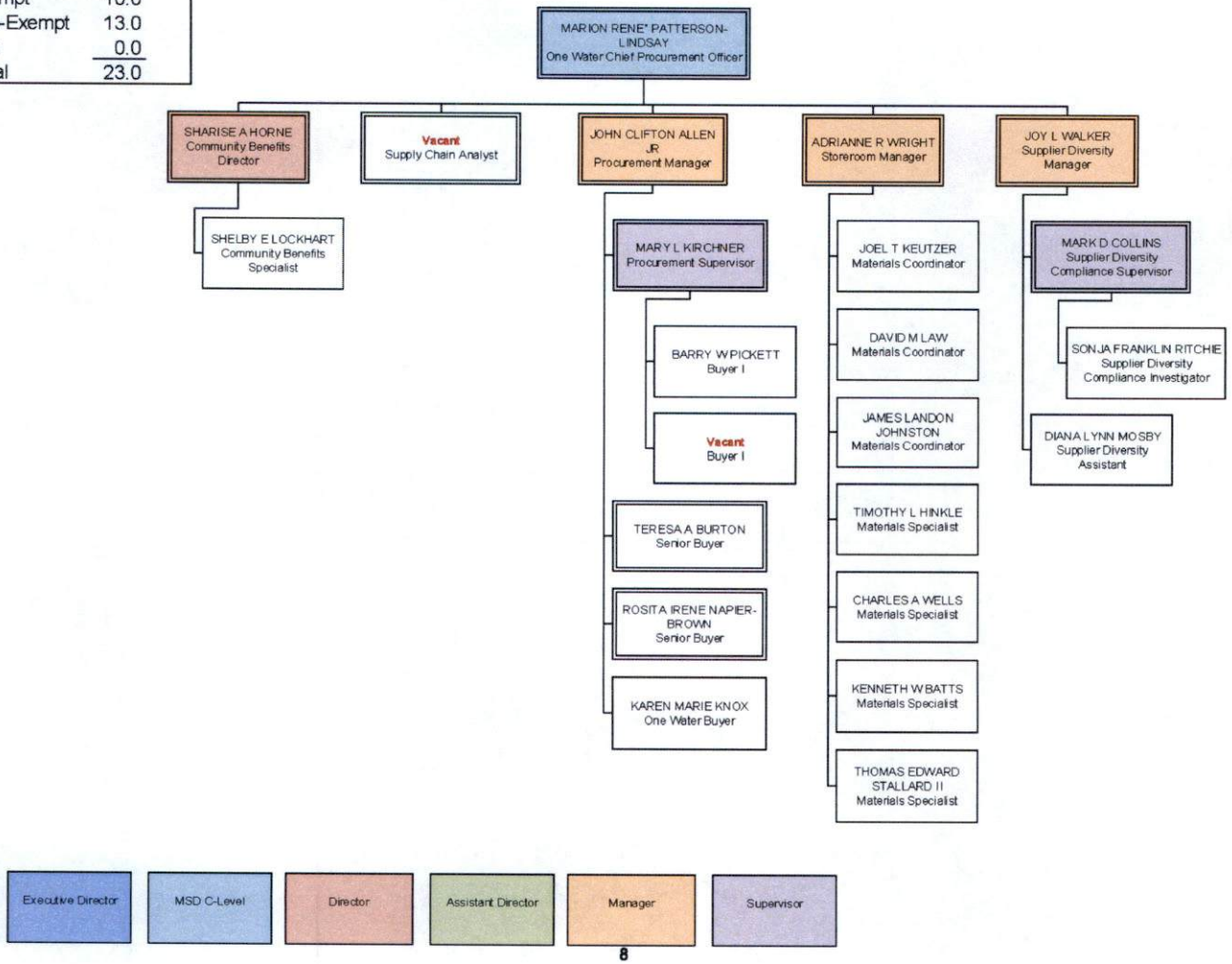
Executive Offices Division
Facilities, Safety & Security



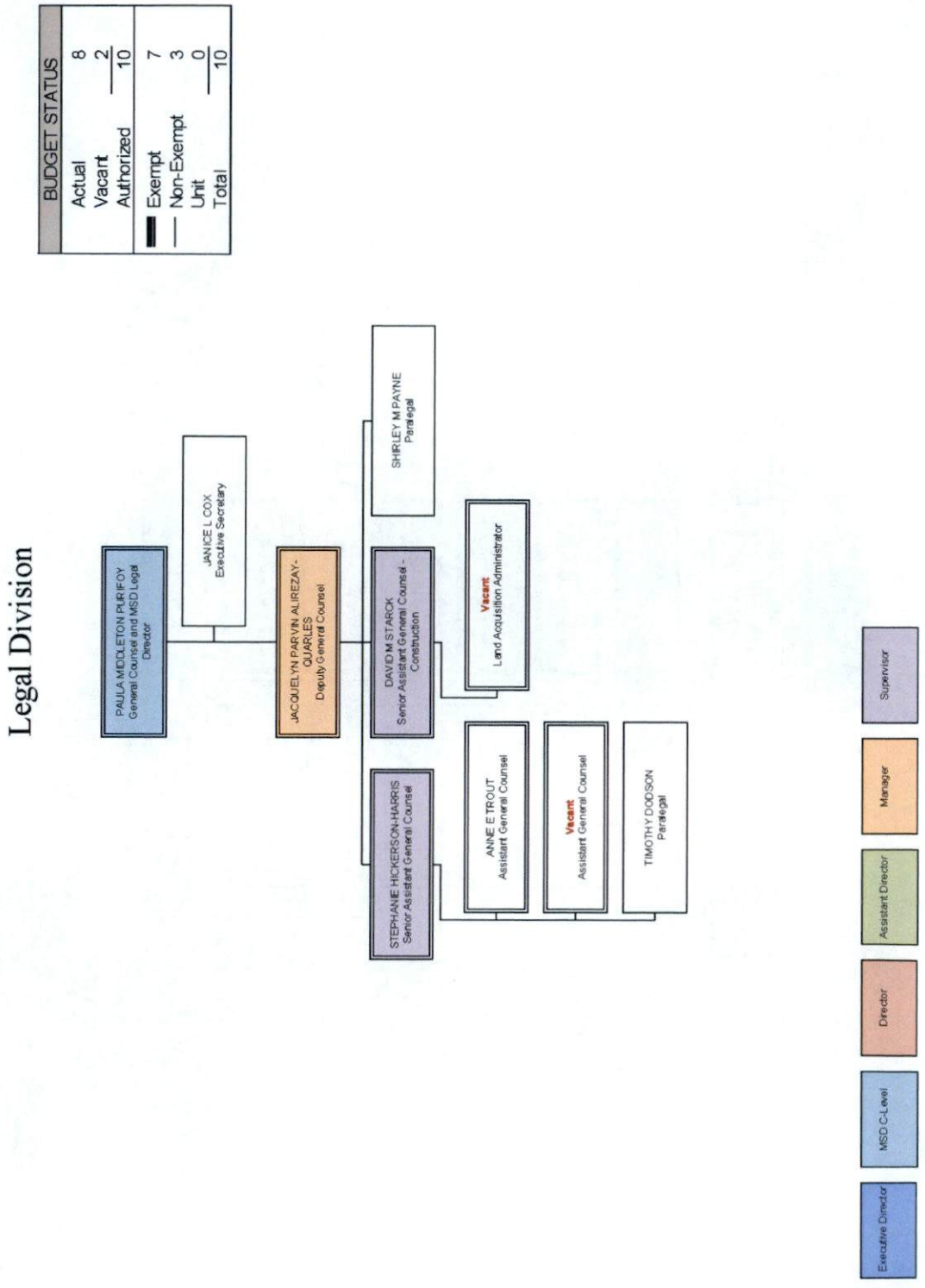

Executive Offices Division
Records and Information Governance
BUDGET STATUS
Actual 9
Vacant 0
Authorized 9
Exempt 3
Non-Exempt 6
Unit 0
Total 9
DANA D PRICE
Director of Records and Information Governance Program
DANA R BURNS
Records and Information Governance Program Specialist
KACY MARIE THOMPSON
Board Assistant
MATTHEW L STUMP SR
Policy Coordinator
ROBIN L SHAW
Records/Information Manager
JOHN A SUTTON
Records Analyst III
KENDRA MICHELLE MCADAMS
Records Analyst II
MISTY DAWN PERKINS
Records Analyst II
MICHELLE L SAYLOR
Records Analyst I
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor

DIVISION BUDGET STATUS	
Actual	21.0
Vacant	2.0
Authorized	23.0
Exempt	10.0
Non-Exempt	13.0
Unit	0.0
Total	23.0

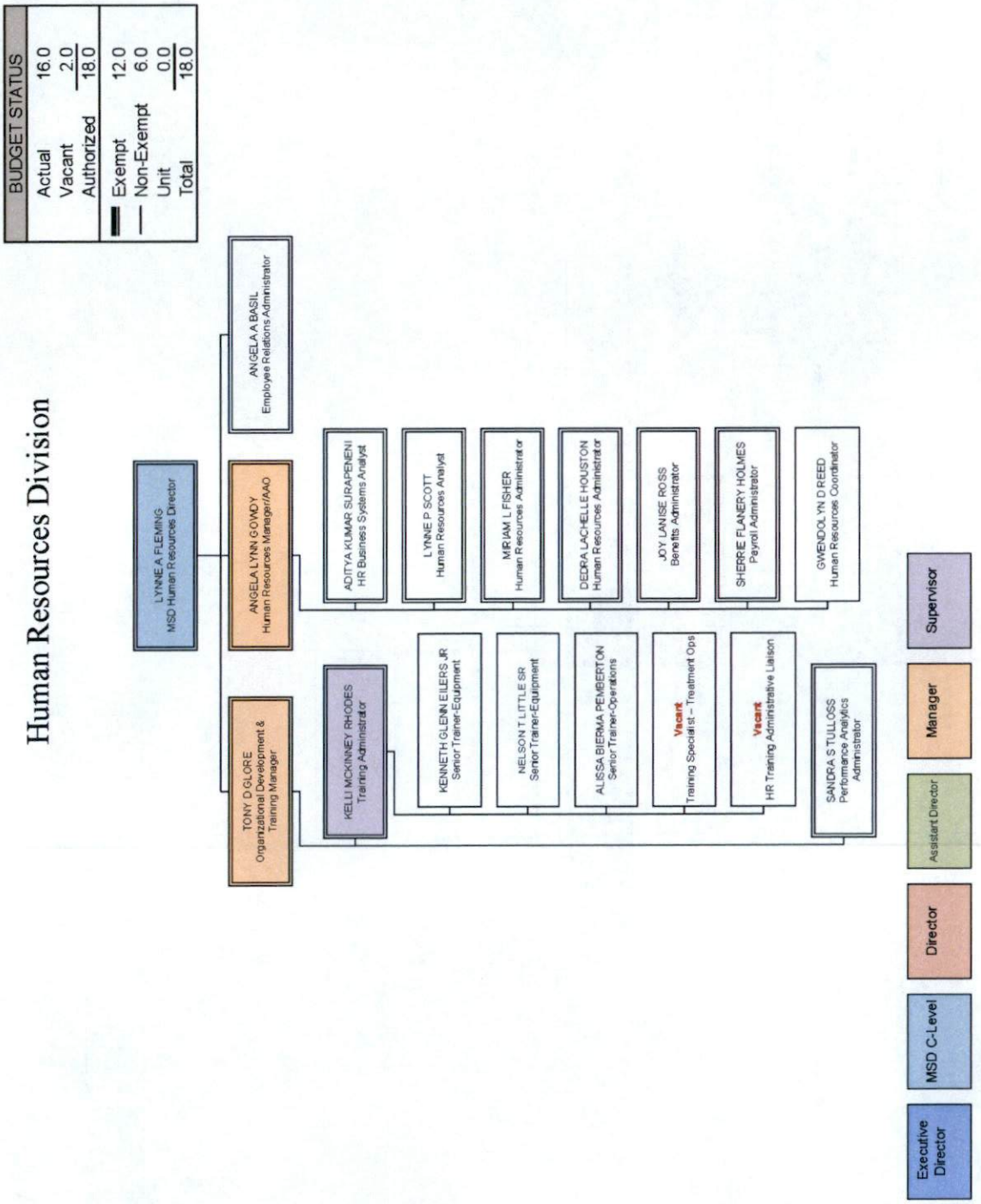
Supply Chain and Economic Inclusion Division
Community Benefits, Procurement, Storeroom & Supplier Diversity



