



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.587.0603 | Fax: 502.540.6106 | louisvillemsd.org

April 30, 2017

Jeffrey A. Cummins, Director
Division of Enforcement
Department for Environmental Protection
300 Sower Boulevard
Frankfort, KY 40601

Chief, NPDES Permitting & Enforcement Branch
Municipal & Industrial Enforcement Section
U.S. EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
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: Quarterly Report 46
Civil Action No. 3:08-cv-00608-CRS

Attention Director and Chiefs:

Please find attached our Quarterly Report, prepared in accordance with Paragraph 29 of our Amended Consent Decree. This report is for the period January 1, 2017 – March 31, 2017, pertaining to Consent Decree compliance activities. Included are sections on Project WIN activities related to: NMC, SORP, Discharge Abatement Plans, Public Outreach, Education, Notification and Participation, CMOM and Performance Overview.

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
Louisville MSD Chief Engineer

cc: James A. Parrott
Paula Purifoy
File

Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #46



Reporting Period:

January 1, 2017 through March 31, 2017

Submitted To:

Kentucky Department of Environmental Protection
United States Environmental Protection Agency
United States Department of Justice

Submitted By:

Louisville and Jefferson County Metropolitan Sewer District
700 W. Liberty Street
Louisville, Kentucky 40203-1911

Submittal Date:

April 30, 2017

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INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) is currently under an Amended Consent Decree with the Kentucky Department of Environmental Protection (KDEP), the United States Environmental Protection Agency (EPA), and the United States Department of Justice. The Amended Consent Decree was signed by United States District Judge Simpson on April 10, 2009 and filed in United States District Court, Western Division of Kentucky, Louisville Division, on April 15, 2009.

Quarterly Reporting Period

This is the forty-sixth Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from January 1, 2017, through March 31, 2017. The structure for this report is outlined as follows:

Section 1: Program Activities for Nine Minimum Controls (NMC) – This section describes the data collected for NMC 2 – Maximization of Storage in the Collection System, and NMC 4 – Maximization of Flow at the Morris Forman Water Quality Treatment Center (WQTC) that were active during the reporting period.

Section 2: Program Activities for Sewer Overflow Response Protocol (SORP) – This section describes the training attendance records, overflow data, and overflow reconnaissance inspection routes related to SORP that were active during the reporting period.

Section 3: Program Activities for Discharge Abatement Plans (DAP) – This section describes the schedule and status for projects related to the DAP by means of an updated Gantt chart for active DAP projects during the reporting period. This section also includes the anticipated projects and activities that are scheduled for continued compliance with the Amended Consent Decree.

Section 4: Program Activities for Public Outreach, Education, Notification and Participation – This section describes the activities related to public outreach that were active during the reporting period.

Section 5: Capacity Management Operations and Maintenance (CMOM) Report – The CMOM program activities and programmatic activities for WQTCs generating capital projects are reported in a Gantt chart for the reporting period. This section also includes the schedule for activities planned for the next reporting period are included in this section for continued compliance with the Amended Consent Decree.

Section 6: Project Waterway Improvements Now (WIN) Performance Overview – This section provides an accounting of unauthorized discharges from the separate sanitary and combined sewer systems, and the estimated volumes along with performance information on bypasses at WQTCs. A discussion of the probable reductions in both unauthorized discharge points and the discharges from MSD's Combined Sewer Overflow (CSO) locations, identified in the Morris Forman Water Quality Treatment Center Kentucky Pollutant Discharge Elimination System (KPDES) permit, that are expected to result from MSD's projects and activities during the reporting period are also contained in this section.

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SECTION 1: PROGRAM ACTIVITIES FOR NINE MINIMUM CONTROLS (NMC)

1.1. NINE MINIMUM CONTROLS PROGRAM BACKGROUND

Per Paragraph 24.a. of the Amended Consent Decree, the Nine Minimum Controls (NMC) Compliance Report was initially submitted to EPA and KDEP on February 10, 2006. MSD received approval of the report on February 22, 2007. The approved NMC compliance document can be viewed on the MSD Project Waterway Improvements Now (WIN) website, available at www.msdpjprojectwin.org. Highlights of the NMC program implementation over this reporting period are outlined below.

1.2. NMC 2: MAXIMIZATION OF STORAGE IN THE COLLECTION SYSTEM

MSD has continued operation of Phase 1 and Phase 2 of the Real Time Control (RTC) system. During this reporting period, approximately 227 MG were stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See Figure 1.1 at the end of this section for a detailed report.

The following identifies on-going activities; those completed during the current period (January – March, 2017); and those anticipated to be completed during the next period (April – June, 2017):

- RTC Integration – MSD and the RTC consultant continue to implement the Wet Weather Standard Operating Procedures (SOP) incrementally, starting with a period of manual operation to validate the control assumptions, followed by increasing levels of system automation as the automated controls for individual components are implemented, validated, and then incorporated into the overall RTC system.

During this reporting period, testing and validation of the Infoworks Integrated Catchment Model (ICM) RTC hydraulic model in preparation of the Csoft upgrade was completed. MSD began setting up the new RTC servers to allow testing of the ICM model and Csoft 4 to ensure sufficient run-times for RTC management. Staff continued to develop the RTC process layer controls and SOPs for the Bells Lane campus, Logan and Breckinridge storage basins and CSO interceptor, and upgraded Nightingale Pump Station (PS) facilities.

Full deployment of the latest version of Csoft utilizing the Infoworks ICM RTC model is anticipated in the second quarter of 2017. MSD will then implement data script transfers and Process Control Network testing to ensure proper field communications and commissioning readiness. The revised SOPs will be implemented after the Csoft and InfoWorks ICM RTC hydraulic model is integrated; and as new/ upgraded facilities are brought into service.

- RTC Performance Assessment and Improvements – The main objective of the RTC Performance Assessment is to determine whether the available flow and storage capacities within the system are being utilized to their full potential. MSD staff continues to review and prioritize strategies for performance improvement. During the next reporting period, MSD staff and the RTC consultant will

continue working to implement hardware, software and set-point changes as applicable on a site-by-site basis.

During this period, MSD decided not to implement a proposed revised approach to writing data utilizing an Object Linking and Embedding (OLE) for Process Controls (OPC) Server due to security concerns. Instead, existing scripts for transferring data to the RTC system will be updated. Two initiatives at the Southwestern Outfall Relief – Phase 2 (SWOR2) site, including a simplified HMI program and adjustment to position and flow deadband parameters aimed at reducing the number of gate movements and improving site performance, are on hold until downstream improvements at the SWPS are completed and the need can be fully assessed.

MSD continued to evaluate potential equipment upgrades and site improvements at the Sneads Branch facility. The design for Ashland Avenue gate structure upgrades are 95% complete. The design includes replacing the single-gate system with a dual-gate, single-actuator system, installing new check valves to prevent backflow, and installing a backup generator.

During the next reporting period, the Sneads Branch evaluation and the final design for the Ashland Facility Improvements are expected to be completed.

- Southwest Sluice Gate / Southwestern Outfall Relief Phase 1 (SWSG/SWOR1) – A gate failure at the SWSG facility on April 1, 2016, has impacted the ability of the RTC system to fully utilize storage. The center gate (one of three) broke loose and is inoperable in the closed position. A hydraulic analysis indicates the two remaining gates are capable of handling most events; however, it was necessary to limit the maximum storage level to 10 feet to ensure safe operations and reduce risks for flooding and basement surcharging. Consequently, the available storage has been reduced from 14.5 MG to 2.2 MG.

This change has impacted the ability to effectively dewater upstream sites, including SWOR2, Brady Lake, Executive Inn, and Ashland Avenue. MSD continued to improve the Southwestern Outfall dewatering strategy in Csoft and made temporary code revisions to the local programmable logic controller (PLC) to improve management during this period. Repairs and upgrades to the SWSG are in progress and anticipated to be completed in the upcoming reporting period. Once complete, MSD will begin a stepwise process of increasing the storage to the levels necessary for Consent Decree compliance. This process testing is weather-dependent due to the need for wet weather flows for testing, but is anticipated to be completed by September 1, 2017.

1.3. NMC 4: MAXIMIZATION OF FLOW AT THE MORRIS FORMAN WATER QUALITY TREATMENT CENTER

Plant Outages

The Morris Forman WQTC Headworks Replacement Project continues. The West Headworks was in service for the entire quarter, along with channels 1 and 2 in the East Headworks. Contractors continue work on channels 3 and 4 in the East Headworks. The Final Effluent Pump Station (FEPS) was in service 52 days of the quarter. This resulted in a plant capacity of 185 MGD for the majority of the reporting period. Flows at Morris Forman WQTC were sustained between 185 and 225 MGD as shown in Figures 1.2 through 1.4, depending on equipment in service, before allowing overflows at CSO015, CSO016 and CSO191 due to rain

events during the quarter. MSD anticipates work in the East Headworks will continue during the next reporting period.

Morris Forman WQTC Projects

- Morris Forman WQTC Headworks – West Headworks is completed but contractors are intermittently taking one channel out of service for additional work. Two channels in the East Headworks will remain out of service for modification during the next reporting period.
- Final Effluent Pump Station (FEPS) Generator – Generator installation is complete. Equipment and installation delays prevented electrical work from being completed during the reporting period. MSD anticipates all work to be complete by the end of the next reporting period.
- Electrical High Yard Project – Site work continues on the project. Equipment is scheduled for delivery and installation during the next reporting period.
- Centrifuge Backdrive Controls – Construction continues on the project.
- Oxygen Generation – Equipment was delivered and installed. Testing will begin early next quarter and full operation will be achieved by the end of the reporting period.

Morris Forman WQTC Performance

Figures 1.2 through 1.4 located at the end of this section illustrate performance in maximizing flow during wet weather to the Morris Forman WQTC. The top of the chart shows rainfall in inches per day. The middle part of the chart shows Morris Forman WQTC effluent flow and secondary treatment flow. The difference between these is the secondary bypass flow. The bottom of the chart shows days with a CSO activation at the five CSOs in the vicinity of the Morris Forman WQTC (CSOs 015, 016, 191, 210, and 211). Note that the flow meter downstream from CSO211 is known to be affected by backwater effects of the Ohio River and the ultrasonic signal is sometimes blocked by mist and condensation when air and sewage temperatures are significantly different. Therefore, CSO activations at CSO211 are keyed to water levels upstream and downstream of the inflatable dam in the Main Diversion Structure. The other CSO activations are tied to flow measurement downstream of the respective CSO. At times, “blips” representing very small volumes of overflow are indicated by flow meters even though an overflow cannot be verified by level measurements or other indicators. These blips are not reported as overflows, but are noted in the CSO monitoring data reported in Appendix B. There are occasions in which a communications failure with telemetry has led to short-term gaps in the data. In addition, indications of rainfall and CSO activations are shown on the day they happened, but are not aligned with the exact time, so the effluent flow graph (which is tied to actual time) may show peaks that are offset from the indicated rain or CSO events by as much as 24 hours.

For the months of December 2016 and February 2017, Morris Forman WQTC did not meet the Seven and 30 Day Secondary Effluent Total Suspended Solids (TSS) limits, the Seven and 30 Day Secondary Effluent Biochemical Oxygen Demand (BOD) limits, and percent removal for TSS. For the month of January 2017, Morris Forman WQTC did not meet the Seven and 30 Day Secondary Effluent Total Suspended Solids (TSS) limits and the Seven and 30 Day Secondary Effluent Biochemical Oxygen Demand (BOD) limits.

These permit issues can be attributed to ongoing capital construction involving process area shutdowns that impact plant performance at the Morris Forman WQTC. Compromised solids processing capability has also contributed the exceedances. Morris Forman WQTC continues to employ additional solids removal strategies to meet solids removal demands.