Legal Division

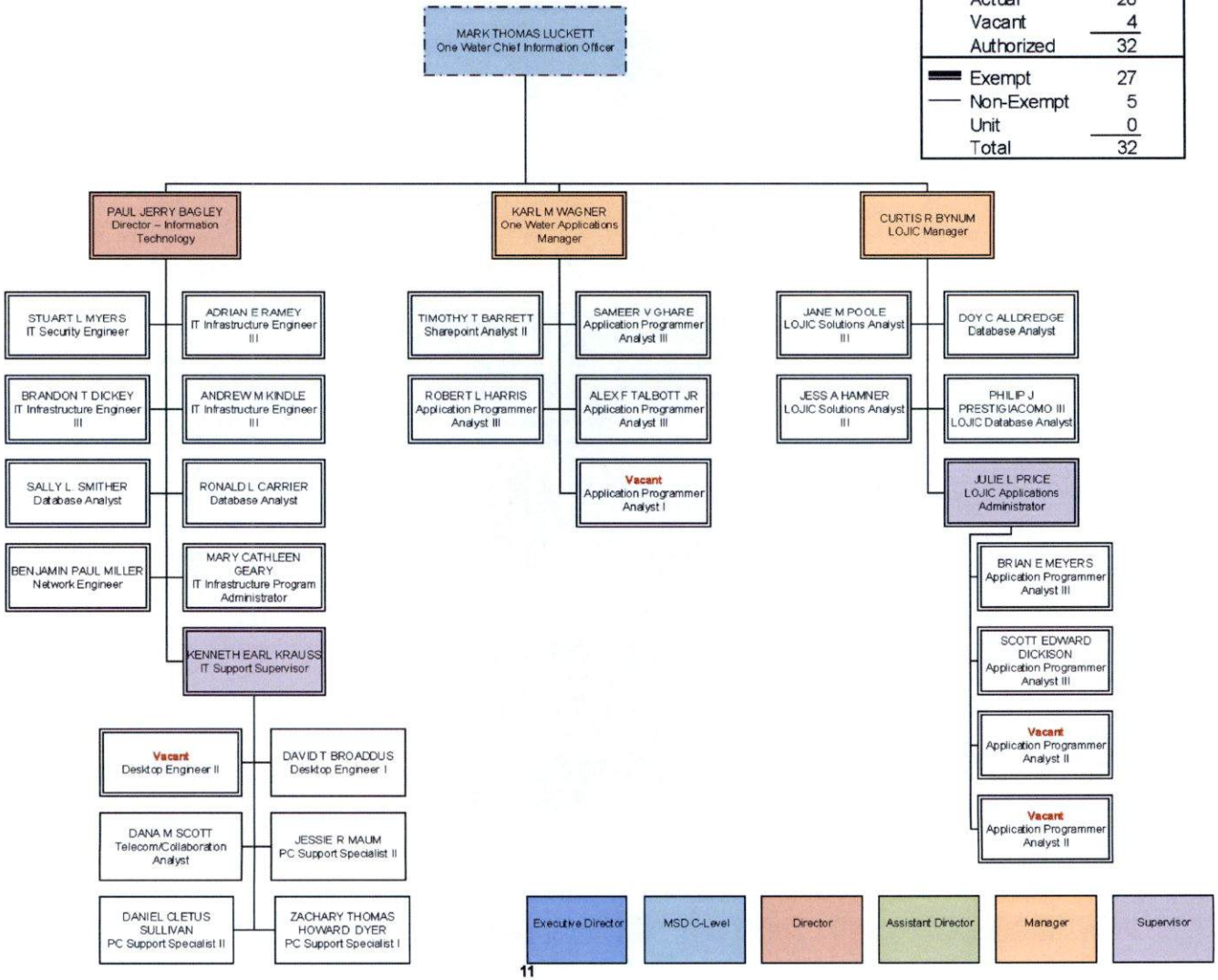


Human Resources Division

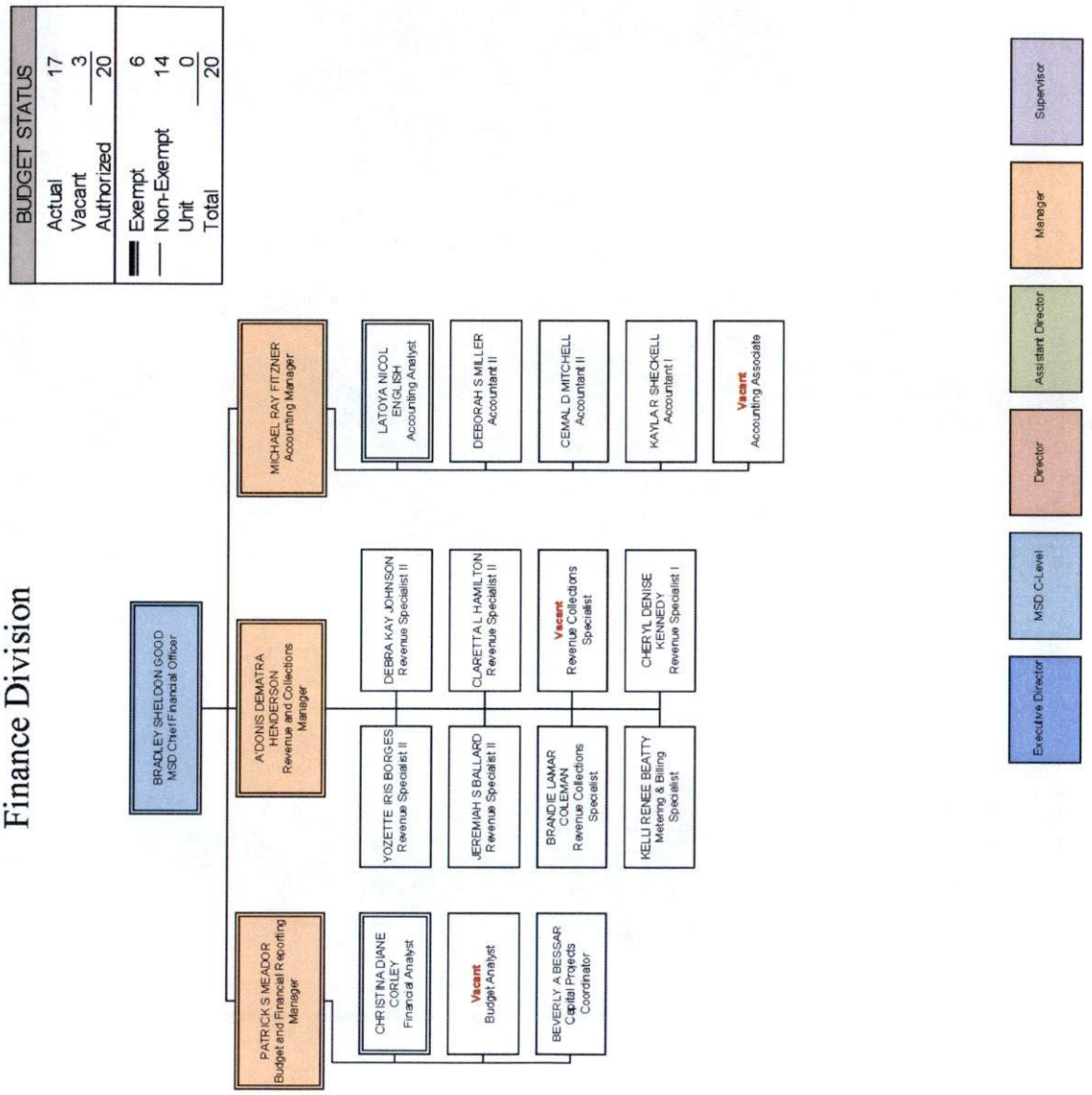


Information Technology Division

BUDGET STATUS	
Actual	28
Vacant	4
Authorized	32
Exempt	27
Non-Exempt	5
Unit	0
Total	32



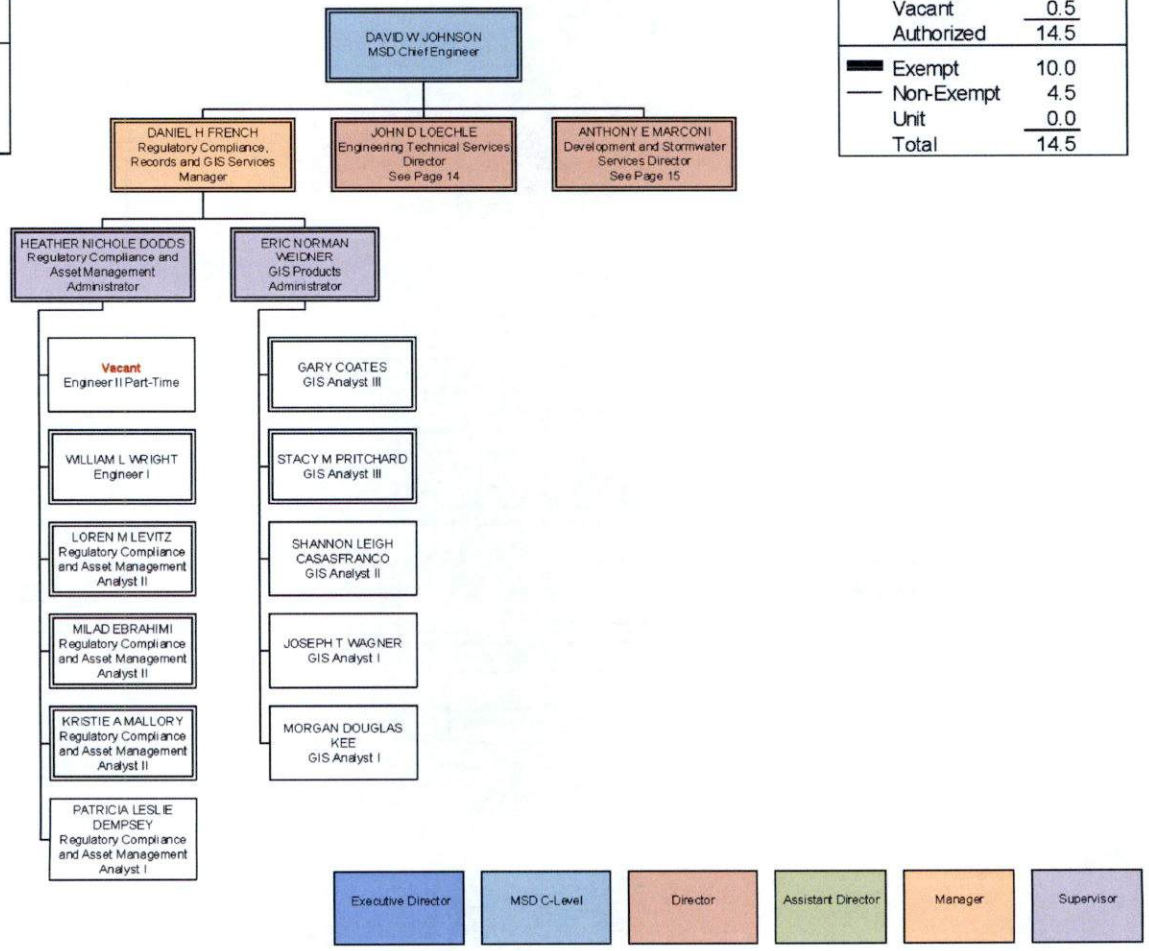
Finance Division



Engineering Division
Engineering Admin, Regulatory Compliance, Records & GIS

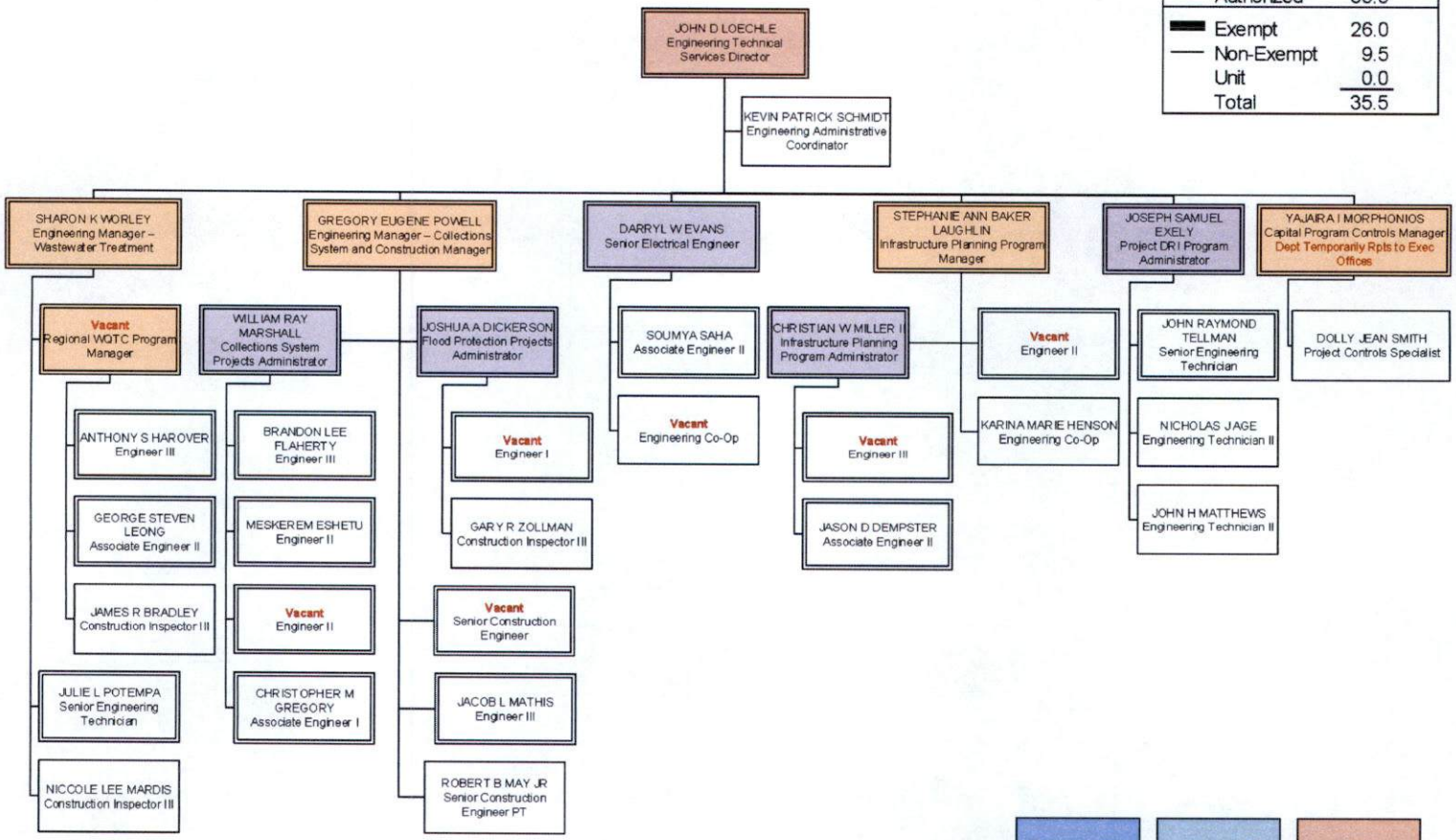
DIVISION BUDGET STATUS	
Actual	86.5
Vacant	7.5
Authorized	94.0
Exempt	56.0
Non-Exempt	38.0
Unit	0.0
Total	94.0