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Figure 1.1. Wet Weather Storage in the Morris Forman Sewer System via the RTC System



Louisville/Jefferson County
Metropolitan Sewer District

WET WEATHER STORAGE IN THE MORRIS FORMAN SEWER SYSTEM VIA THE RTC SYSTEM



Period	
From :	01/01/2017
To :	03/31/2017

Event Number	Wet Weather Event			Rainfall			CSO Saved Volume (MG)								High River Levels	Comments
	Start Date	End Date	Duration	Average*	Max**		SWPS SG Chamber (14.5)*	SWOR2 (7.5)	Brady Lake and Executive Inn Storage (13.4)	Southern Outfall (3.5)	Ashland (1.0)	Ohio River Interceptor (4.1)	Sneads Branch (2.5)	Total (46.5)		
				TRFD (in)	TRFD (in)	Rain Gauge										
2017-01	1/2/17 15:50	1/4/17 5:45	37:55:00	0.48	0.58	TR05	3.95	1.10	0.65	1.90	0.45	4.00	0.10	12.15	No	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. SWOR2 was partially manually controlled.
2017-002	1/10/17 19:10	1/12/17 16:10	45:00:00	0.60	0.85	TR14	7.20	3.80	2.10	3.50	0.80	4.95	0.35	22.70	No	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. Brady Lake, Executive Inn and SWOR2 were partially manually controlled.
2017-003	1/12/17 16:10	1/13/17 13:40	21:30:00	0.47	0.54	TR13	4.10	1.90	1.25	2.90	0.50	4.45	0.35	15.45	No	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. SWOR2 was partially manually controlled.
2017-004	1/13/17 13:40	1/15/17 14:55	49:15:00	0.55	0.65	TR13	3.80	1.40	1.25	5.65	0.30	8.45	0.15	21.00	No	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-006	1/16/17 17:35	1/19/17 17:25	71:50:00	0.66	0.77	TR14	7.69	2.12	6.06	3.50	0.33	4.10	0.60	24.40	Yes	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. Brady Lake and SWOR2 were partially manually controlled. Executive Inn was partially in downgraded mode during this event.
2017-007	1/19/17 17:25	1/23/17 14:25	93:00:00	1.14	1.18	TR14	12.10	2.45	2.65	3.50	0.00	4.35	1.10	26.15	Yes	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. Brady Lake and SWOR2 were partially manually controlled. Executive Inn was partially in downgraded mode during this event.
2017-008	2/7/17 6:35	2/8/17 9:50	27:15:00	0.50	0.67	TR14	6.10	2.50	1.15	3.95	0.65	4.50	0.10	18.95	No	Moderate back to back storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. SWOR2 was partially manually controlled.
2017-011	2/24/17 18:30	2/25/17 23:15	28:45:00	0.73	1.13	TR14	5.85	4.75	2.30	3.50	0.50	4.20	2.00	23.10	No	Moderate back to back storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-013	2/28/17 4:40	3/5/17 8:45	124:05:00	1.82	2.42	TR14	13.85	7.90	10.95	6.00	2.00	7.40	2.55	50.65	Yes	Large and long lasting storm cells homogeneously distributed over the service area (characteristic of a 1-year return period). The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2. SWOR2 was partially manually controlled.
2017-014	3/6/17 6:30	3/8/17 23:50	65:20:00	0.65	0.71	TR05	8.75	2.55	1.60	3.80	0.80	5.40	0.70	23.60	Yes	Moderate storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-017	3/25/17 20:10	3/26/17 16:50	20:40:00	0.53	0.66	TR14	1.50	0.65	0.65	3.50	0.40	4.50	0.10	11.30	No	Moderate storm cells heterogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-018	3/27/17 11:45	3/28/17 5:05	17:20:00	0.47	0.86	TR15	3.30	1.70	1.45	3.50	0.65	4.50	0.25	15.35	No	Moderate storm cells heterogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-019	3/30/17 9:35	3/31/17 11:50	26:15:00	0.31	0.58	TR05	1.60	0.90	0.90	3.50	0.50	4.65	0.20	12.25	No	Moderate storm cells heterogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
TOTAL							79.79	33.72	32.96	48.70	7.88	65.45	8.55	277.05		

* Average total rainfall depth based on rain gauge TR04, TR05, TR11, TR12, TR13, TR14 and TR15

** Maximum total rainfall depth measurement and its location during the wet weather event

*** MDS is always manually controlled by operator

+ The capacity has been restricted since April 1st due to the damaged Gate 2 at SWSG (7.7 MG total = 5.5 MG (storage volume before RTC) + 2.2 MG (storage volume for RTC)).

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Figure 1.2. Morris Forman WQTC – Plant Flows and Associated CSO Activations – January 2017

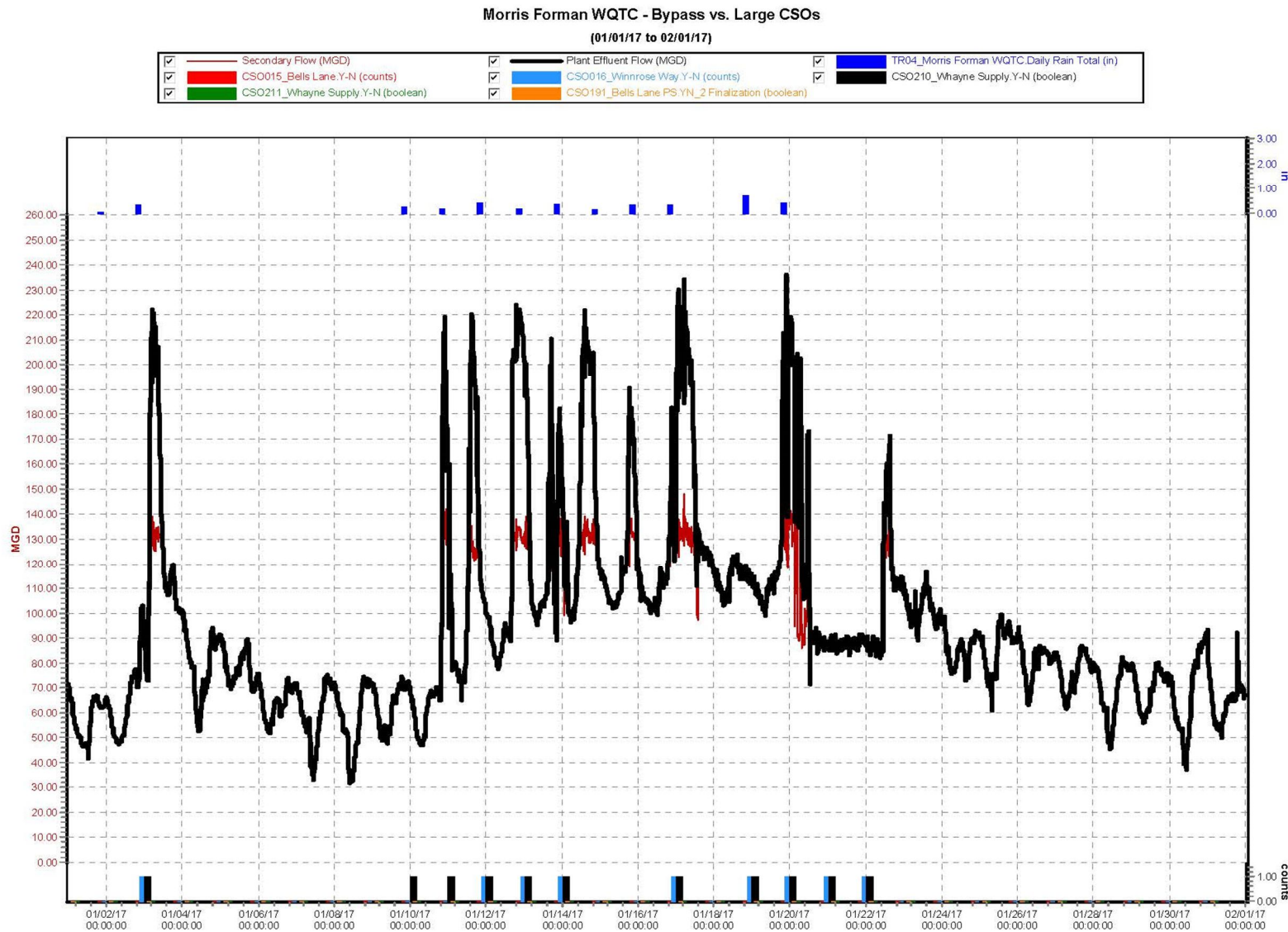


Figure 1.3. Morris Forman WQTC – Plant Flows and Associated CSO Activations – February 2017

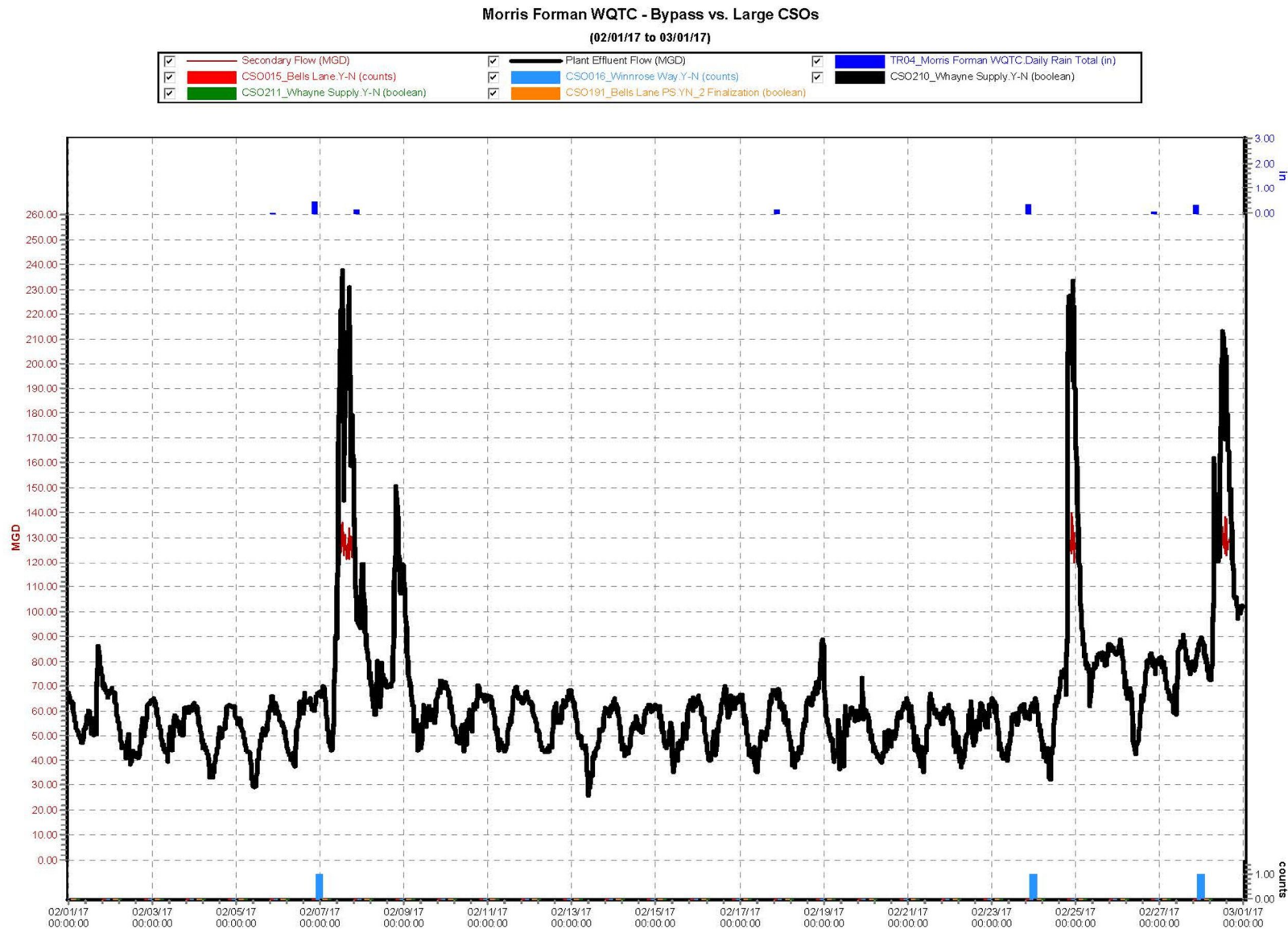
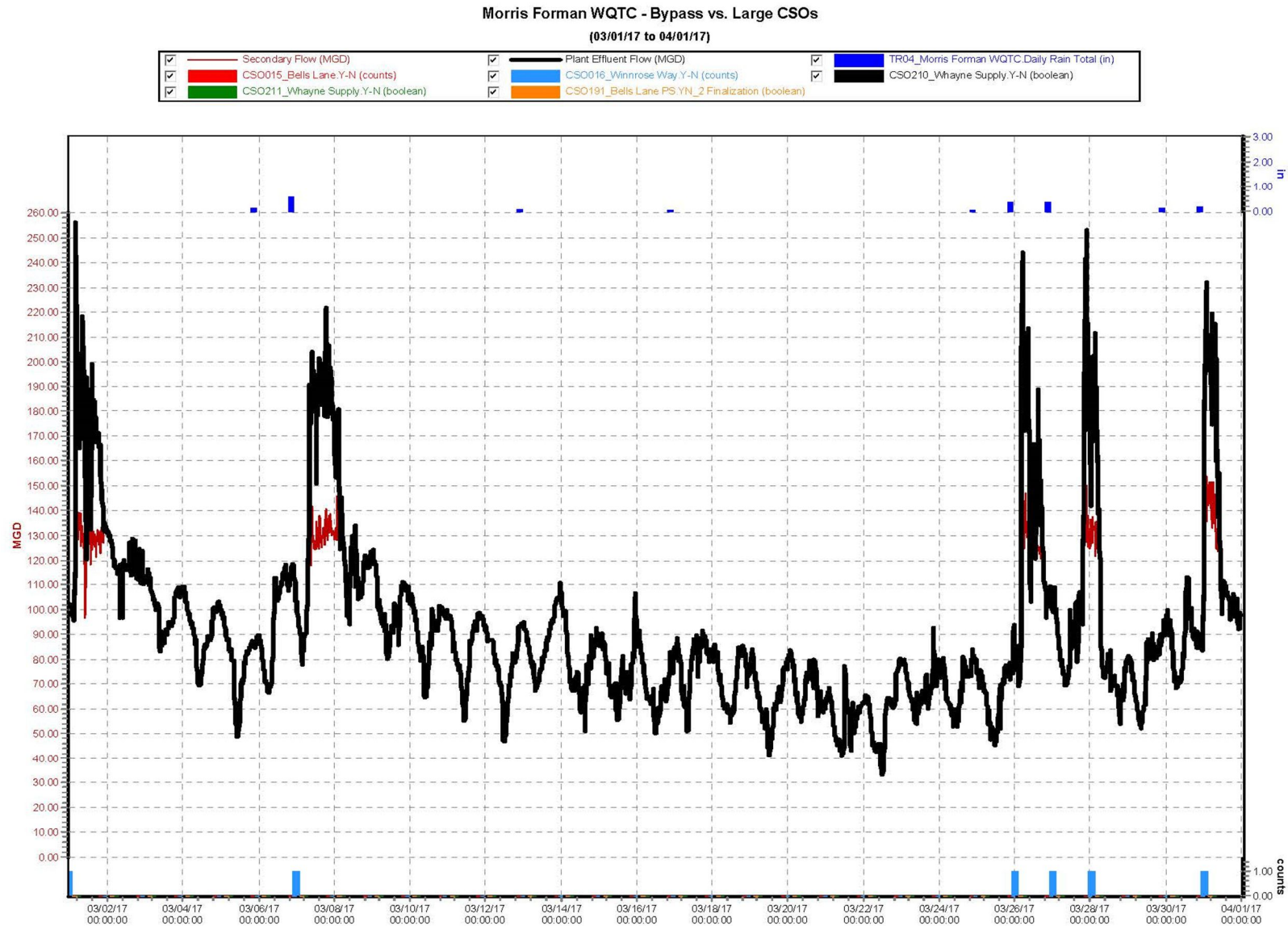