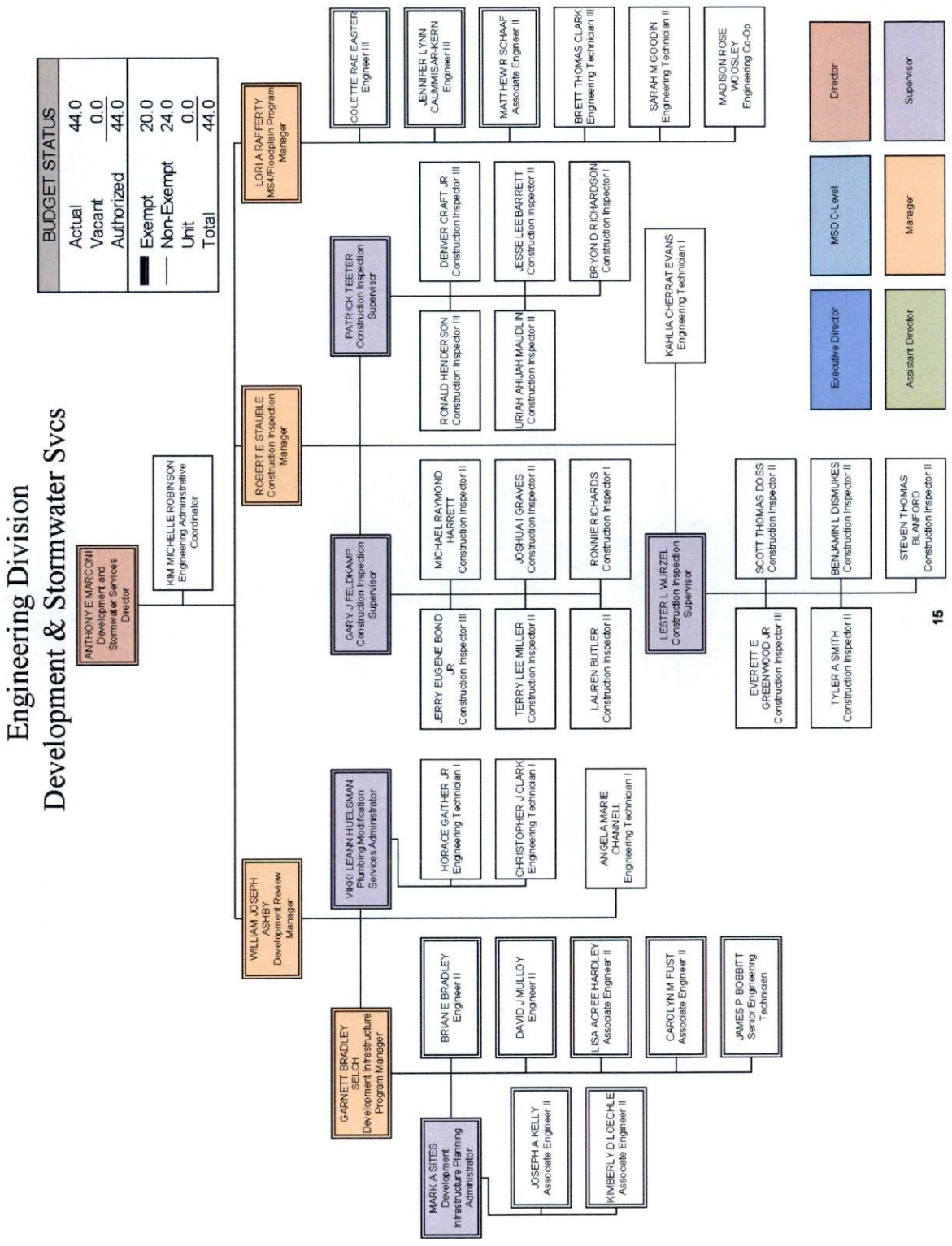
BUDGET STATUS	
Actual	14.0
Vacant	0.5
Authorized	14.5
Exempt	10.0
Non-Exempt	4.5
Unit	0.0
Total	14.5



Engineering Division
Engineering Technical Services

BUDGET STATUS	
Actual	28.5
Vacant	7.0
Authorized	35.5
Exempt	26.0
Non-Exempt	9.5
Unit	0.0
Total	35.5




Engineering Division
Development & Stormwater Svcs
BUDGET STATUS
Actual 44.0
Vacant 0.0
Authorized 44.0
Exempt 20.0
Non-Exempt 24.0
Unit 0.0
Total 44.0
ANTHONY E MARCONI Development and Stormwater Services Director
KIM MICHELLE ROBINSON Engineering Administrative Coordinator
WILLIAM JOSEPH ASHBY Development Review Manager
VIKKI LEANN HUELSMAN Plumbing Modification Services Administrator
HORACE GAITHER JR Engineering Technician I
CHRISTOPHER J CLARK Engineering Technician I
ANGELA MARIE CHANNELL Engineering Technician I
GARNETT BRADLEY SELCH Development Infrastructure Program Manager
BRIAN E BRADLEY Engineer II
DAVID J MULLOY Engineer II
LISA ACREE HARDLEY Associate Engineer II
CAROLYN M FUST Associate Engineer II
JAMES P BOBBITT Senior Engineering Technician
MARK A SITES Development Infrastructure Planning Administrator
JOSEPH A KELLY Associate Engineer II
KIMBERLY D LOECHLE Associate Engineer II
ROBERT E STAUBLE Construction Inspection Manager
LORI A RAFFERTY MS4/Floodplain Program Manager
COLETTE RAE EASTER Engineer III
JENNIFER LYNN CAMMISAR-KERN Engineer III
MATTHEW R SCHAAF Associate Engineer II
BRETT THOMAS CLARK Engineering Technician III
SARAH M GOODIN Engineering Technician II
MADISON ROSE WOOSLEY Engineering Co-Op
PATRICK TEETER Construction Inspection Supervisor
DENVER CRAFT JR Construction Inspector III
JESSE LEE BARRETT Construction Inspector II
BRYON D RICHARDSON Construction Inspector I
RONALD HENDERSON Construction Inspector III
URIAH AHIJAH MAUDLIN Construction Inspector II
GARY J FELDKAMP Construction Inspection Supervisor
MICHAEL RAYMOND HARRETT Construction Inspector II
JOSHUA I GRAVES Construction Inspector II
RONNIE RICHARDS Construction Inspector I
JERRY EUGENE BOND JR Construction Inspector III
TERRY LEE MILLER Construction Inspector II
LAUREN BUTLER Construction Inspector II
KAHLIA CHERRAT EVANS Engineering Technician I
LESTER L WURZEL Construction Inspection Supervisor
SCOTT THOMAS DOSS Construction Inspector II
BENJAMIN L DISMUKES Construction Inspector II
STEVEN THOMAS BLANFORD Construction Inspector II
EVERETT E GREENWOOD JR Construction Inspector III
TYLER A SMITH Construction Inspector II
Director
Executive Director
MSD C-Level
Supervisor
Assistant Director
Manager
15

Operations Division
Administration

DIVISION BUDGET STATUS	
Actual	424
Vacant	35
Authorized	459
Exempt	75
Non-Exempt	80
Unit	304
Total	459

BUDGET STATUS	
Actual	2
Vacant	1
Authorized	3
Exempt	2
Non-Exempt	1
Unit	0
Total	3

WAYNE BRIAN BINGHAM
MSD Chief of Operations

Vacant
Operations Specialist

ALEX NOVAK
Operations Director – Treatment Facilities
See Pages 17 & 18

MARC E THOMAS
Operations Director – Collections; Fld Protection & Emer Response
See Page 19

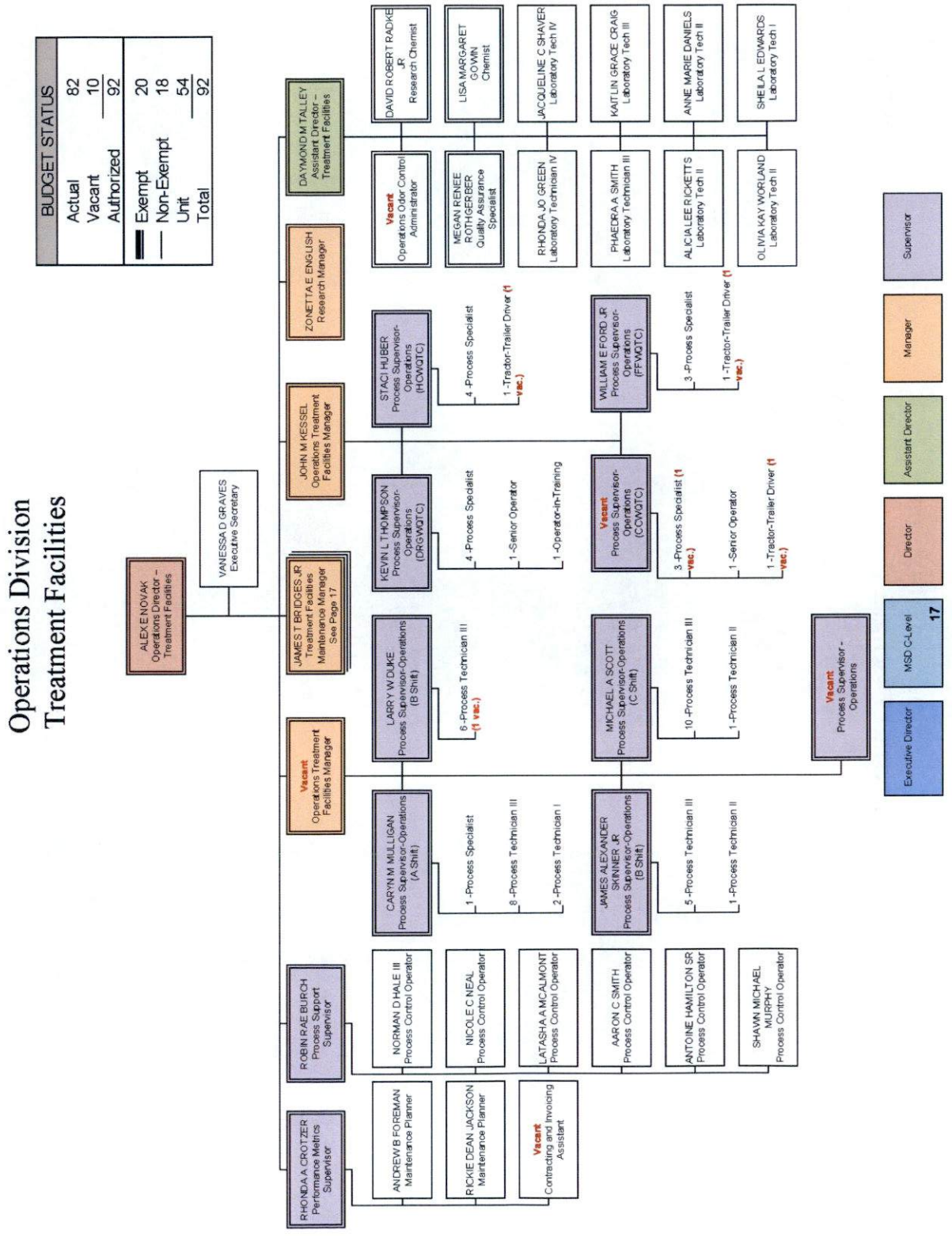
CHRISTINA GABRIELLA TOMASULO
Project Administrator - Operations

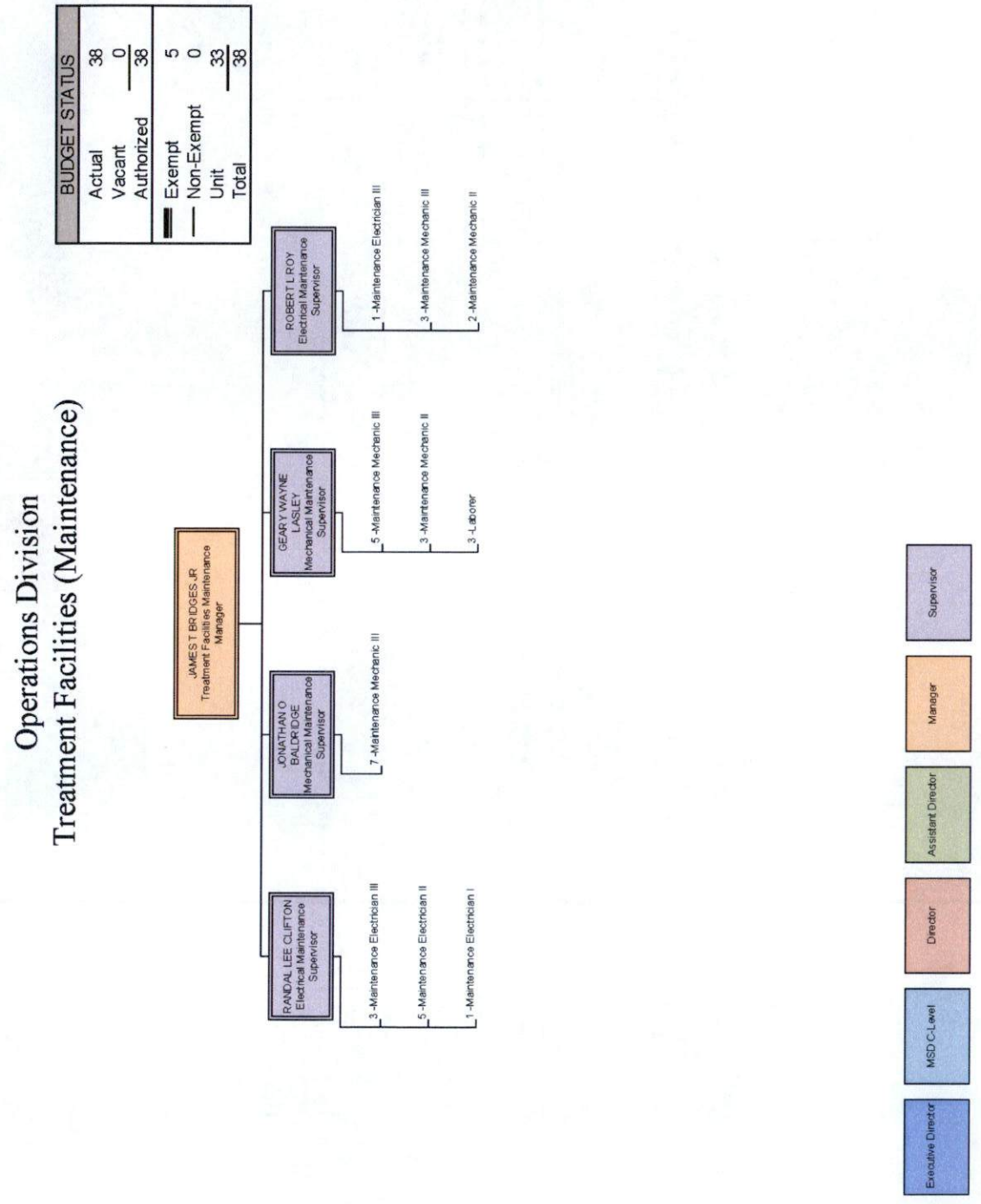
MICHAEL W GRIFFITH
Operations Director – Wastewater and Drainage
See Pages 20 & 21

Vacant
Operations Director - Support Services
See Page 22

CHARLES W MALCOLM
One Water Fleet Services Director
See Page 23

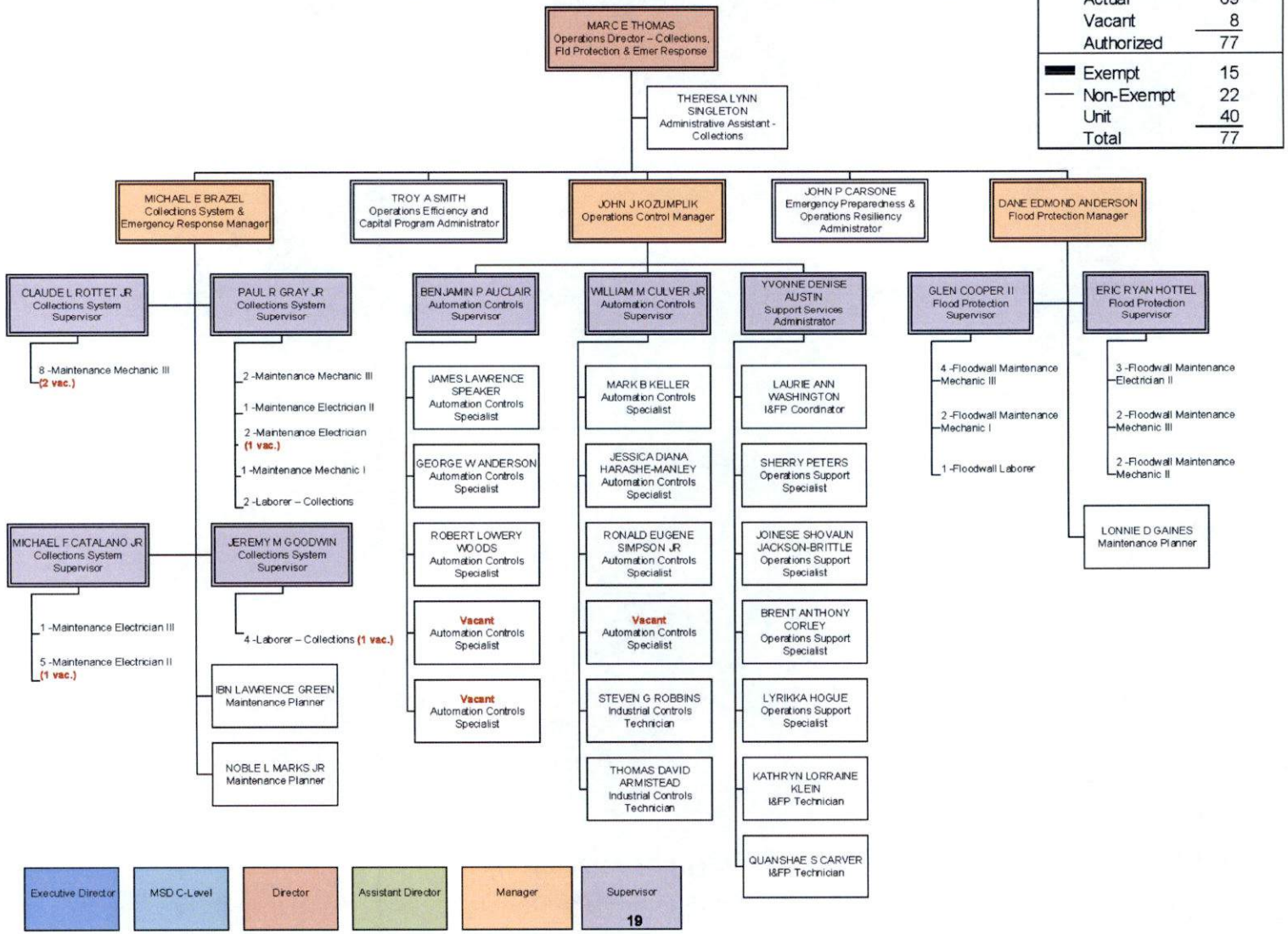
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor


Operations Division
Treatment Facilities
BUDGET STATUS
Actual 82
Vacant 10
Authorized 92
Exempt 20
Non-Exempt 18
Unit 54
Total 92
ALEX E NOVAK
Operations Director – Treatment Facilities
VANESSA D GRAVES
Executive Secretary
JAMES T BRIDGES JR
Treatment Facilities Maintenance Manager
See Page 17
JOHN M KESSEL
Operations Treatment Facilities Manager
DAYMOND M TALLEY
Assistant Director – Treatment Facilities
ZONETTA E ENGLISH
Research Manager
DAVID ROBERT RADKE JR
Research Chemist
LISA MARGARET GOWIN
Chemist
JACQUELINE C SHAVER
Laboratory Tech IV
KAITLIN GRACE CRAIG
Laboratory Tech III
ANNE MARIE DANIELS
Laboratory Tech II
SHEILA L EDWARDS
Laboratory Tech I
Vacant
Operations Odor Control Administrator
MEGAN RENEE ROTHGERBER
Quality Assurance Specialist
RHONDA JO GREEN
Laboratory Technician IV
PHAEDRA A SMITH
Laboratory Technician III
ALICIA LEE RICKETTS
Laboratory Tech II
OLIVIA KAY WORLAND
Laboratory Tech II
STACI HUBER
Process Supervisor-Operations (HCWQTC)
4 -Process Specialist
1 -Tractor-Trailer Driver (1 vac.)
WILLIAM E FORD JR
Process Supervisor-Operations (FFWQTC)
3 -Process Specialist
1 -Tractor-Trailer Driver (1 vac.)
KEVIN L THOMPSON
Process Supervisor-Operations (DRGWQTC)
4 -Process Specialist
1 -Senior Operator
1 -Operator-in-Training
Vacant
Process Supervisor-Operations (CDWQTC)
3 -Process Specialist (1 vac.)
1 -Senior Operator
1 -Tractor-Trailer Driver (1 vac.)
Vacant
Operations Treatment Facilities Manager
LARRY W DUKE
Process Supervisor-Operations (B Shift)
6 -Process Technician III (1 vac.)
MICHAEL A SCOTT
Process Supervisor-Operations (C Shift)
10 -Process Technician III
1 -Process Technician II
Vacant
Process Supervisor - Operations
CARYN M MULLIGAN
Process Supervisor-Operations (A Shift)
1 -Process Specialist
8 -Process Technician III
2 -Process Technician I
JAMES ALEXANDER SKINNER JR
Process Supervisor-Operations (B Shift)
5 -Process Technician III
1 -Process Technician II
ROBIN RAE BURCH
Process Support Supervisor
NORMAN D HALE III
Process Control Operator
NICOLE C NEAL
Process Control Operator
LATASHA A MCALMONT
Process Control Operator
AARON C SMITH
Process Control Operator
ANTOINE HAMILTON SR
Process Control Operator
SHAWN MICHAEL MURPHY
Process Control Operator
RHONDA A CROTZER
Performance Metrics Supervisor
ANDREW B FOREMAN
Maintenance Planner
RICKIE DEAN JACKSON
Maintenance Planner
Vacant
Contracting and Invoicing Assistant
Executive Director
MSD C-Level 17
Director
Assistant Director
Manager
Supervisor


Operations Division
Treatment Facilities (Maintenance)
BUDGET STATUS
Actual 38
Vacant 0
Authorized 38
Exempt 5
Non-Exempt 0
Unit 33
Total 38
JAMES T BRIDGES JR
Treatment Facilities Maintenance Manager
RANDAL LEE CLIFTON
Electrical Maintenance Supervisor
3 -Maintenance Electrician III
5 -Maintenance Electrician II
1 -Maintenance Electrician I
JONATHAN O BALDRIDGE
Mechanical Maintenance Supervisor
7 -Maintenance Mechanic III
GEARY WAYNE LASLEY
Mechanical Maintenance Supervisor
5 -Maintenance Mechanic III
3 -Maintenance Mechanic II
3 -Laborer
ROBERT L ROY
Electrical Maintenance Supervisor
1 -Maintenance Electrician III
3 -Maintenance Mechanic III
2 -Maintenance Mechanic II
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor

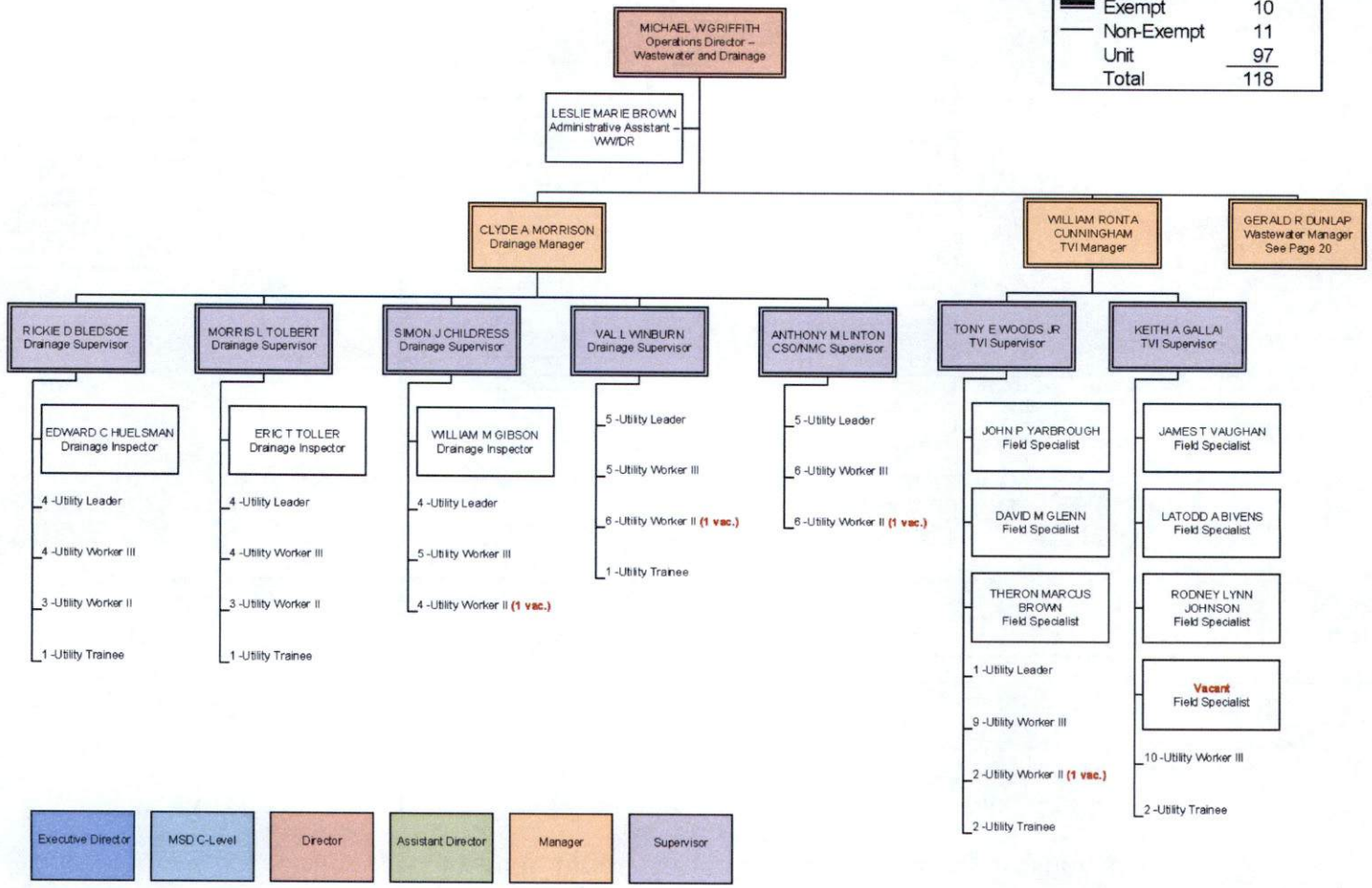
Operations Division
Collections System, Flood Protection & Emergency Response