Figure 1.4. Morris Forman WQTC – Plant Flows and Associated CSO Activations – March 2017



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SECTION 2: PROGRAM ACTIVITIES FOR SEWER OVERFLOW RESPONSE PROTOCOL (SORP)

2.1. PROGRAM BACKGROUND

Per Paragraph 24.d. of the Amended Consent Decree, MSD initially submitted the Sewer Overflow Response Protocol (SORP) to EPA and KDEP on February 10, 2006, and received comments on March 13, 2006.

MSD completely revised the SORP documentation in 2011. The draft of this revised document was submitted for comment on August 22, 2011. Comments from EPA and KDEP were received and addressed, and the document was resubmitted October 28, 2011. Final approval of the updated SORP document was received February 21, 2012. A hard copy of the approved document has been distributed to each division throughout MSD and a viewable, downloadable electronic version has been posted to the MSD Project WIN website, available at www.msdpjprojectwin.org. The following activities were performed during this reporting period.

2.2. OVERFLOW MANAGEMENT AND FIELD DOCUMENTATION

MSD monitored approximately 143 sanitary sewer overflow (SSO) sites, which have been grouped into routes based on the range of rainfall rates necessary to cause a SSO. These routes are monitored during rain events depending on the magnitude and location of the storm. If an overflow is observed, a Discharge Work Order is created to document the event. During this quarter, 24 unauthorized discharges were identified through route reconnaissance. Inspection routes were run during rain events, as described in Table 2.1.

MSD Operations staff hauled 5,000 gallons due to capacity-related issues during this reporting period. Hauling was also initiated due to other issues as indicated in Table 2.2.

Table 2.1. Rain Event Inspection Routes

ROUTE DESCRIPTION	JANUARY 14, 2017	JANUARY 17, 2017	JANUARY 20, 2017	FEBRUARY 7, 2017	FEBRUARY 28, 2017	MARCH 1, 2017	MARCH 27, 2017
ENGINEERING RAIN EVENT SSO INSPECTION ROUTE	X		X	X		X	X
HIKES POINT RAIN EVENT SSO INSPECTION ROUTE	X	X	X	X	X	X	
JEFFERSONTOWN RAIN EVENT SSO INSPECTION ROUTE (JTOWN MANHOLES WITHIN 2000 LF OF HEADWORKS)	X	X	X	X	X	X	
JEFFERSONTOWN/FERN CREEK RAIN EVENT SSO INSPECTION ROUTE	X	X	X	X	X	X	
MIDDLE/MUDDY FORK RAIN EVENT SSO INSPECTION ROUTE	X	X	X	X	X	X	

Table 2.2. Hauled Volumes in Gallons

PROBLEM	JANUARY	FEBRUARY	MARCH
ELECTRICAL PROBLEMS AT MSD	0	0	4,000
LACK OF SYSTEM CAPACITY	5,000	0	0
MECHANICAL FAILURE	700	3,000	0
STRUCTURAL FAILURE	1,500	0	3,000

2.3. STAFF TRAINING AND COMMUNICATION

Reviewed and updated the training documentation for the 2017 first quarter SORP training that included Preparing, Monitoring and Response to Overflows. Conducted the following SORP Quarterly training sessions which were attended by 250 employees. Details are shown in Table 2.3.

Table 2.3. Staff Training Participation – Current Reporting Period

DATE	INTENDED AUDIENCE	LOCATION	MODULE	ATTENDEES
March 15, 2017	Operations Staff	Cedar Creek WQTC	Preparing, Monitoring and Response to Overflows	21
March 15, 2017	Operations Staff	Floyds Fork WQTC	Preparing, Monitoring and Response to Overflows	16
March 21, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	9
March 22, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	34
March 22, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	17
March 24, 2017	Operations Staff	CMF	Preparing, Monitoring and Response to Overflows	18
March 24, 2017	Operations and Engineering Staff	CMF	Preparing, Monitoring and Response to Overflows	25
March 28, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	6
March 29, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	16
March 29, 2017	Operations Staff	Morris Forman WQTC	Preparing, Monitoring and Response to Overflows	7
March 31, 2017	Operations Staff	CMF	Preparing, Monitoring and Response to Overflows	20
March 31, 2017	Operations and Engineering Staff	CMF	Preparing, Monitoring and Response to Overflows	48
April 5, 2017	Operations Staff	Derek R. Guthrie WQTC	Preparing, Monitoring and Response to Overflows	13

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SECTION 3: PROGRAM ACTIVITIES FOR DISCHARGE ABATEMENT PLANS (DAP)

3.1. INTEGRATED OVERFLOW ABATEMENT PLAN (IOAP)

As a requirement of the Amended Consent Decree, per Paragraph 25, MSD is to prepare and submit for review and approval discharge abatement plans for the elimination of unauthorized discharges from the separate sanitary and the combined sewer systems, the reduction and control of discharges from the CSO locations identified in the Morris Forman WQTC KPDES permit, and the improvement of water quality in the receiving waters.

The Final Sanitary Sewer Discharge Plan (SSDP) and the Final CSO Long Term Control Plan (LTCP) were submitted concurrently and certified on December 19, 2008, under the title of the Integrated Overflow Abatement Plan (IOAP). The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, and was entered into public record on February 15, 2010.

MSD submitted an IOAP modification request to EPA/KDEP on September 20, 2012, with partial approval granted via certified letter on October 25, 2012. The modified project package, including program descriptions, progress, and updated supporting text, was submitted to EPA/KDEP for approval on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The project and program modifications proposed within this submittal resulted from additional information gathered from ongoing system monitoring, hydraulic modeling and best professional judgment. MSD's adaptive management approach to overflow abatement has justified modifications which provide a higher level of overflow control. These modifications will be completed faster than originally proposed for approximately the same overall budget.

Since the June 19, 2014, approval of the 2012 IOAP Modification, minor project modification requests have been submitted and approved on an individual project basis.

3.2. SANITARY SEWER DISCHARGE PLAN (SSDP)

The Sanitary Sewer Discharge Plan (SSDP) addresses the overflows and unauthorized discharges from the separate sanitary sewer system. Three separate plans have been submitted under this program as described below and outlined in Paragraph 25.a. of the Amended Consent Decree.

3.2.1 UPDATED SANITARY SEWER OVERFLOW PLAN (SSOP) IMPLEMENTATION

MSD prepared and submitted the Updated Sanitary Sewer Overflow Plan (SSOP) on February 10, 2006. This plan included an overview of the MSD sanitary sewer overflow abatement program and specific actions taken to reduce/eliminate overflows from the sanitary sewer system. This document included a list of the proposed improvements to be accomplished by December 31, 2008. Activities required under the Updated SSOP have been completed.

3.2.2 INTERIM SANITARY SEWER DISCHARGE PLAN (ISSDP)

MSD submitted an Interim Sanitary Sewer Discharge Plan (ISSDP) for approval on September 30, 2007. Comments were received on January 8, 2008. MSD resubmitted the revised ISSDP on March 7, 2008, and received an approval letter for the ISSDP on July 24, 2008. The approved document can be viewed on the MSD Project WIN website, available at www.msdprojectwin.org.

All projects required by the ISSDP have been completed and certified. The Derek R. Guthrie WQTC Project's completion was delayed in accordance with the construction contract documents due to existing litigation and performance by the general contractor. However, the full functionality and capacity of the plant upgrades under this project met the demands of the service area. With this understanding, a revised certification letter dated October 19, 2015, was submitted certifying that the Derek R. Guthrie WQTC Project is performing in accordance with its stated intent and purpose, and is in compliance with the Consent Decree requirements.

3.2.3 FINAL SANITARY SEWER DISCHARGE PLAN (SSDP)

MSD submitted for approval a Final SSDP on December 19, 2008, as Volume 3 of the IOAP. The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, and was entered into public record on February 15, 2010. A revised SSDP was included in the 2012 IOAP Modification, submitted on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The approved document can be viewed on the MSD Project WIN website, available at www.msdprojectwin.org.

3.3. CSO LONG TERM CONTROL PLAN (LTCP)

The CSO Long Term Control Plan (LTCP) addresses the overflows and unauthorized discharges from the Combined Sewer System (CSS). Two separate plans have been submitted under this program as described below and outlined in Paragraph 25.b. of the Amended Consent Decree.

3.3.1 INTERIM CSO LONG TERM CONTROL PLAN (LTCP)

The Interim CSO LTCP was initially submitted to EPA and KDEP on February 10, 2006, and MSD received an approval letter dated February 22, 2007. The approved Interim LTCP can be viewed on the MSD Project WIN website, available at www.msdprojectwin.org. This plan includes an overview of the MSD program, efforts taken to reduce/eliminate discharges from the CSS, and the list of proposed improvements to be accomplished by December 31, 2008. All projects associated with this plan have been completed.

3.3.2 FINAL CSO LONG TERM CONTROL PLAN (LTCP)

MSD submitted for approval the Final CSO LTCP on December 19, 2008, as Volume 2 of the Integrated Overflow Abatement Plan. The IOAP was accepted by the Federal Court and incorporated by reference into the Amended Consent Decree by an Order signed February 12, 2010, and was entered into public record on February 15, 2010. A revised LTCP was included in the 2012 IOAP Modification, submitted June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The approved document can be viewed on the MSD Project WIN website, available at www.msdprojectwin.org.

3.3.3 GREEN PROGRAM UPDATE

MSD continued program activities to provide incentives to private property owners to reduce the amount of impervious surface that drains to the combined sewer system. The continued coordination with the Green and MS4 programs is on-going to optimize resources and regulations to improve water quality.

The Green Program incentives are being used to promote green projects in the areas that provide the most value for residual AAOV reduction based on the latest modeling results. Project opportunities are optimized to best use available funding and provide additional overflow volume reduction benefits to complement LTCP projects.