BUDGET STATUS	
Actual	69
Vacant	8
Authorized	77
Exempt	15
Non-Exempt	22
Unit	40
Total	77



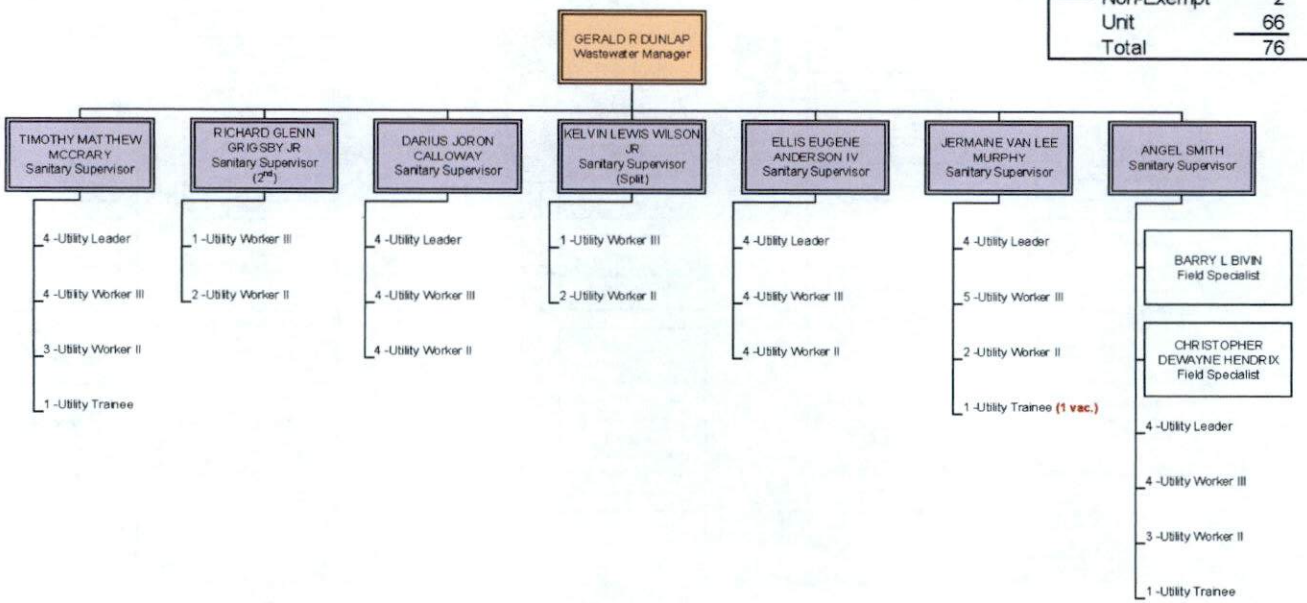
Operations Division
Wastewater and Drainage

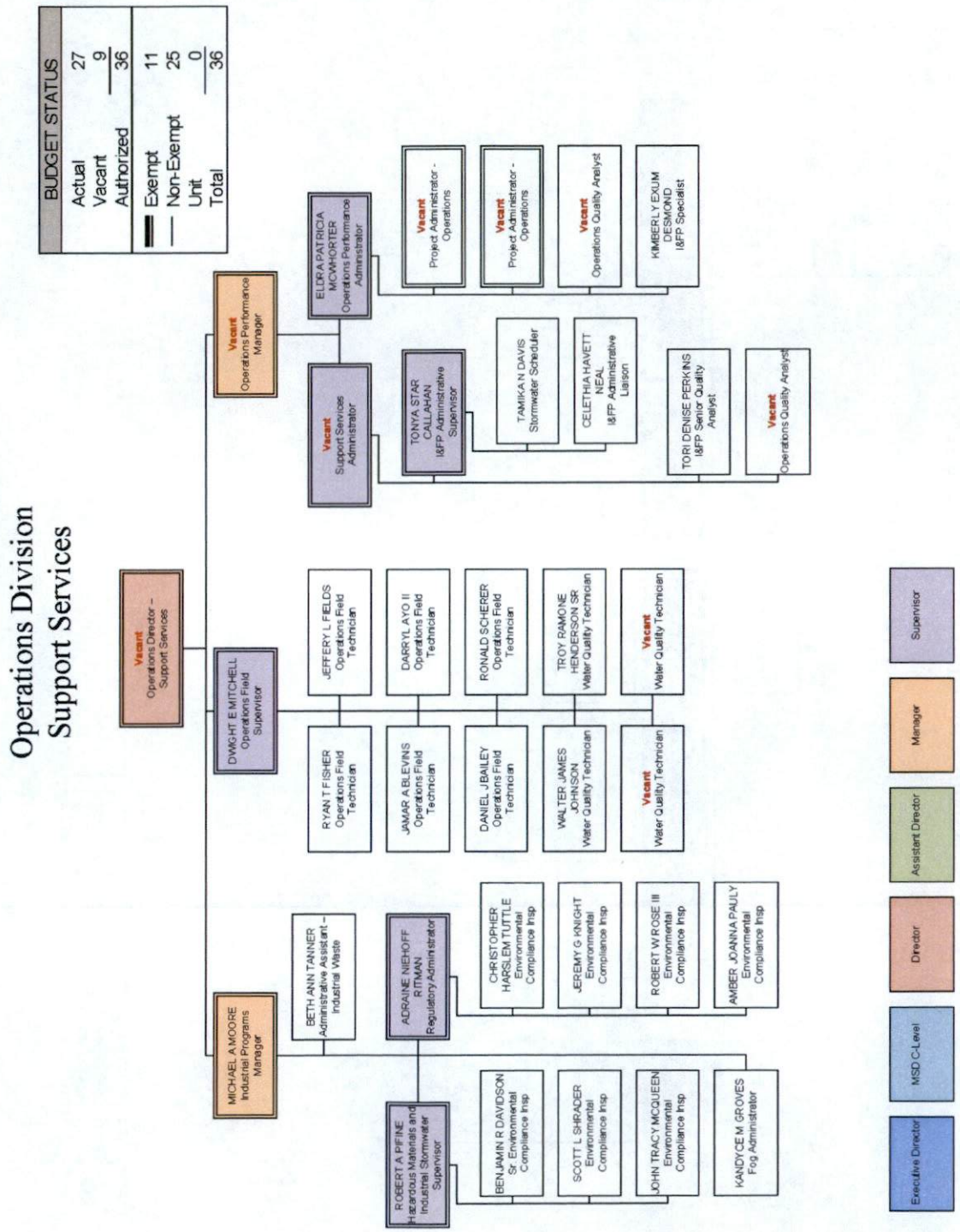
BUDGET STATUS	
Actual	113
Vacant	5
Authorized	118
Exempt	10
Non-Exempt	11
Unit	97
Total	118

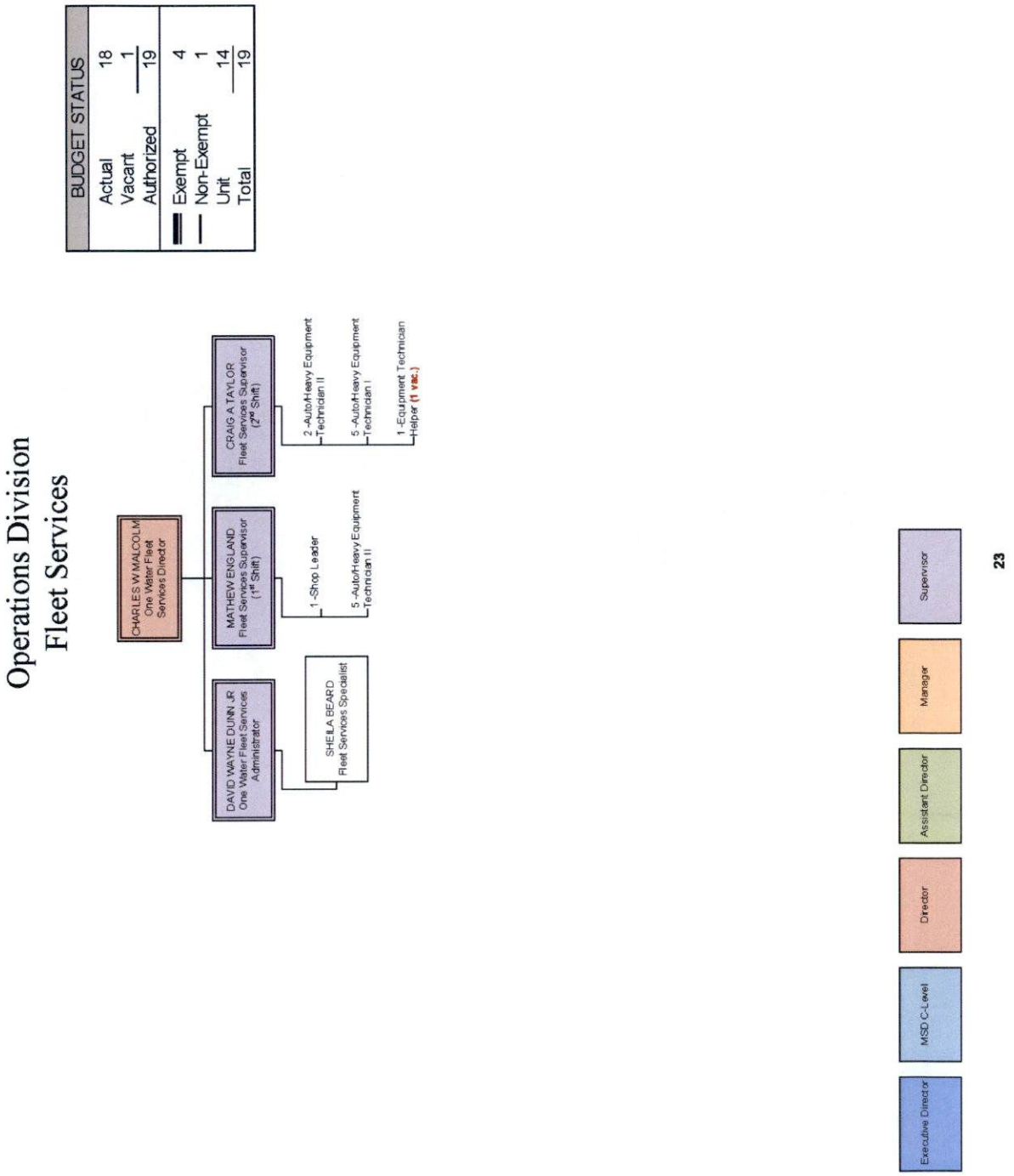


Operations Division
Wastewater and Drainage (Sanitary)

BUDGET STATUS	
Actual	75
Vacant	1
Authorized	76
Exempt	8
Non-Exempt	2
Unit	66
Total	76




Operations Division
Support Services
BUDGET STATUS
Actual 27
Vacant 9
Authorized 36
Exempt 11
Non-Exempt 25
Unit 0
Total 36
Vacant
Operations Director – Support Services
DWIGHT E MITCHELL
Operations Field Supervisor
Vacant
Operations Performance Manager
ELDRA PATRICIA MCWHORTER
Operations Performance Administrator
Vacant
Support Services Administrator
Vacant
Project Administrator - Operations
Vacant
Project Administrator - Operations
Vacant
Operations Quality Analyst
KIMBERLY EXUM DESMOND
I&FP Specialist
TONYA STAR CALLAHAN
I&FP Administrative Supervisor
TAMIKA N DAVIS
Stormwater Scheduler
CELETHIA HAVETT NEAL
I&FP Administrative Liaison
TORI DENISE PERKINS
I&FP Senior Quality Analyst
Vacant
Operations Quality Analyst
JEFFERY L FIELDS
Operations Field Technician
DARRYL AYO II
Operations Field Technician
RONALD SCHERER
Operations Field Technician
TROY RAMONE HENDERSON SR
Water Quality Technician
Vacant
Water Quality Technician
RYAN T FISHER
Operations Field Technician
JAMAR A BLEVINS
Operations Field Technician
DANIEL J BAILEY
Operations Field Technician
WALTER JAMES JOHNSON
Water Quality Technician
Vacant
Water Quality Technician
MICHAEL A MOORE
Industrial Programs Manager
BETH ANN TANNER
Administrative Assistant – Industrial Waste
ADRAINE NEHOFF RITMAN
Regulatory Administrator
CHRISTOPHER HARSLEM TUTTLE
Environmental Compliance Insp
JEREMY G KNIGHT
Environmental Compliance Insp
ROBERT W ROSE III
Environmental Compliance Insp
AMBER JOANNA PAULY
Environmental Compliance Insp
ROBERT A PIFINE
Hazardous Materials and Industrial Stormwater Supervisor
BENJAMIN R DAVIDSON
Sr. Environmental Compliance Insp
SCOTT L SHRADER
Environmental Compliance Insp
JOHN TRACY MCQUEEN
Environmental Compliance Insp
KANDYCE M GROVES
Fog Administrator
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor
22

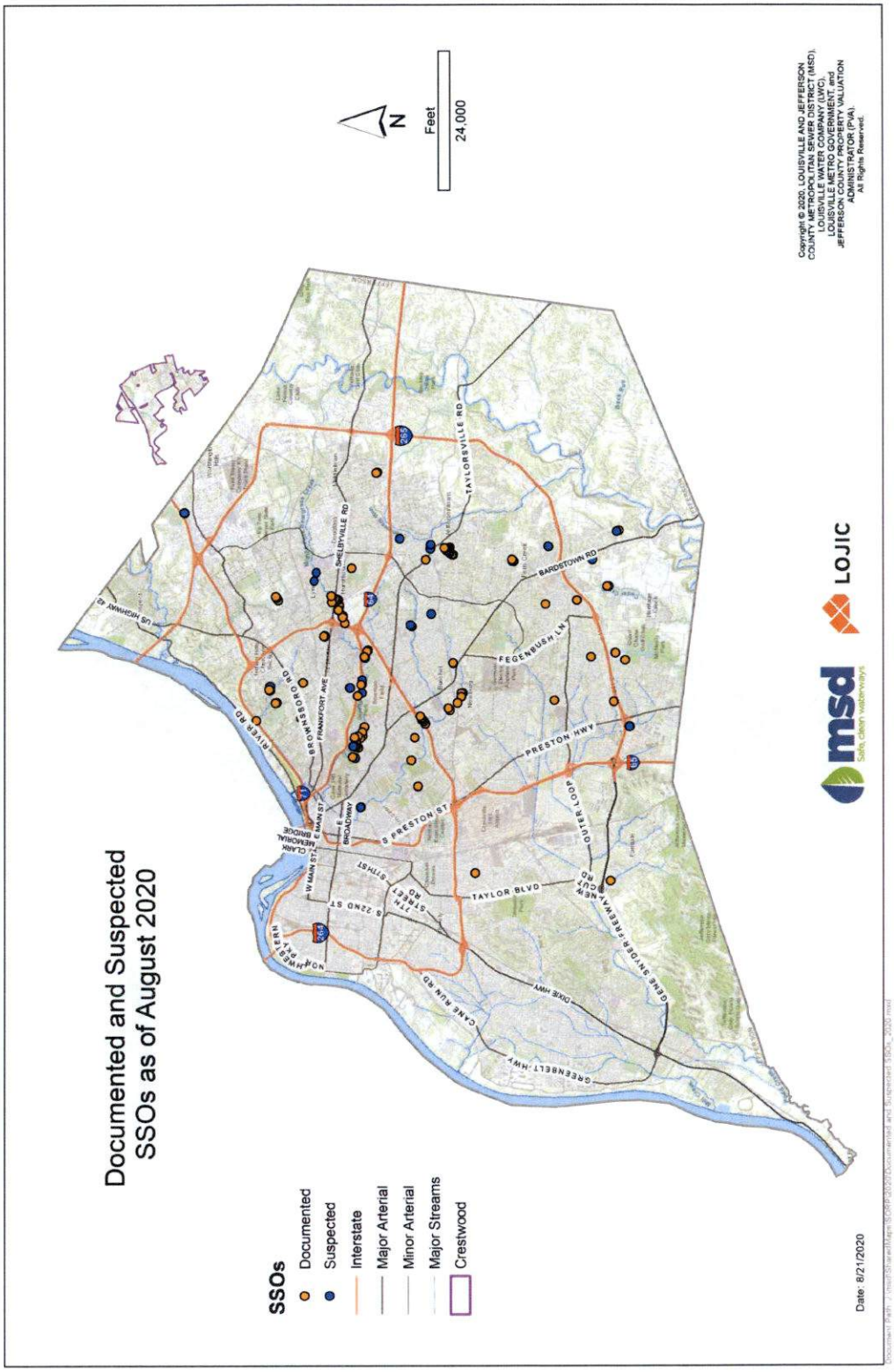

Operations Division
Fleet Services
BUDGET STATUS
Actual 18
Vacant 1
Authorized 19
Exempt 4
Non-Exempt 1
Unit 14
Total 19
CHARLES W MALCOLM
One Water Fleet Services Director
DAVID WAYNE DUNN JR
One Water Fleet Services Administrator
SHEILA BEARD
Fleet Services Specialist
MATHEW ENGLAND
Fleet Services Supervisor (1st Shift)
1 -Shop Leader
5 -Auto/Heavy Equipment Technician II
CRAIG A TAYLOR
Fleet Services Supervisor (2nd Shift)
2 -Auto/Heavy Equipment Technician II
5 -Auto/Heavy Equipment Technician I
1 -Equipment Technician Helper (1 vac.)
Executive Director
MSD C-Level
Director
Assistant Director
Manager
Supervisor
23

APPENDIX C OVERFLOW RESPONSE MATRIX

OVERFLOW LOCATIONS	DISCHARGE WORK ORDER ACTIVITY	POTENTIAL OVERFLOW CAUSES (PROBLEM CODE)	EXTENT OF OVERFLOW IMPACT POSSIBILITIES (RESULT CODE)	TYPE OF OVERFLOW IMPACT	CONTROL ZONE OPTIONS	EVENT-BASED PUBLIC NOTIFICATION	OVERFLOW REPAIR/ MITIGATION OPTIONS	POTENTIAL CLEANUP OPTIONS
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 Vacuum 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 Portable Generator Pump and haul Repair	MSD Personnel clean and sanitize the area MSD Contractors clean and sanitize the area Rake and bag debris Vacuum removal
Wastewater Treatment Plant (STP)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	BYPAS - Bypass at a WQTC 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	Containment Filtration Flow Diversion Portable Generator Pump and haul Repair	MSD Personnel clean and sanitize the area MSD Contractors clean and sanitize the area Rake and bag debris Vacuum 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 Radio public service announcement	Filtration Flow Diversion Repair	MSD Personnel clean and sanitize the area MSD Contractors clean and sanitize the area Rake and bag debris Vacuum removal
Property Service Connection (SSL)	Dry Weather (DISDW) Wet Weather (DISREV) Suspected (DISSUS)	CAP - Lack of System Capacity GB - Grease Blockage MECH – Mechanical Failure OBST - Obstruction POWER - Power Outage (LG&E) PPI – Pumped 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 clean and sanitize the area If Private Property issue, advise Property Owner to clean up the area

OVERFLOW LOCATIONS	DISCHARGE WORK ORDER ACTIVITY	POTENTIAL OVERFLOW CAUSES (PROBLEM CODE)	EXTENT OF OVERFLOW IMPACT POSSIBILITIES (RESULT CODE)	TYPE OF OVERFLOW IMPACT	CONTROL ZONE OPTIONS	EVENT-BASED PUBLIC NOTIFICATION	OVERFLOW REPAIR/ MITIGATION OPTIONS	POTENTIAL CLEANUP OPTIONS
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 Vacuum 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	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 Vacuum 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 Vacuum 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 Vacuum removal

APPENDIX D DOCUMENTED AND SUSPECTED OVERFLOWS


Documented and Suspected
SSOs as of August 2020
SSOs
Documented
Suspected
Interstate
Major Arterial
Minor Arterial
Major Streams
Crestwood
N
Feet
24,000
Date: 8/21/2020
LOJIC
msd
Safe, clean waterways
Copyright © 2020, LOUISVILLE AND JEFFERSON COUNTY, METROPOLITAN SEWER DISTRICT (MSD), LOUISVILLE WATER COMPANY (LWC), LOUISVILLE METRO GOVERNMENT, and JEFFERSON COUNTY PROPERTY VALUATION ADMINISTRATOR (PVA). All Rights Reserved.
TAYLORSVILLE RD
SHELBYVILLE RD
BARDSTOWN RD
FEGENBUSH LN
PRESTON HWY
OUTER LOOP
S PRESTON ST
TAYLOR BLVD
BROWNSBORO RD
FRANKFORT AVE
RIVER RD
GREENBELT HWY
CANE RUN RD
DIXIE HWY
GENE SNYDER FREEWAY
BROADWAY
E MAIN ST
W MAIN ST
CLARK MEMORIAL BRIDGE
JOHN F KENNEDY MEMORIAL HWY

APPENDIX E WET WEATHER DISCHARGE RECONNAISANCE TEAM SSO INSPECTION ROUTES

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	CHANGES
27116	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
17724	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to asset status of "Eliminated" for more than 3 years
93703	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
95807	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
97363	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
98022	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
08717	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
13931	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
36763	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
44396	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
44397	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
66349	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
99259	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
104223	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
104224	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
JT19586029	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28391	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
28452	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	CHANGES
30521	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
108674	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
11758	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
11760A	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
24155	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
27008	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
40475	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
IS022A-SI	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Site added to route due to capacity related overflow
42270	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
42272	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
42274	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
42275	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
64099	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
42273-X	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination
IS028-SI	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	Removed from route due to physical elimination

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
08537	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	12/27/2013	Engineering
19360	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	8/16/2018	Engineering
28984	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	1/24/2002	Engineering
28998	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	Q	11/30/2019	Engineering
29239	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Engineering
29949	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	E	12/4/2015	Engineering
33003	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	8/16/2018	Engineering
35309	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	10/23/2007	Engineering
61667	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	B	4/3/2015	Engineering
61738	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	3/9/2018	Engineering
61739	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	3/9/2018	Engineering
63094	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Engineering
63095	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Engineering
63531	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Engineering
65516	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Engineering
67997	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Engineering
70158	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	1/24/2002	Engineering
81443	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	9/9/2018	Engineering

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
93703	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	3/24/2018	Engineering
93705	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Engineering
93719	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	11/5/2018	Engineering
95099	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	2/26/2018	Engineering
95807	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	11/4/2019	Engineering
95100	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	2/26/2018	Engineering
97363	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	S	2/25/2018	Engineering
97365	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	12/1/2019	Engineering
98022	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	11/27/2019	Engineering
98024	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Engineering
MSD1051-PS	ENG SSO ROUTE 1	ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Engineering
08426	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	2/25/2011	Operations
08427	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	2/25/2011	Operations
08429	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	5/3/2019	Operations
08430	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	6/22/2011	Operations
08431	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	2/25/2011	Operations
10793	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Operations
13943	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	12/15/2017	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
13946	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	12/15/2017	Operations
16649	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	1/24/2002	Operations
18298	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	B	10/6/2013	Operations
18654	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	6/22/2011	Operations
23211	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	2/22/2000	Operations
23212	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Operations
30680	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	5/30/2004	Operations
30681	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	10/18/2004	Operations
49445	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
49446	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
49513	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	3/24/2018	Operations
49601	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	12/5/2017	Operations
49647	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	2/28/2011	Operations
51160	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Operations
51161	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Operations
51180	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Operations
51301	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	12/15/2017	Operations
51594	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	9/12/2006	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
66232	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	S	3/24/2018	Operations
85075	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
85076	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
104231	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	E	12/31/2017	Operations
34093540	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	11/17/2013	Operations
34093542	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	11/17/2013	Operations
46602107	OPERATIONS SSO ROUTE HP	OPERATIONS HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
JT19586029	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	2/26/2020	Operations
28249	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	3/12/2006	Operations
28250	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	1/3/2005	Operations
28336	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	8/30/2005	Operations
28340	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	1/3/2005	Operations
28391	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	7/1/2020	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
28413	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	3/20/2002	Operations
28414	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	1/3/2005	Operations
28415	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	12/19/2002	Operations
28416	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Operations
28417	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	4/4/2008	Operations
28451	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	10/28/2015	Operations
28452	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	2/12/2020	Operations
28453	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	10/28/2015	Operations
28711	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
31733	OPERATIONS SSO ROUTE JT2	OPERATIONS JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	S	2/27/2019	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
01793	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
02098	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	2/12/2019	Operations
02119	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	2/26/2018	Operations
02932	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
02933	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/4/2008	Operations
02935	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
11758	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	3/20/2020	Operations
11760A	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	3/20/2020	Operations
15195	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	7/12/2015	Operations
16455	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	2/12/2019	Operations
21171	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	L	2/12/2019	Operations
24448	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	2/24/2018	Operations
24507	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	2/12/2019	Operations