MSD continues to administer urban reforestation and downspout disconnection programs to intercept rainwater and reduce the amount of stormwater entering the sewer system. Urban reforestation proposals require a Memorandum of Understanding for reporting tree location, condition and maintenance plan. Partners participating in the program are responsible for ongoing maintenance of the trees. Downspout disconnection participants must pass inspection and direct ties to the combined sewer system are permanently blocked.

For the current fiscal year, MSD has fully committed its budget for Green Incentives and Urban Reforestation projects and continues to manage active projects. MSD expects to continue initiating new projects at the start of the next fiscal year.

3.4. DISCHARGE ABATEMENT PLAN PROJECT STATUS

3.4.1 SANITARY SEWER DISCHARGE PLAN (SSDP)

There were no SSDP projects completed nor certified during the current reporting period. Per the current approved schedule, no SSDP projects will be completed or certified during the next reporting period.

3.4.2 COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN (LTCP)

There were no CSO LTCP projects completed nor certified during the current reporting period. Table 3.1 details CSO LTCP projects that are required to be completed and certified during the next reporting period.

Table 3.1. IOAP Project Completion Dates – CSO LTCP – Upcoming Reporting Period

BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	DATE CERTIFIED	ACD DATE
H09140	L_SO_MF_018_S_03_A_A	Nightingale Pump Station Replacement	Under Construction	June 30, 2017

3.4.3 ACTIVITY PROGRESS CHART

A Gantt chart showing the 2012 IOAP Modification project schedules and subsequent approved minor modifications for the entire program is provided in Figure 3.1. Refer to IOAP, Volume 1 – Figure 6.3.1 for the previous chart.

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Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