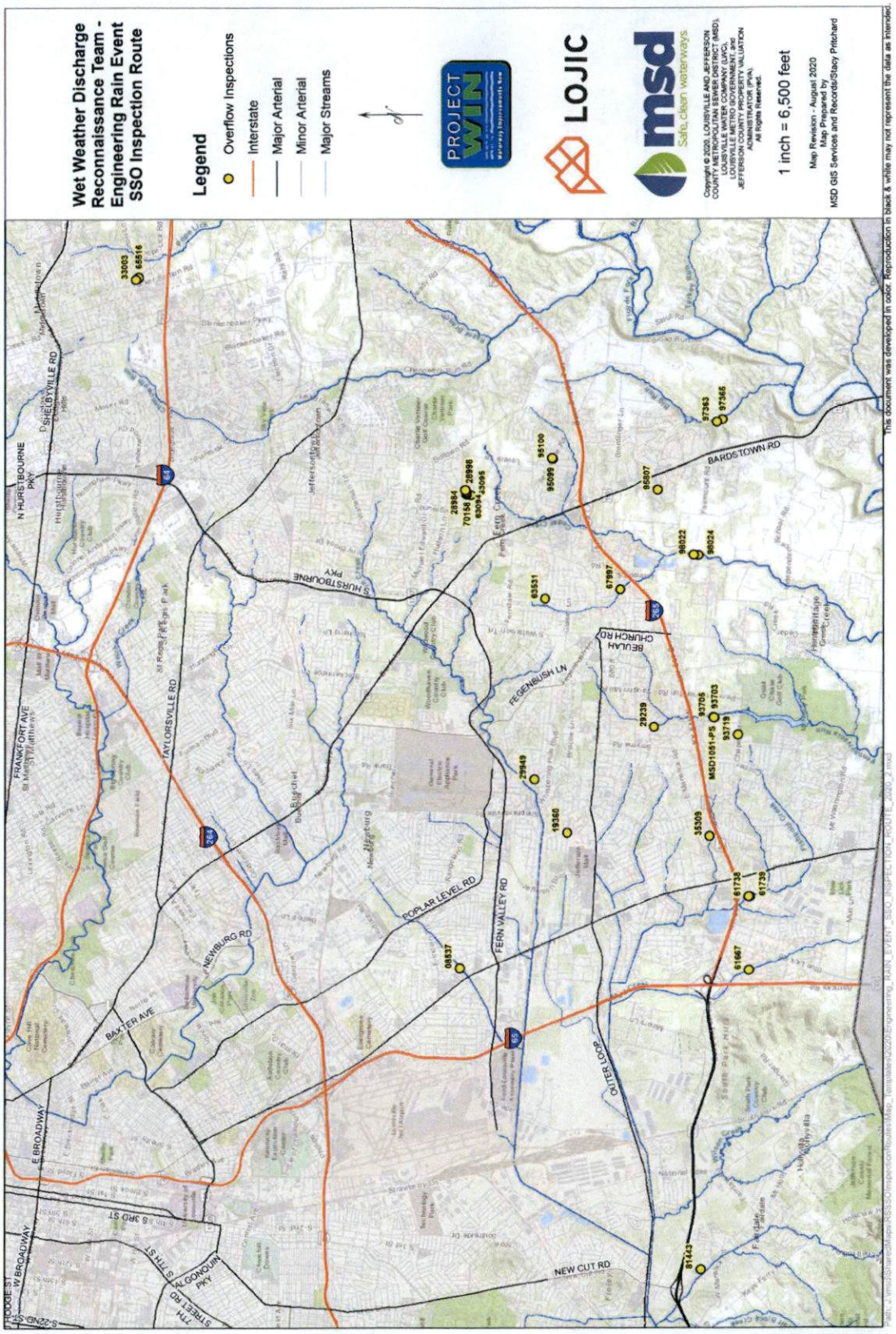
ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
26752	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	1/14/2013	Operations
27005	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	1/11/2014	Operations
27007	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	2/5/2014	Operations
27008	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2020	Operations
27012	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/9/2019	Operations
30376	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11/29/2011	Operations
30521	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	3/28/2018	Operations
40445	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	4/21/2019	Operations
40471	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	7/18/2015	Operations
40475	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	4/13/2020	Operations
40559	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	1/26/2012	Operations
40871	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/9/2019	Operations
41374	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/27/2008	Operations

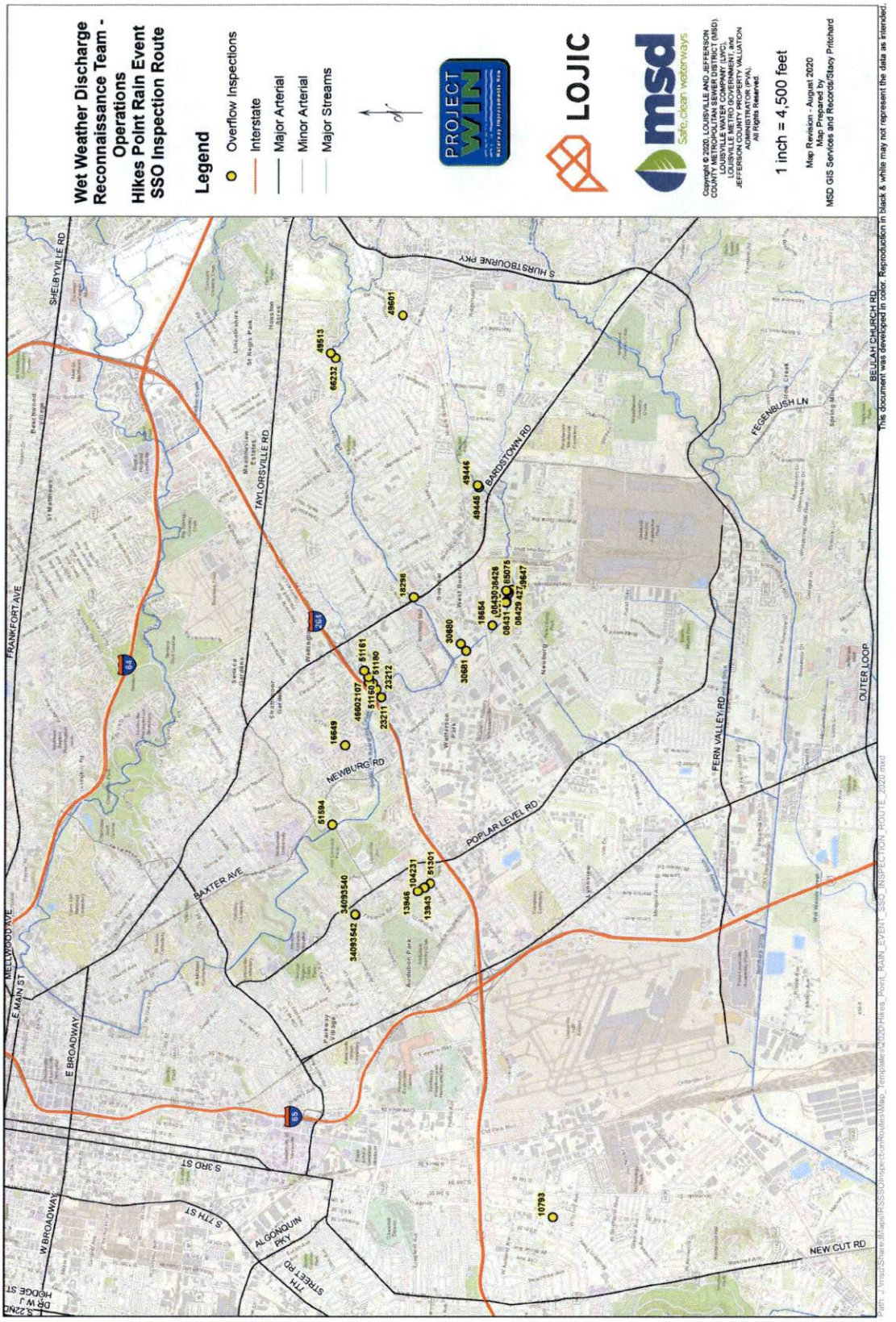
ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
43726	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Operations
45796	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	5/10/2014	Operations
45829	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/9/2011	Operations
45835	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	9/2/2003	Operations
45900	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Operations
46621	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	R	2/22/2012	Operations
46623	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/3/2015	Operations
46627	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	Q	2/12/2019	Operations
47034	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11/22/2011	Operations
47582	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Operations
47583	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	2/6/2008	Operations
47593	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
47596	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	2/5/2014	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
47603	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/4/2008	Operations
47604	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
48750	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	2/12/2019	Operations
48753	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	2/25/2018	Operations
63357	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	2/24/2018	Operations
65070	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
65623	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
72288	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11/28/2011	Operations
72289	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	5/29/2012	Operations
74512	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
74513	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/27/2015	Operations
74520	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	9/9/2018	Operations
84155	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/10/2011	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
89790	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
89791	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	4/20/2019	Operations
90700	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
91629	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
91630	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/19/2008	Operations
96019	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
96673	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	9/24/2018	Operations
105936	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	3/4/2008	Operations
108674	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	3/28/2018	Operations
115183	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Operations
115184	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Operations
115185	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	12/5/2011	Operations
117959	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	5/13/2019	Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
08935-SM	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	11/29/2001	Operations
21089A	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	B	2/24/2018	Operations
IS021A-SI	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	D	8/1/1969	Operations
IS022A-SI	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	S	7/31/2020	Operations
MSD0302-FP	OPERATIONS SSO ROUTE MMF	OPERATIONS MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	R	3/22/2011	Operations


Wet Weather Discharge Reconnaissance Team - Engineering Rain Event SSO Inspection Route
Legend
Overflow Inspections
Interstate
Major Arterial
Minor Arterial
Major Streams
PROJECT WIN
LOJIC
msd
Safe, clean waterways
1 inch = 6,500 feet
Map Revision - August 2020
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard
This document was developed in color. Reproduction in black & white may not represent the data as intended.
BARDSTOWN RD
S HURSTBOURNE PKY
N HURSTBOURNE PKY
SHELBYVILLE RD
TAYLORSVILLE RD
FRANKFORT AVE
BEULAH CHURCH RD
FEGENBUSH LN
POPLAR LEVEL RD
FERN VALLEY RD
NEWBURG RD
BAXTER AVE
E BROADWAY
W BROADWAY
S 3RD ST
S 7TH ST
N GONOUIN PKY
OUTER LOOP
NEW CUT RD
33003
65516
37383
37365
95100
95099
95807
28984
70156
28998
63094
63095
98022
98024
63531
67987
93705
93703
53719
MSD10651-PS
28239
28949
19360
35309
61738
61739
61667
08537
81443


Wet Weather Discharge Reconnaissance Team - Operations
Hikes Point Rain Event
SSO Inspection Route
Legend
Overflow Inspections
Interstate
Major Arterial
Minor Arterial
Major Streams
PROJECT WIN
LOJIC
msd
Safe, clean waterways
1 inch = 4,500 feet
Map Revision - August 2020
Map Prepared by
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SHELBYVILLE RD
FRANKFORT AVE
TAYLORSVILLE RD
S HURSTBOURNE PKY
BARDSTOWN RD
FEGENBUSH LN
BEULAH CHURCH RD
OUTER LOOP
FERN VALLEY RD
NEWBURG RD
POPULAR LEVEL RD
BAXTER AVE
MELLWOOD AVE
E MAIN ST
E BROADWAY
W BROADWAY
S 3RD ST
S 7TH ST
ALGONQUIN PKY
7TH STREET RD
NEW CUT RD
DR W J HODGE ST
S 22ND ST
I-64
I-65
I-264
49601
49513
66232
49446
49445
18298
18654
30680
30681
46602107
51161
51180
23212
23211
16649
51594
34093540
34093542
13946
104231
51301
13943
10793


Wet Weather Discharge Reconnaissance Team - Operations
Jeffersontown/ Fern Creek Rain Event SSO Inspection Route
Legend
Overflow Inspections
Interstate
Major Arterial
Minor Arterial
Major Streams
PROJECT WIN
LOJIC
msd
Safe, clean waterways
Copyright © 2020 LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT (MSD), LOUISVILLE WATER COMPANY, LOJIC, LOUISVILLE METRO GOVERNMENT, and JEFFERSON COUNTY PROPERTY VALUATION ADMINISTRATOR (PVA). All Rights Reserved.
1 inch = 1,200 feet
Map Revision - August 2020
Map Prepared by
MSD GIS Services and Records/Stacy Pritchard
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J119586029
28391
31733
28711
28413
28414
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28416
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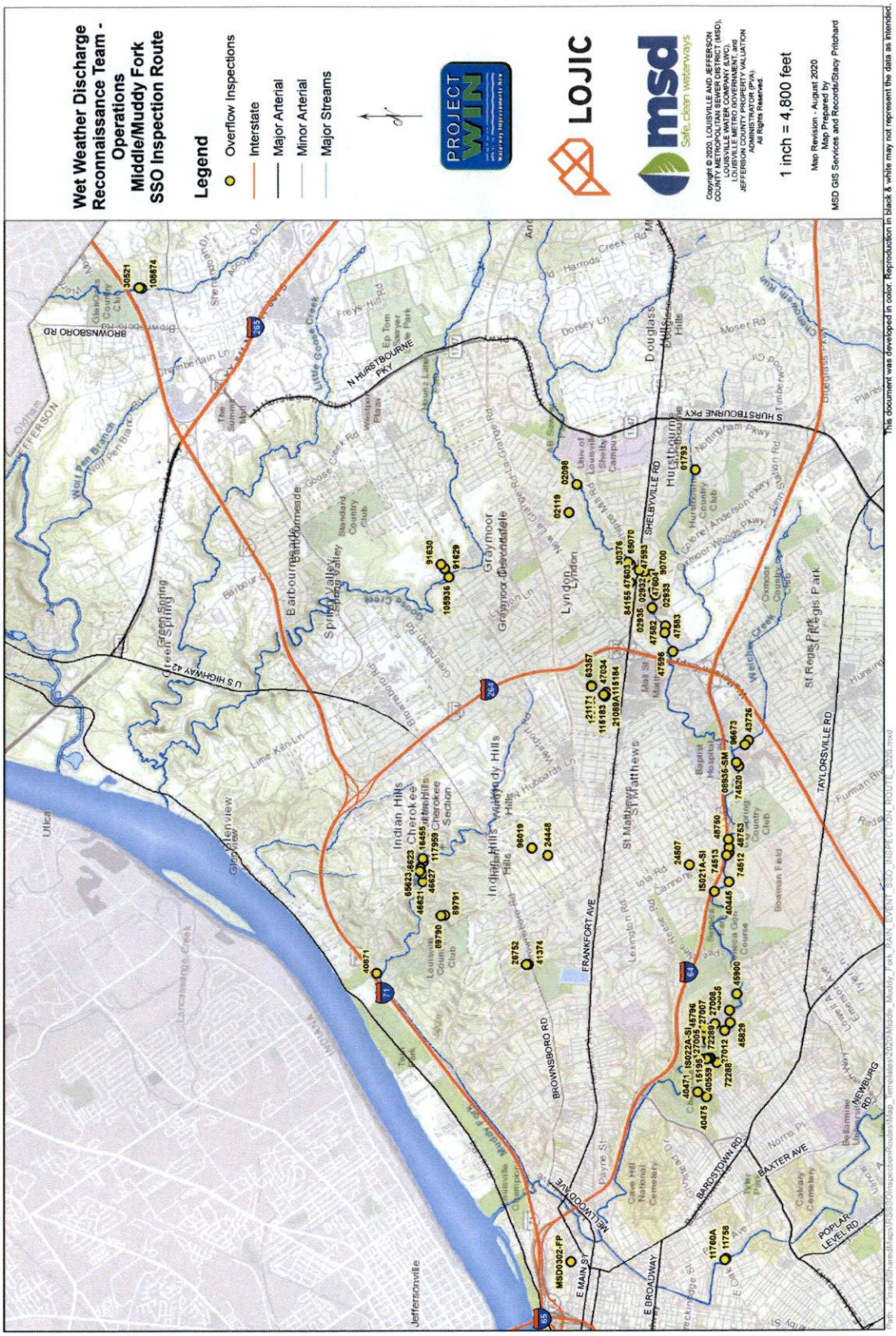
28453
28250
28249
28340
28336
Jeffersontown
Forest Hills
Hurstbourne Acres
TAYLORSVILLE RD
SHURSTBOURNE PKY


Wet Weather Discharge Reconnaissance Team - Operations
Middle/Muddy Fork SSO Inspection Route
Legend
Overflow Inspections
Interstate
Major Arterial
Minor Arterial
Major Streams
PROJECT WIN
LOJIC
msd
Safe, clean waterways
1 inch = 4,800 feet
Map Revision - August 2020
Map Prepared by
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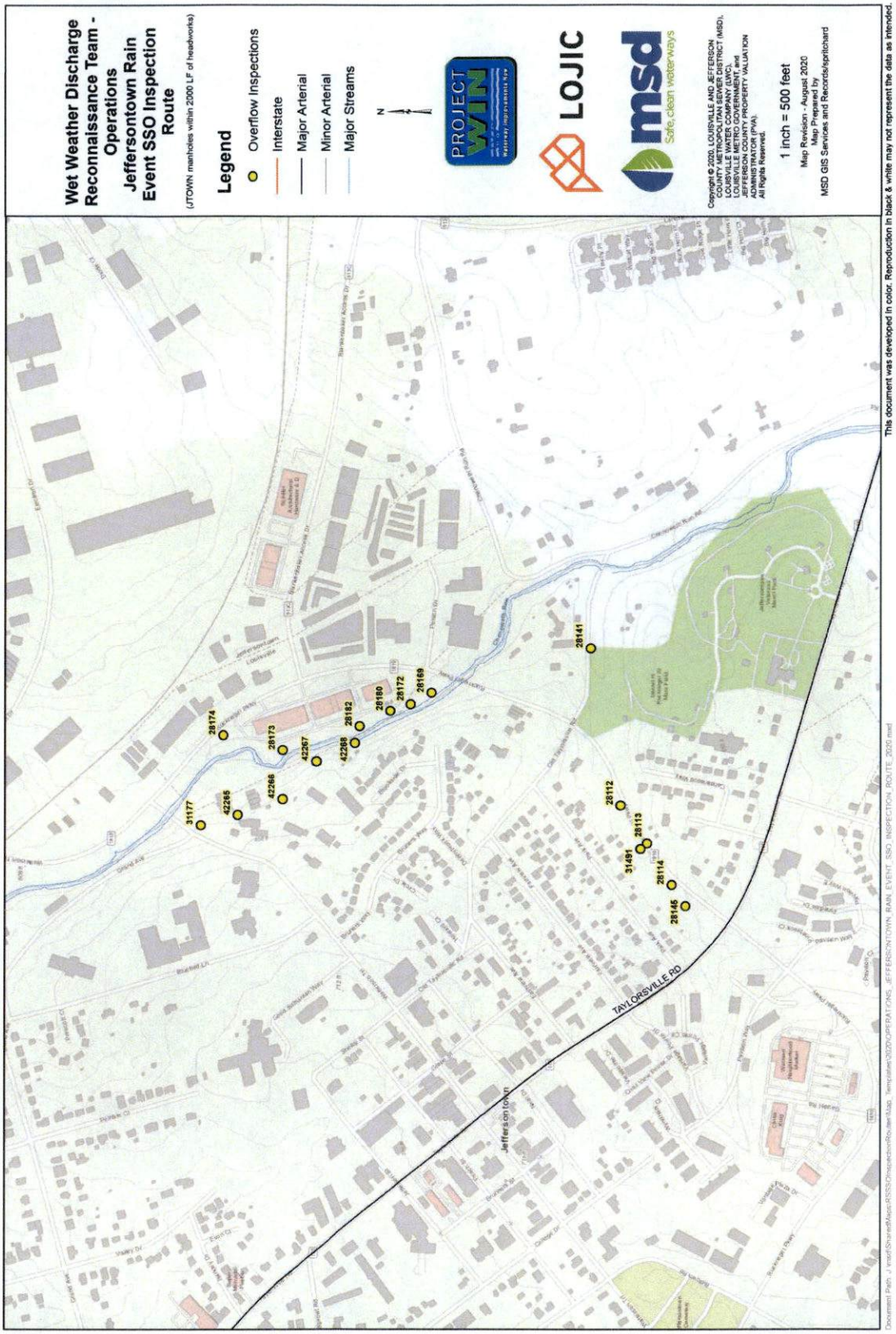
This document was developed in color. Reproduction in black & white may not represent the data as intended.

APPENDIX F JEFFERSONTOWN SIPHON, MANHOLE INSPECTION ROUTES AND DATA COLLECTION REQUIREMENTS

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
28112	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)			Operations
28113	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)			Operations
28114	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)			Operations
28141	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)			Operations
28145	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)			Operations
28169	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
28172	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
28173	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	E	12/23/2015	Operations
28174	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
28180	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations

ASSET UNIT ID	IPS GROUP ID	IPS GROUP DESCRIPTION	STATUS	STATUS DATE	ROUTE RESPONSIBILITY
28182	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
31177	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
31491	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
42265	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
42266	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
42267	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE			Operations
42268	OPERATIONS SSO ROUTE JT1	OPERATIONS JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE	F	9/23/2006	Operations


Wet Weather Discharge Reconnaissance Team - Operations
Jeffersontown Rain Event SSO Inspection Route
(JTOWN manholes within 2000 LF of headworks)
Legend
Overflow Inspections
Interstate
Major Arterial
Minor Arterial
Major Streams
N
PROJECT WIN
LOJIC
msd
Safe, clean waterways
1 inch = 500 feet
Map Revision - August 2020
Map Prepared by
MSD GIS Services and Records/spritchard
This document was developed in color. Reproduction in black & white may not represent the data as intended.
28174
28173
42267
42268
28182
28180
28172
28169
28141
42266
42265
31177
25112
28113
31481
28114
28145
TAYLORSVILLE RD
Jefferson (CITY)

msd
Safe, clean waterways

APPENDIX G OVERFLOW ADVISORY WARNING SIGN

msd
Safe, clean waterways

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 risk, 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 despues de la lluvia debido a riesgo de salud. Para más información, visite nuestro página del internet o llama al teléfono que aparece a continuación.

SIGN/SEÑAL | 502.587.0603
louisvilleMSD.org

msd
Safe, clean waterways

APPENDIX H OVERFLOW REPORT FORM

msd Safe, clean waterways

OVERFLOW REPORT FORM

Work Order Tab

Work Order # _____

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

Asset _____ (SLS, SPL, SMH, SSL, SMN, SND, STIN, SV) _____ (Hansen Unit ID Number)

Overflow Began (Initiated) _____ (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 _____ (Name, Address or Location)

Overflow Stopped (Completed) _____ (Date) _____ (Military Time)

Initiated By _____

Assigned To _____

Problem

- ☐ GB Grease Blockage
- ☐ R Roots
- ☐ OBST Sewer Main Obstruction
- ☐ STRUC Structural Failure
- ☐ CAP Lack of System Capacity
- ☐ PUMP Pumped Overflow
- ☐ ELEC Electrical Problems at MSD
- ☐ POWER Power Outage (LG&E)
- ☐ MECH Mechanical Failure
- ☐ FLOOD Corps Pump Station Operation
- ☐ BYPASS (At WTP's only)
- ☐ UPSET (WTP Process Upset)
- ☐ BLEND (At Jeffersontown WTP only)
- ☐ PPI Private Property Issue (for SSLs only)
- ☐ UD Utility Damaged MSD Asset
- ☐ FOMAJ Force Majeure Event
- ☐ CSO Authorized Discharge (Rain Event on a # CSO only)

Condition

- ☐ LAT Lateral Line
- ☐ MAIN Main Line

Result

- ☐ INT Interior (In the building)
- ☐ EXT Exterior (On the ground)
- ☐ WUS Reached waters of the US

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

- ☐ No Debris
- ☐ Customer cleaned area
- ☐ Pipe discharge submerged - no cleanup
- ☐ MSD cleaned & sanitized area
- ☐ Contractor cleaned & sanitized area

Control Zone Setup (DISCZ) Check all that apply

- ☐ Flags
- ☐ Barricades
- ☐ Tape
- ☐ Cones
- ☐ Road Closed
- ☐ Temp Signs
- ☐ Advised property owner/ customer to avoid direct contact with sewage
- ☐ Pipe discharge submerged - no control zone

Visual Impact Observed (DISIMP) Check all that apply

- ☐ Personal Hygiene Products
- ☐ Sewage
- ☐ Fish Kill
- ☐ Debris
- ☐ Solids
- ☐ _____at pumped site
- ☐ Discoloration in Stream
- ☐ _____around (floor drain, basement, cleanout, ground, stream, drainage sys)
- ☐ 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

- ☐ MSD advised customer on site
- ☐ MSD advised customer by door card
- ☐ MSD advised customer by phone
- ☐ MSD advised customer by letter

0000066 (03/08)

Generator Placement (GENPL)						
Type/Size Generator	Asset ID	Problem	Date Initiated	Time Initiated	Date Completed	Time Completed

Hauling Sewage – Operations (HAULOP)					
Asset ID	Problem	Initiated / Completed Date	Initiated Time	Completed Time	Quantity (Volume Hauled in gallons)

APPENDIX I VOLUME ESTIMATION GUIDE

msd
Safe, clean waterways

Overflow Volume Estimation

APPENDIX J 5-DAY LETTER TEMPLATES

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

Date

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

Re: Potential to Bypass Notification for: Choose an item.

To whom it may concern:

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: Paul Bridges, KDEP
Legal Department, MSD
eB File

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

Date

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

Re: Bypass Notification for: Choose an item.

To whom it may concern:

This water quality treatment center experienced a bypass event and has been reported through our electronic notification system at approximately AM on Date, 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: Enter text here
- Period of noncompliance: Starting AM on Date, and stopping AM on Date.
- 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: Paul Bridges, KDEP
Legal Department, MSD
eB File

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

Date

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

Re: Upset Notification for: Choose an item.

To whom it may concern:

This water quality treatment center experienced an upset event which occurred and has been reported through our electronic notification system at approximately AM on Date, referencing Work Order as a Dry Weather Discharge.

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 Date and stopping AM on Date.
- 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 @louisvillemsd.org.

Sincerely,

Process Supervisor-Operations

cc: Paul Bridges, KDOW
Paula Purifoy, Dan French, John Kessel, Daymond Talley – MSD
eB File

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APPENDIX K DISCHARGE REPORT - IMSAST004

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IMSAST0004
Overflow Report
6/1/2020 12:00:00 AM to 6/30/2020 12:00:00 AM

KPDES #	Facility ID	Water Quality Treatement Center	Receiving Stream of Treatment Center	Region
KY0022411	MSD0278	MORRIS FORMAN	OHIO RIVER	WEST

Facility Type	Facility ID	Facility Address	If Pump Station, Name of Pump Station:	Receiving Stream	Discharge to
SMHSewer Manhole	28340	3620 CHARLANE PKY		CHENOWETH RUN	GROUND

Activity Code / Description	WO #	Ref No	Initiated	Initiated By	Assigned To	Disch Status	Event Date	Problem	Result	Completed	Condition
: DISREV: RAIN EVENT DISCHARGE	3275987		06/30/2020	DAVIS BROWN	MITCHELL	DOCUMENTED	01/03/2005	LACK OF SYSTEM	UNAUTHORIZED DISCHARGE	06/30/20 09:15 AM	MAIN

Discharge Reporting:

Discharge Amount:	3,000 GAL
Cause:	LACK OF SYSTEM CAPACITY HEAVY RAIN.
Clean Up:	WO#3276094
Control Zone:	BARRICADES AND TEMP SIGNS PLACED AROUND DISCHARGE SITE.
Impact:	MANHOLE DISCHARGING.
Repair:	LOCATION INCLUDED IN IOAP.
Public Notification:	PUBLIC NOTIFIED THROUGH TEMP SIGNS AT DISCHARGE SITE AND DOOR HANGERS TO AVOID DISCHARGED CONTENT.

Notifications:

6/30/20 1:00 PM	DISNOT	EMAIL NOTIFICATION OF UNAUTHORIZED DISCHARGE SENT TO:DISCHARGENOTICES@LOUISVILLEMSD.ORG, SAYRE.DENNIS@EPAMAIL.EPA.GOV
6/30/20 1:00 PM	DISSNO	WAITING TO COMPLETE THE DISCHARGE INFORMATION

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SEWER OVERFLOW RESPONSE PROTOCOL
REVISED AUGUST 22, 2020

SUBMITTED AUGUST 22, 2016