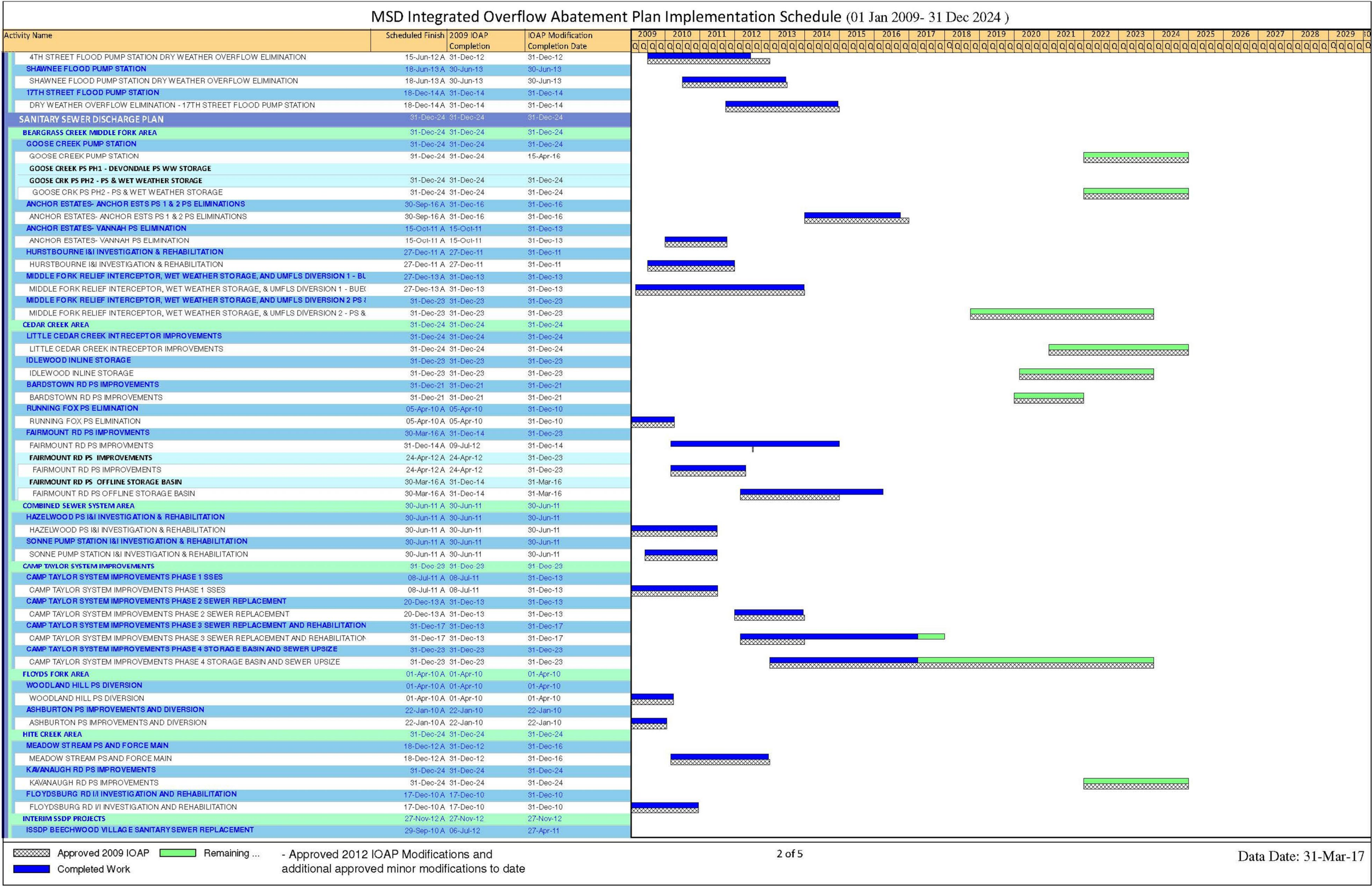


Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

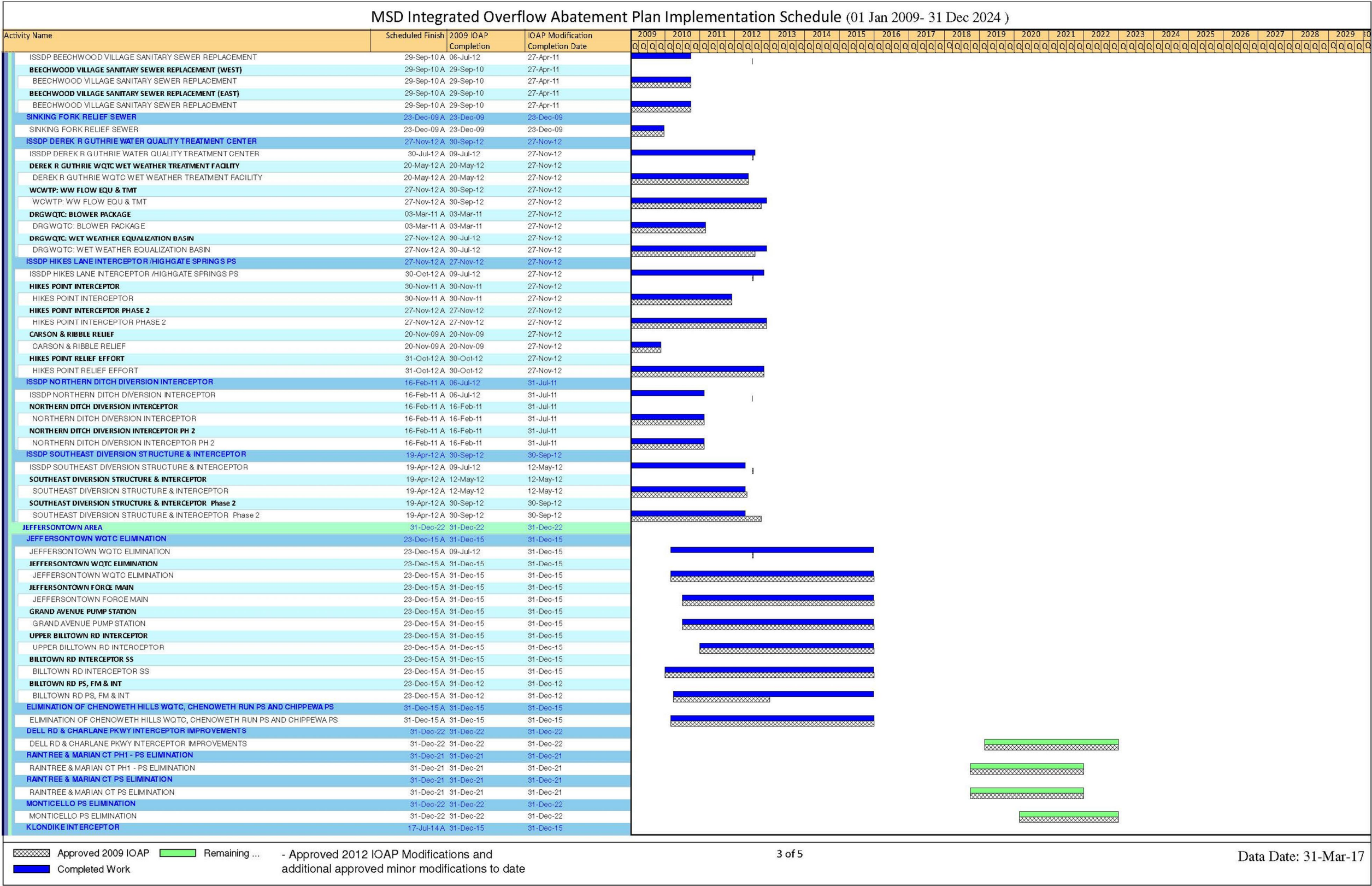


Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

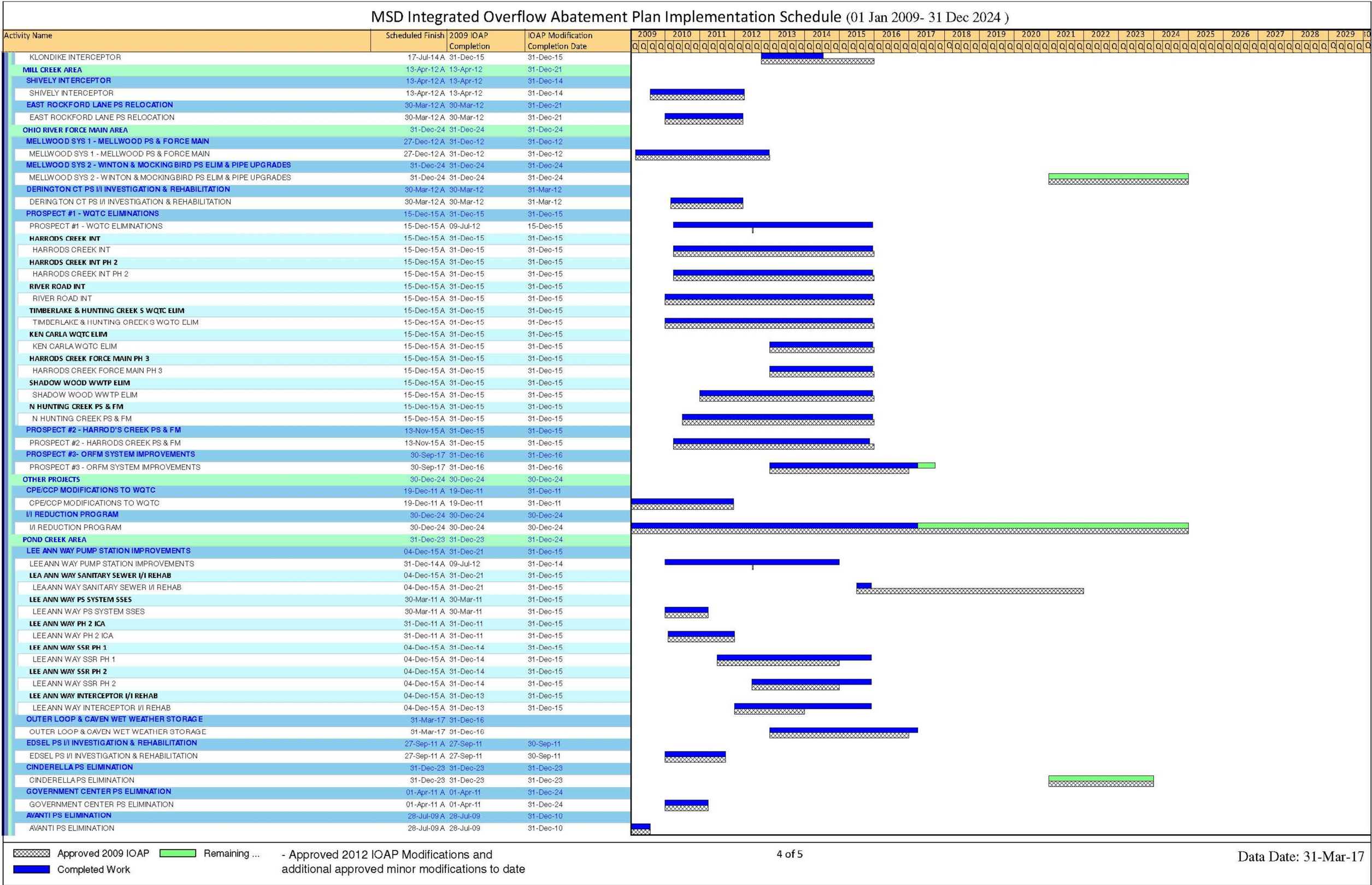
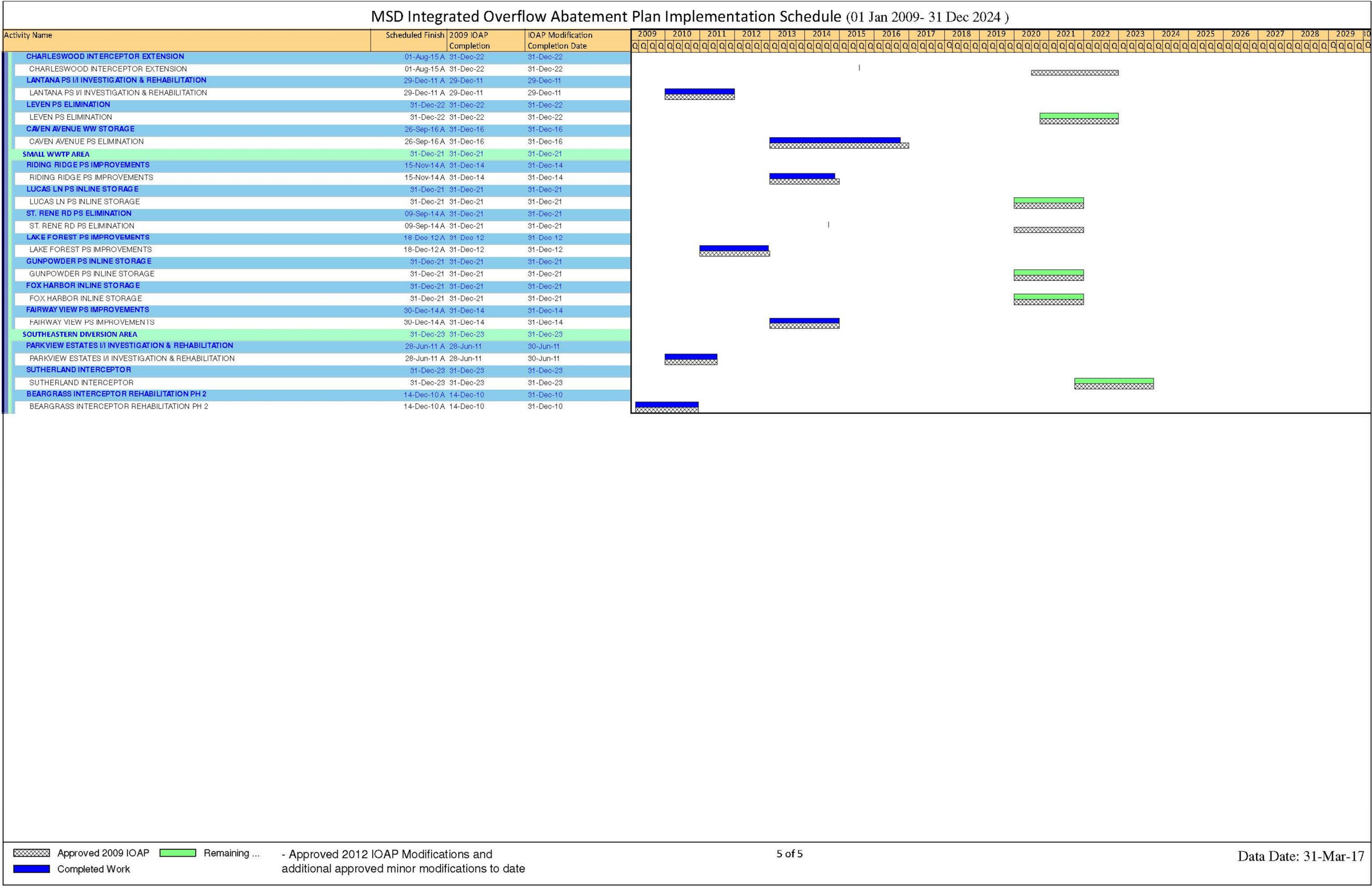


Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



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SECTION 4: PROGRAM ACTIVITIES FOR PUBLIC OUTREACH, EDUCATION, NOTIFICATION AND PARTICIPATION

4.1. PUBLIC NOTIFICATION PROGRAM

MSD has developed a program aimed at notifying the community of the objectives of Project WIN and how to lessen the risks associated with coming into contact with sewage overflows.

4.2. PUBLIC EDUCATION PROGRAMS

A public education program aimed at disseminating information to the public on MSD's primary business functions with emphasis on wastewater, stormwater and flood protection has been developed and implemented. Efforts continued to utilize various media outlets, including television, radio, magazines and newspapers, social media, and MSD websites, to serve as a conduit for circulating information to the public.

Additionally, MSD has created water quality sampling videos and partnered with educational organizations to assist with watershed videos. These efforts were finalized March 31, 2017, will be made available to the public and are currently aired on the video wall located in MSD's main office lobby.

During the reporting period, MetroTV aired the programs listed in Table 4.1.

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
January 2, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 2, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 3, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
January 4, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
January 6, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 6, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 7, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 7, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 7, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
January 8, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
January 9, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
January 13, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 13, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 14, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 15, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 15, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 16, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 16, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 16, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
January 17, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 18, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 18, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 19, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 19, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 20, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 21, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
January 23, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 23, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 24, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
January 25, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 26, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 26, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
January 27, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
January 27, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
January 27, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
February 5, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
February 5, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 6, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 11, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 11, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 12, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
February 12, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 12, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
February 17, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 22, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 23, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 24, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
February 25, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
February 25, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
February 26, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
February 27, 2017	Southwestern Parkway CSO Basin: Public Meeting	November 29, 2016
March 4, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
March 6, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 6, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 6, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 8, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 9, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 10, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 10, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 10, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 11, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
March 12, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
March 12, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 13, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 19, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
March 20, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 20, 2017	Story & Main CSO Basin: Update Meeting	October 11, 2016
March 20, 2017	Lexington & Payne CSO Basin: Update Meeting	October 18, 2016
March 23, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 25, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
March 26, 2017	I-64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016

4.3. PUBLIC OUTREACH PROGRAMS

MSD has developed a public education program aimed at expanding the public's knowledge of MSD's primary business functions of wastewater, stormwater and flood protection, with an emphasis on Project WIN Program elements.

4.3.1 IOAP PROJECT AND PROGRAM MEETINGS

MSD facilitates meetings for the Wet Weather Team (WWT) and the public to review regulatory commitments, update progress on projects and initiatives, and to gather public input on efforts.

MSD has developed a partnership with Louisville Metro for providing project information and soliciting feedback from stakeholders using a Structured Public Involvement approach. Structured Public Involvement is meant to facilitate relevant input on the design process as MSD prepares to design and construct CSO basins. The current IOAP outreach activities and public meetings are using this process to elicit qualitative and quantitative information and enhance engagement with customers. Additional information regarding the Structured Public Involvement Process and meetings held during this reporting period may be found at the Project WIN Public Input Website, available at <http://www.msdpowerwin.org/Public-Input.aspx>.

During the reporting period, MSD facilitated and planned for the meetings shown in Table 4.2. Meetings planned for the upcoming reporting period are listed in Table 4.3.

Table 4.2. IOAP Project and Program Meetings – Current Reporting Period

DATE	EVENT
January 3, 2017	Clifton Heights CSO Basin: Force Main Extension Public Meeting
January 10, 2017	Southwestern Parkway CSO Basin: Stakeholder Meeting
February 10, 2017	Ohio River Tunnel: Stakeholder Meeting – Louisville Downtown Partnership
March 1, 2017	Ohio River Tunnel: Stakeholder Meeting – Louisville Downtown Partnership with Central Business District Companies
March 14, 2017	Ohio River Tunnel: Stakeholder Meeting – Waterfront Development Corporation

Table 4.3. Anticipated IOAP Project and Program Meetings – Upcoming Reporting Period

DATE	EVENT
April 18, 2017	Wet Weather Stakeholder Team Meeting
April 18, 2017	Southwestern Parkway CSO Basin: Stakeholder Meeting

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SECTION 5: CAPACITY MANAGEMENT OPERATIONS AND MAINTENANCE (CMOM) REPORT

Per Paragraph 24.c. of the Amended Consent Decree, the Capacity Management Operations and Maintenance (CMOM) Self Assessment Report was submitted to EPA and KDEP on February 10, 2006. MSD received a letter of approval on August 22, 2006. The approved CMOM document can be viewed on the MSD Project WIN website, available at www.msdprojectwin.org.

The primary objectives of CMOM are as follows:

- **Capacity** – Ensuring that adequate wet and dry weather capacity is maintained in existing and new infrastructure.
- **Management** – Implementing programs in support of operations and maintenance activities required to ensure KPDES permit compliance and promote public health by remedying design, construction and operational deficiencies; training staff; and performing activities in a safe manner.
- **Operations** – Implementing written standard operating procedures to operate system components as designed to meet permit requirements.
- **Maintenance** – Implementing systematic, comprehensive asset maintenance and rehabilitation programs to prevent overflows, maximize system reliability, and ensure system sustainability.

Although the program implementation deadlines from the CMOM Self Assessment Report were previously met, MSD continued to enhance the activities. Highlights of the CMOM program implementation over this reporting period are outlined below.

5.1. MANAGEMENT PROGRAMS

M-E-9 Infrastructure Rehabilitation

Refer to the CMOM activity schedule provided in Section 5.4.

M-E-10 System Capacity Assurance Program

Included in the goals of the CMOM Self-Assessment Report, the System Capacity Assurance Plan (SCAP) is the basis for applying capacity decision criteria to support watershed community values. It provides a programmatic approach for confirming available capacity within MSD's sanitary sewer system, creating capacity credits through system improvement and rehabilitation, identifying hydraulic constrictions, and proposing capacity improvements that support interim and long-term performance objectives. SCAP revisions, including credit and balance projections and discussion of approach for multi-family residential unit populations, were discussed with EPA and KDEP and submitted electronically for review on July 21, 2014. The final SCAP revision was submitted for approval on December 9, 2014, and approval was received February 5, 2015. A copy of the approved SCAP can be found on the Project WIN website, available at www.msdprojectwin.org.

A current copy of the SCAP Credit Balance is included as Appendix B.

5.2. OPERATIONS PROGRAMS

O-A-1 Pump Station Operations Programs (Routine Operating Programs)

O-A-2 Pump Station Operations Programs (Emergency Operating Programs)

Refer to the CMOM activity schedule provided in Section 5.4.

5.3. COMPREHENSIVE PERFORMANCE EVALUATIONS AND COMPOSITE CORRECTION PLANS (CPE/CCP)

Per requirements of MSD's 2009 Amended Consent Decree, MSD implemented a Comprehensive Performance Evaluation (CPE) and Composite Correction Plan (CCP) program for the District's WQTCs. Although the IOAP CPE assessments that defined specific WQTC improvements were completed by December 31, 2011, MSD will continue to implement CPE/CCP activities as part of the District's CMOM Program. This section lists activities per WQTC as they occur during the reporting period.

5.3.1 HITE CREEK WATER QUALITY TREATMENT CENTER

The design project to expand the capacity of the Hite Creek WQTC from 6 MGD to 9 MGD is underway and will continue during the next reporting period. The 30% design documents have been submitted to MSD. MSD will review the documents and continue through design.

Refer to the CMOM activity schedule provided in Section 5.4 for CPE/CCP-related capital projects.

5.3.2 FLOYDS FORK WATER QUALITY TREATMENT CENTER

During this reporting period, there is no activity to report for the Floyds Fork WQTC.

Refer to the CMOM activity schedule provided in Section 5.4 for CPE/CCP-related capital projects.

5.3.3 DEREK R. GUTHRIE WATER QUALITY TREATMENT CENTER

During this reporting period, construction continued for the Secondary Clarifiers 1, 2 and 3 collection mechanisms replacement project. Grout was removed from the last of the three clarifiers, clarifier #1; for all clarifiers, new mechanisms have been installed, new grout has been installed appropriately, training has been conducted, and the clarifiers are in service or may be placed into service. The project was substantially complete as of March 30, 2017. The project will be verified as finally complete with warranty period established during the next reporting period.

Instrumentation and Controls (I&C) testing of the Wet Weather Pumps was conducted. Additional I&C testing and also Vibration testing of the Wet Weather Pumps will be conducted during the next reporting period.

Return Activated Sludge (RAS) construction drawings were submitted to KDOW for approval to move forward with construction concurrent to proceeding through the completion of the draft Facility Plan update. MSD is meeting with KDOW to submit the Facility Plan for preliminary review on April 13, 2017. After review, MSD and KDOW will post the plan for public review on each of their websites and MSD will schedule a public hearing.

Construction for the removal and upgrade of RAS Pumps 1 and 4, including the replacement of variable frequency drives on pumps 1 through 4, is anticipated to be publicly bid and awarded during the next reporting period.

Refer to the CMOM activity schedule provided in Section 5.4 for CPE/CCP-related capital projects.

5.3.4 CEDAR CREEK WATER QUALITY TREATMENT CENTER

During this reporting period, construction continued for the Cedar Creek WQTC Influent Pump Station Gate Repair and UV Gate Replacement Project. The CCWQTC influent PS Gate Repair and the UV gate replacement construction will be completed by the end of April 2017.

The design of the Cedar Creek WQTC Influent Pump Station Motor Controls Upgrade Project has been completed and is anticipated to be publicly bid and awarded during the next reporting period.

Refer to the CMOM activity schedule provided in Section 5.4 for CPE/CCP-related capital projects..

5.3.5 PROSPECT AREA WATER QUALITY TREATMENT CENTER UPDATES

An elimination plan for the five WQTCs serving Prospect (Timberlake, Hunting Creek North, Hunting Creek South, Ken Carla, and Shadow Wood) was submitted to EPA/KDEP on March 31, 2009. Approval of this plan was received on September 24, 2009 and work is now complete. See Section 3.2.3 for an update on the design and construction of the projects that make up the elimination plan for the Prospect Area WQTCs. A certification letter dated December 15, 2015, was submitted finalizing the completion of the project.

5.3.6 JEFFERSONTOWN WATER QUALITY TREATMENT CENTER

A certification letter dated December 23, 2015, was submitted finalizing the completion of the Jeffersontown WQTC Elimination Project.

5.3.7 OTHER WATER QUALITY TREATMENT CENTERS

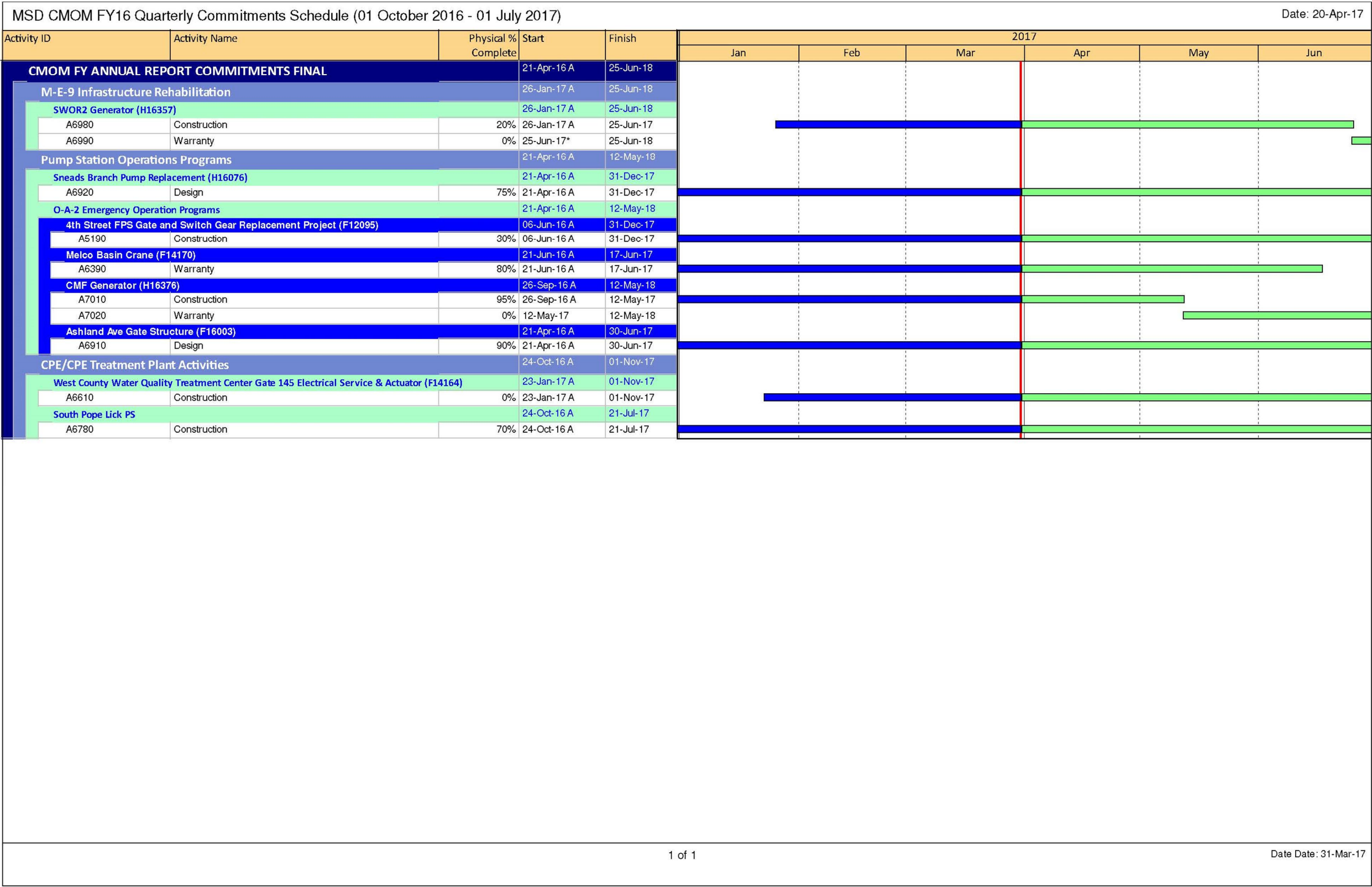
All non-regional WQTCs owned or operated by MSD have been eliminated as of May 27, 2016.

5.4. CMOM ACTIVITY SCHEDULE

CMOM capital project milestones for the current reporting period as well as a look-ahead for the upcoming reporting period are provided in the following schedule.

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Figure 5.1. CMOM Quarterly Commitments Schedule



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SECTION 6: PROJECT WATERWAY IMPROVEMENTS NOW (WIN) PERFORMANCE OVERVIEW

6.1. COMBINED SEWER OVERFLOW REDUCTION AND SANITARY SEWER OVERFLOW ABATEMENT ACTIVITIES

The following sections outline the activities performed during the reporting period to reduce or control CSOs and eliminate SSOs.

6.1.1 COMBINED SEWER OVERFLOW REDUCTION AND CONTROL ACTIVITIES

MSD was not required to complete any CSO LTCP projects during the current reporting period.

6.1.2 SANITARY SEWER OVERFLOW ELIMINATION ACTIVITIES

MSD was not required to complete any IOAP SSDP projects during the reporting period.

6.2. SYSTEMWIDE PERFORMANCE

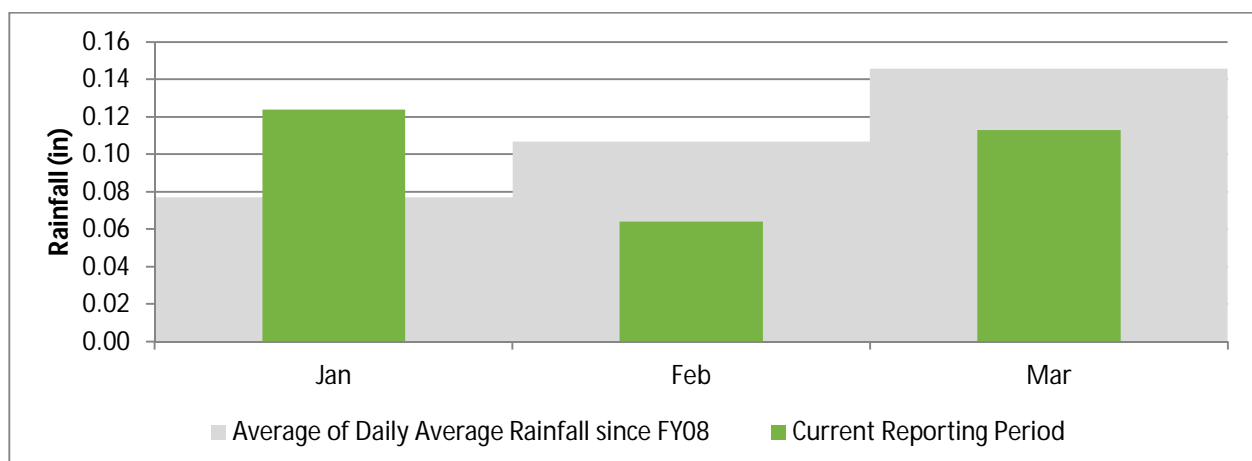
6.2.1 RAINFALL

The number and the volume of wet weather overflows are directly related to the amount of rain that has fallen during the reporting period. Figure 6.1 shows the Jefferson County daily average rainfall amounts for each month of the last quarter, compared with the average of the daily average rainfall since FY08. Data was pulled from MSD's Rain Gauge Network.

Weather Event Summary

Daily average rainfall was above the previous fiscal year average for the month of January and below the previous fiscal year average for the months of February and March.

Figure 6.1. Daily Average Rainfall by Month



6.3. WATER QUALITY TREATMENT CENTER PERFORMANCE

6.3.1 BYPASSES

Table 6.1 summarizes the bypass events that occurred during this reporting period, and details are included in Appendix A-2 . Each quarter, an assessment of bypasses is conducted to determine the root cause of the bypass, the failure category, corrective actions to be taken, possible programmatic solutions, and corrective action completion date, included in Table 6.2.

Table 6.1. Bypass Events – Current Reporting Period

TYPE OF BYPASS	DATE	ID	FACILITY NAME
RAIN EVENT DISCHARGE	JANUARY 20, 2017 11:42 AM	MSD0278	MORRIS FORMAN

6.3.2 JEFFERSONTOWN WATER QUALITY TREATMENT CENTER

A letter dated December 23, 2015, certified the elimination of the Jeffersontown WQTC. Inspections were conducted upstream of what was previously the Jeffersontown WQTC Headworks during the reporting period. There were no overflows reported as a result of these inspections. Refer to Section 2.2 for SSO Route information.

6.3.3 PHOSPHORUS MONITORING AT THE PROSPECT WQTCs

All Prospect Treatment Plants have been eliminated per the Amended Consent Decree. These plants were offline as of September 2015.

Table 6.2. Bypass Summary – Current Reporting Period

DATE	WQTC	WORK ORDER	FAILURE CODE	BYPASS DESCRIPTION	FAILURE RESOLUTION
CAPACITY (CAP)					
N/A	N/A	N/A	N/A	N/A	N/A
HUMAN ERROR (OPN)					
N/A	N/A	N/A	N/A	N/A	N/A
FACILITY FAILURE (MECHANICAL-MCH, ELECTRICAL-ELE, STRUCTURAL-STR)					
JANUARY 20, 2017	MORRIS FORMAN	2672831	ELE	THE MFWQTC EXPERIENCED A POWER FAILURE IN THE FINAL EFFLUENT PUMPS STATION (FEPS). THE POWER FAILURE OCCURRED WHILE THE SYSTEM WAS EXPERIENCING A CONTROL SYSTEM FAILURE FOR THE PUMPS IN THE STATION. THIS DID NOT ALLOW THE PUMPS TO STOP AND START AS DESIGNED BASED ON THE STATION WET WELL LEVEL. THE FAILURE ALLOWED TREATED WASTEWATER TO BACK UP IN THE STORM SEWER COLLECTION SYSTEM OF THE PLANT, COME OUT ONTO THE GROUND, AND THEN REENTER THE STORM WATER COLLECTION SYSTEM ONCE PUMPS WERE RESTARTED AND LEVELS RETURNED TO NORMAL. THE AMOUNT OF WATER EXITING AND RE-ENTERING THE SYSTEM POTENTIALLY DID NOT RECEIVE DECHLORINATION.	MORRIS FORMAN OPERATIONS AND ELECTRICAL STAFF RESTARTED PUMPS MANUALLY AND PUMPED THE WELLS DOWN TO NORMAL LEVELS. MORRIS FORMAN OPERATIONS AND ELECTRICIANS STAFFED FEPS 24 HOURS A DAY IMMEDIATELY AFTER THE EVENT TO MONITOR AND ADJUST FOR FLOW VARIATIONS AND TO MAINTAIN NORMAL OPERATING LEVELS IN THE STATION.
EXTERNAL POWER FAILURES (LGE RELATED-PWR)					
N/A	N/A	N/A	N/A	N/A	N/A
UTILITY DAMAGE					
N/A	N/A	N/A	N/A	N/A	N/A

6.4. COMBINED SEWER OVERFLOW PERFORMANCE

6.4.1 AUTHORIZED DISCHARGES – WET WEATHER CSOs

The observed CSO data for the reporting period for each monitored overflow has been tabulated, along with rainfall information from the nearest rain gauge, to facilitate review of the overflows that occurred, and is included as Appendix B.

6.4.2 UNAUTHORIZED DISCHARGES – DRY WEATHER CSOs

MSD recorded information related to dry weather overflows from permitted combined sewer overflow outfalls. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. A detailed report of these overflows will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017. There were no dry weather overflows reported at a CSO during the reporting period, as shown in Appendix A-1 .

6.4.3 CSO FLOW MONITORING QUALITY IMPROVEMENT

During the July 2016 – September 2016 reporting period, MSD identified a potential for inaccurate volume reporting at some CSOs. This was identified by comparing measured overflow volumes against modeled overflow volumes for similar storms. It was determined that several CSO flow monitors are affected by backwater levels from the receiving streams causing a discrepancy actual overflow volume, along with other potential variables at some locations. MSD notified EPA and KDEP of data discrepancies on September 29, 2016.

An effort is currently underway to review and revise reporting procedures at 33 CSO locations where potentially significant discrepancies were noted between modeling and monitoring. This initial effort will be completed by June 30, 2017, and the remaining CSOs will be reviewed thereafter. Until the review is complete, CSO flow monitoring data will continue to be included as an appendix to each quarterly report, will be listed as “Draft”, and will include the statement “CSO data monitoring procedures are currently being revised”. As changes are made to flow meter locations and or flow meter calculation algorithms, MSD will provide status updates in the quarterly reports on progress to evaluate data accuracy, revise monitoring data records, update monitoring procedures, and implement recommendations. CSO flow monitoring data reported quarterly will include updated volumes based on completion of the review and update of the reporting standards for each CSO. Any revised volumes for previous reporting periods up to and including FY16 will be included as an appendix to the FY17 Consent Decree Annual Report.

For each of the 33 CSO locations under review, MSD is developing an SOP that describes the existing monitoring equipment, configuration, and flow calculation in use as of December 31, 2016 and evaluating the effectiveness of the existing setup. If a more effective arrangement is determined, MSD is adding the proposed arrangement to the SOP for implementation and determining if historical data can be updated to meet the proposed SOP. If the historical data can be update, MSD is developing revised volumes for reporting.

As of the end of reporting period, the following activities have occurred:

- For the following CSOs, a draft SOP is under development; draft revised historical calculated volumes have been developed reflecting the updated calculation procedure; and the SOP will be finalized and

implemented in the upcoming reporting period: CSO015 / CSO191, CSO020, CSO105, CSO106, CSO189, CSO206, CSO211.

- For the following CSOs, a draft SOP is under development; draft revised historical calculated volumes are under development reflecting the updated calculation procedure; and the SOP will be finalized and implemented in the upcoming reporting period: CSO018, CSO036, CSO109, CSO110, CSO125, CSO126, CSO166.
- For the following CSOs, no changes to the historical data will be made, and a draft SOP for revised calculation and documentation of overflows will be finalized and implemented in the upcoming reporting period: CSO016, CSO210.
- The following CSOs are anticipated to be reviewed during the upcoming reporting period and a status update will be provided in the next quarterly report: CSO054, CSO058, CSO088, CSO093, CSO108, CSO118, CSO121, CSO127, CSO130, CSO132, CSO140, CSO146, CSO149, CSO154, CSO160, CSO167. Additionally, the reporting of stored volumes at SWOR2 will also be reviewed.

6.5. COLLECTION SYSTEM OVERFLOW PERFORMANCE

6.5.1 UNAUTHORIZED DISCHARGES TO WATERS OF US

MSD recorded information related to overflows reaching Waters of the United States (WUS) for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. Details of these overflows are included in Appendix A-3 . During this quarter, 34 unauthorized discharges to WUS have been reported, summarized in Table 6.3.

Table 6.3. Dry and Wet Weather SSOs by Cause – Unauthorized Discharges to Waters of US

PROBLEM	DRY WEATHER	WET WEATHER
GREASE BLOCKAGE	1	0
LACK OF SYSTEM CAPACITY	0	26
MECHANICAL FAILURE	2	0
OBSTRUCTION-NOT GREASE / ROOTS	3	0
STRUCTURAL FAILURE	2	0

6.5.2 OVERFLOWS TO THE EXTERIOR

MSD recorded information related to overflows to the ground that did not reach Waters of the United States for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017.

6.5.3 OVERFLOWS TO INTERIOR

MSD recorded information related to overflows to building interiors for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated

with various components of the Amended Consent Decree. These overflows, that are the result of an issue in the main line, will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017.

6.6. GRAVITY LINE PREVENTIVE MAINTENANCE (GLPM)

Each quarter, data and statistics relating to the cleaning, inspection and maintenance of sewer assets performed under the Gravity Line Preventive Maintenance are reported. Data for the current and previous three reporting periods are shown in Table 6.4.

Targets have been developed for planned maintenance (PM) only, which includes any activities that are routinely scheduled to maintain asset condition and decrease its likelihood of failure. Unscheduled maintenance (UM) activities include those activities performed as a reaction to correct asset deficiencies.

Table 6.4. Rolling Quarterly GLPM Performance – By Activity

ACTIVITY	ACTIVITY TYPE	AREA	APR-JUN	JUL-SEP	OCT-DEC	JAN-MAR	TOTAL	TARGET/ QTR	% OF ANNUAL TARGET
Catch Basins Cleaned	PM	Combined System	3,358	3,610	3,921	6,995	17,884	4,460	39%
		Separate System	1,524	1,212	1,070	45	3,851	1,144	1%
	UM	Combined System	234	404	359	323	1,320	-	-
		Separate System	90	71	59	94	314	-	-
CSO Inspections	PM	Combined System	1,267	1,279	1,289	1,276	5,111	1,272	25%
CSO Debris Removal WO	UM		178	165	143	132	618	-	-
Sewer Main Chemical Root Treatment (LF)	UM	Combined System	22,393	0	60,912	602	83,907	-	-
		Separate System	79,071	0	60,069	267,194	406,334	-	-
Sewer Main Flushing and Cleaning (LF)	UM	Combined System	295	2,725	2,490	2,735	8,245	-	-
		Separate System	95,459	25,680	52,496	154,286	327,921	-	-
Sewer Main Inspections (LF)	PM	County Wide	194,515	90,162	486,473	265,419	1,036,568	396,000	17%
Sewer Main Root Cutting (LF)	UM	Combined System	0	250	0	0	250	-	-
		Separate System	7,808	7,200	7,098	13,357	35,463	-	-

APPENDICES

Appendix A	Discharge Work Orders
Appendix A-1	Discharge Work Orders – Dry Weather CSOs
Appendix A-2	Discharge Work Orders – Bypass
Appendix A-3	Discharge Work Orders – Unauthorized Discharges
Appendix B	CSO Flow Monitoring Data
Appendix C	Acronyms
Appendix D	SCAP Balance
Appendix E	IOAP Project Crosswalk

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Appendix A-1 Discharge Work Orders – Dry Weather CSOs

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Appendix A-1 Discharge Work Orders – Dry Weather CSOs

ASSOCIATED WASTEWATER TREATMENT PLANT NAME	ASSOCIATED TREATMENT PLANT KPDES #	OVERFLOW LOCATION	OVERFLOW START DATE & TIME	OVERFLOW STOP DATE & TIME	VOLUME OF OVERFLOW (GAL)	SOURCE ASSET TYPE	SOURCE ASSET ID	FACILITY DISCHARGES TO	RECEIVING STREAM	CAUSE OF OVERFLOW	DUE TO	WEATHER	WO #	CLEANUP EFFORTS BY MSD	REPAIR EFFORTS BY MSD

No Dry Weather CSOs
Occurred During the
Reporting Period

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Appendix A-2 Discharge Work Orders – Bypass

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Appendix A-2 Discharge Work Orders – Bypass

Associated Wastewater Treatment Plant Name	Associated Treatment Plant KPDES #	Overflow Location	Overflow Start Date & Time	Overflow Stop Date & Time	Volume of Overflow (gal)	Source Asset Type	Source Asset ID	Facility Discharges To	Receiving Stream	Cause of Overflow	Due To	Weather	WO #	Cleanup Efforts by MSD	Repair Efforts by MSD
MORRIS FORMAN	KY0022411	4522 ALGONQUIN PKY	1/20/17 11:42 AM	1/20/2017	49,000	SEWER TREATMENT PLANT	MSD0278	STREAM	OHIO RIVER	ELECTRICAL FAILURE	BYPASS AT WQTC	DISREV RAIN EVENT DISCHARGE	2672831	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	RESTARTED PUMPS

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Appendix A-3 Discharge Work Orders – Unauthorized Discharges

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Appendix A-3 Discharge Work Orders – Unauthorized Discharges

ASSOCIATED WASTEWATER TREATMENT PLANT NAME	ASSOCIATED TREATMENT PLANT KPDES #	OVERFLOW LOCATION	OVERFLOW START DATE & TIME	OVERFLOW STOP DATE & TIME	VOLUME OF OVERFLOW (GAL)	SOURCE ASSET TYPE	SOURCE ASSET ID	FACILITY DISCHARGES TO	RECEIVING STREAM	CAUSE OF OVERFLOW	DUE TO	WEATHER	WO #	CLEANUP EFFORTS BY MSD	REPAIR EFFORTS BY MSD
CEDAR CREEK	KY0098540	11409 VISTA CLUB DR	1/28/17 7:30 AM	1/28/17 7:35 AM	50	SEWER LIFT STATION	MSD1163-PS	GROUND	FLOYDS FORK	PUMPS LEFT IN THE OFF POSITION	MECHANICAL FAILURE	DISDW DRY WEATHER DISCHARGE	2677139	MSD SANITIZED AREA	TURNED ON THE PUMPS
CEDAR CREEK	KY0098540	4332 WILLOWVIEW BLVD	3/25/17 7:13 PM	3/25/17 9:29 PM	200	SEWER MAIN	95330	DITCH	CHENOWETH RUN	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2701654	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	FLUSHED THE OBSTRUCTION / DEBRIS FROM THE SEWER
DEREK R. GUTHRIE	KY0078956	3713 DIXIE HWY	02/13/2017 02:50 PM	2/13/17 4:30 PM	250	SEWER MAIN	06940C-AG	DITCH	MILL CREEK	STRUCTURAL FAILURE OF FORCE MAIN	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2683354	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	REFERRED TO METRO OPERATIONS SUPERVISOR TO MAKE NEEDED REPAIRS
DEREK R. GUTHRIE	KY0078956	8023 DIXIE HWY	02/15/2017 07:05 PM	2/15/17 8:10 PM	1	SEWER MAIN	99188	GROUND	VALLEY CREEK	OBSTRUCTION IN MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2685492	MSD PERSONNEL CLEANED AND SANITIZED THE IMPACTED AREA	FLUSHED THE OBSTRUCTION FROM THE SEWER
DEREK R. GUTHRIE	KY0078956	9301 STONESTREET RD	02/24/2017 09:56 AM	2/24/17 12:56 PM	4500	SEWER MANHOLE	40395	STREAM	PONDER CREEK	OBSTRUCTION IN MSD'S MAIN SEWER	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2688434	MSD PERSONNEL WILL CLEAN AND SANITIZE IMPACTED AREA	FLUSHED MAIN SEWER ABOUT 200' TO RESTORE FLOW
DEREK R. GUTHRIE	KY0078956	9114 CINDERELLA LN	03/01/2017 12:05 PM	3/1/17 1:45 PM	500	SEWER MANHOLE	60679	DITCH	FISHPOOL CREEK	LACK OF CAPACITY DUE TO RAIN	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2691028	MSD CLEANED AND SANITIZED AREA	N/A STATION RECOVERED ON ITS OWN AS FLOW DROPPED
FLOYDS FORK	KY0102784	611 WOODLAKE DR	1/30/17 2:00 PM	1/30/17 2:35 PM	875	SEWER MAIN	80581A-AG	GROUND	CHENOWETH RUN	STRUCTURAL FAILURE (FORCE MAIN BREAK)	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2677439	MSD CLEANED AND SANITIZED AREA/CONTRACTOR CLEANED AND SANITIZED AREA	BROKEN FORCE MAIN TAKEN OUT OF SERVICE/REPAIRED BY CONTRACTOR
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	01/17/2017 07:00 AM	1/17/17 11:36 AM	129686	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2671190	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	1/17/17 8:48 AM	1/17/17 3:25 PM	8,400	SEWER MANHOLE	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2671303	WO# 2671470	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	01/17/2017 08:55 AM	1/17/17 1:20 PM	6000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2671309	WO# 2671474	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	01/20/2017 12:45 AM	1/20/17 12:30 PM	10000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672619	WO#2672871	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	01/20/2017 01:06 AM	1/20/17 7:04 PM	1705851	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672620	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	1/20/17 2:00 AM	1/20/17 12:34 PM	30,000	SEWER MANHOLE	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672566	WO# 2672846	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1012 ALTA CIR	01/20/2017 02:15 AM	1/20/17 12:45 PM	12000	SEWER MANHOLE	27005	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672569	WO# 2672863	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	1/20/17 3:15 AM	1/20/17 6:38 PM	180,000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672568	WO# 2672945	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	01/20/2017 03:30 AM	1/20/17 5:37 AM	15000	SEWER MANHOLE	08717	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672572	WO# 2672768	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	201 BULLITT LN	1/20/17 3:30 AM	1/20/17 1:00 PM	24,000	SEWER MANHOLE	47582	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672571	WO# 2672866	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	202 OXMOOR LN	1/20/17 3:30 AM	1/20/17 7:00 PM	180,000	SEWER MANHOLE	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2672570	WO# 2672946	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	9200 TAYLORSVILLE RD	1/27/17 3:08 PM	1/27/17 5:00 PM	100	SEWER MANHOLE	99387	GROUND	AVOCA CREEK	GREASE IN THE MAIN SEWER FROM RESTAURANT IWD WAS CALLED HEAVY GREASE IN THE MAIN AND MANHOLES 99386, 99387, 24692. DUE TO GREASE TRAPS NOT MAINTAINED	GREASE BLOCKAGE	DISDW DRY WEATHER DISCHARGE	2675968	MSD CLEANED AREA	FLUSHED ALL MAIN SEWERS IN AREA
MORRIS FORMAN	KY0022411	1726 FRASER DR	03/01/2017 03:45 AM	3/1/17 5:15 PM	12000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690713	WO# 2691237	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	03/01/2017 05:10 AM	3/1/17 2:28 PM	49500	SEWER MANHOLE	08717	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690705	WO# 2691164	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	3/1/17 5:10 AM	3/1/17 5:28 AM	450	SEWER MANHOLE	66349	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690703	WO# 2690731	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	03/01/2017 07:48 AM	3/1/17 7:14 PM	1425772	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690717	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3406 CHARLANE PKY	03/01/2017 08:52 AM	3/1/17 1:25 PM	7500	SEWER MANHOLE	28451	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690756	WO# 2691141	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3506 CHARLANE PKY	03/01/2017 08:54 AM	3/1/17 1:27 PM	7500	SEWER MANHOLE	28250	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690761	WO# 2691147	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3500 ST EDWARDS DR	03/01/2017 08:56 AM	3/1/17 1:30 PM	7500	SEWER MANHOLE	28249	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690777	WO# 2691154	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	9707 WILLOWWOOD WAY	03/01/2017 09:02 AM	3/1/17 1:35 PM	7500	SEWER MANHOLE	28336	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690779	WO# 2691158	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3726 FINCASTLE RD	3/1/17 9:20 AM	3/1/17 12:05 PM	6,000	SEWER MANHOLE	66349	GROUND	CAMP TAYLOR DITCH	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690781	WO# 2691056	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	3/1/17 9:50 AM	3/1/17 6:10 PM	49,500	SEWER MANHOLE	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690995	WO# 2691232	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	3/1/17 10:00 AM	3/1/17 6:19 PM	180,000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690997	WO# 2691234	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3305 INDIAN CREEK CT	3/1/17 10:00 AM	3/1/17 1:53 PM	15,000	SEWER MANHOLE	51160	GROUND	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2690979	WO# 2691162	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	201 BULLITT LN	3/1/17 11:40 AM	3/1/17 6:50 PM	12,000	SEWER MANHOLE	47582	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2691052	WO# 2691236	LOCATION INCLUDED IN IOAP

Appendix A-3 Discharge Work Orders – Unauthorized Discharges

ASSOCIATED WASTEWATER TREATMENT PLANT NAME	ASSOCIATED TREATMENT PLANT KPDES #	OVERFLOW LOCATION	OVERFLOW START DATE & TIME	OVERFLOW STOP DATE & TIME	VOLUME OF OVERFLOW (GAL)	SOURCE ASSET TYPE	SOURCE ASSET ID	FACILITY DISCHARGES TO	RECEIVING STREAM	CAUSE OF OVERFLOW	DUE TO	WEATHER	WO #	CLEANUP EFFORTS BY MSD	REPAIR EFFORTS BY MSD
MORRIS FORMAN	KY0022411	202 OXMOOR LN	3/1/17 11:40 AM	3/1/17 6:45 PM	162,000	SEWER MANHOLE	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2691049	WO# 2691235	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	7305 BROWNSBORO RD	3/11/17 6:30 PM	3/11/17 7:00 PM	1,000	SEWER VALVE	66279A-V	GROUND	GOOSE CREEK	AIR RELIEF VALVE FAILED AND WAS LEAKING OUT OF TOP OF VALVE	MECHANICAL FAILURE	DISDW DRY WEATHER DISCHARGE	2696473	MSD CLEANED AND SANITIZED AREA	SHUT OFF OLD BROWNSBORO PLACE PUMP STATION TO STOP DISCHARGE. SHUT OFF VALVE UNDER AIR RELIEF TO ALLOW FOR REPLACEMENT OF VALVE

Appendix B CSO Flow Monitoring Data

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CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO019	1/2/17 4:30 PM	1/3/17 8:30 PM	1,680	0.05	13,526,657.86	0.58				676,332.89	
	1/5/17 12:30 PM	1/5/17 1:15 PM	45	0.30	11,925.21	0.39	0.104	24	Atlas	3,577.56	
	1/9/17 7:15 AM	1/9/17 8:45 AM	90	0.01	526,868.74	0.50	0.009	1	Atlas	5,268.69	
	1/10/17 5:30 AM	1/10/17 5:30 AM	0	0.02	115,317.72	0.34	0.009	12	Atlas	2,306.35	
	1/10/17 8:45 PM	1/10/17 11:15 PM	150	0.23	54,348.96	0.56	0.174	1	Atlas	12,500.26	
	1/11/17 12:15 PM	1/11/17 11:45 PM	690	0.21	1,719,549.07	0.77	0.148	1	Atlas	361,105.30	
	1/12/17 3:15 PM	1/18/17 8:30 AM	8,235	0.25	18,087,796.58	2.58	0.126	6	Atlas	4,521,949.15	
	1/19/17 6:15 PM	1/21/17 10:30 AM	2,415	1.11	3,837,051.05	2.97	0.509	12	Atlas	4,259,126.66	
	2/7/17 8:30 AM	2/7/17 3:45 PM	435	0.50	259,511.07	0.49	0.235	6	Atlas	129,755.54	
	2/18/17 8:30 PM	2/19/17 12:00 AM	210	0.11	601,670.63	0.12	0.060	6	Atlas	66,183.77	
	2/24/17 12:30 PM	2/24/17 9:15 PM	525	0.32	2,786,036.07	0.36				891,531.54	
	2/28/17 10:00 AM	2/28/17 1:30 PM	210	0.39	2,157,845.62	0.72	0.197	6	Atlas	841,559.79	
	3/1/17 3:15 AM	3/1/17 2:00 PM	645	1.22	5,307,470.36	1.95	0.645	6	Atlas	6,475,113.84	
	3/7/17 7:00 AM	3/7/17 4:45 PM	585	0.68	2,225,718.91	2.15	0.221	48	Atlas	1,513,488.86	
	3/26/17 2:15 AM	3/26/17 6:00 AM	225	0.49	979,380.59	0.42	0.211	12	Atlas	479,896.49	
	3/27/17 6:15 PM	3/27/17 8:15 PM	120	0.26	4,206,907.72	0.75	0.140	3	Atlas	1,093,796.01	
	3/31/17 1:30 AM	3/31/17 2:15 AM	45	0.25	321,438.87	0.93	0.115	6	Atlas	80,359.72	
CSO019 Total										21,413,852.42	17
CSO028	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.45	800.74	0.49	0.374	1	Atlas	360.33	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	1.15	334.95	1.04	0.607	6	Atlas	385.19	
	3/1/17 11:30 AM	3/1/17 8:45 PM	555	1.15	28,656.25	1.90	0.607	6	Atlas	32,954.69	
	3/7/17 5:30 PM	3/8/17 2:15 PM	1,245	0.39	449,603.02	1.76	0.179	12	Atlas	175,345.18	
CSO028 Total										209,045.39	4
CSO029	1/19/17 7:15 PM	1/20/17 12:45 AM	330	0.93	14,780.50	2.18	0.427	12	Atlas	13,745.87	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.45	11,890.30	0.49	0.374	1	Atlas	5,350.64	
	3/1/17 3:15 AM	3/1/17 8:45 AM	330	1.15	62,598.48	1.90	0.607	6	Atlas	71,988.26	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.39	4,675.35	1.75	0.179	12	Atlas	1,823.39	
CSO029 Total										92,908.14	4
CSO031	2/7/17 2:15 PM	2/8/17 8:15 AM	1,080	0.37	735,033.34	0.38	0.180	6	Atlas	271,962.33	
	2/8/17 6:00 PM	2/10/17 1:45 AM	1,905	0.09	12,062,100.34	0.47	0.052	1	Atlas	1,085,589.03	
	3/7/17 9:45 PM	3/8/17 9:00 AM	675	0.39	329,163.84	1.76	0.179	12	Atlas	128,373.90	
CSO031 Total										1,485,925.26	3
CSO034	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.45	16,562.73	0.49	0.374	1	Atlas	7,453.23	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	1.15	12,111.90	1.04	0.607	6	Atlas	13,928.69	
CSO034 Total										21,381.92	2
CSO035	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.50	486,206.39	0.55	0.426	1	Atlas	243,103.19	
	3/1/17 3:15 AM	3/1/17 7:15 AM	240	1.01	438,292.12	1.35	0.536	6	Atlas	442,675.05	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.54	43,191.67	1.56	0.175	48	Atlas	23,323.50	
CSO035 Total										709,101.74	3
CSO036	1/11/17 3:30 AM	1/11/17 5:15 AM	105	0.11	328,177.39	0.34	0.078	1	Atlas	36,099.51	
	1/13/17 8:45 AM	1/13/17 9:15 PM	750	0.16	756,359.72	1.04				121,017.55	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO036	1/14/17 11:15 AM	1/14/17 5:00 PM	345	0.25	511,720.63	1.27	0.110	12	Atlas	127,930.16	
	2/8/17 9:15 PM	2/8/17 11:45 PM	150	0.07	1,260,942.76	0.45	0.043	1	Atlas	88,265.99	
	2/24/17 7:15 PM	2/24/17 7:15 PM	0	0.50	17,565.58	0.55	0.426	1	Atlas	8,782.79	
	2/28/17 10:15 AM	2/28/17 10:30 AM	15	0.25	28,812.21	0.79	0.115	6	Atlas	7,203.05	
	3/1/17 7:00 AM	3/1/17 9:00 AM	120	1.01	47,336.43	1.81	0.536	6	Atlas	47,809.79	
	3/6/17 8:30 AM	3/6/17 1:00 PM	270	0.54	626,026.94	1.39	0.175	48	Atlas	338,054.55	
	3/7/17 9:15 PM	3/7/17 9:15 PM	0	0.54	313,013.43	1.55	0.175	48	Atlas	169,027.25	
	3/13/17 7:15 PM	3/13/17 7:15 PM	0	0.05	3,380,545.00	0.38	0.027	3	Atlas	169,027.25	
CSO036 Total										1,113,217.90	10
CSO051	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.15	8,934.51	0.34	0.113	1	Atlas	1,340.18	
	1/12/17 3:30 PM	1/12/17 6:15 PM	165	0.43	1,293.31	0.67	0.213	6	Atlas	556.13	
	1/17/17 1:00 AM	1/17/17 1:00 AM	0	0.69	7,384.06	2.04	0.317	6	Atlas	5,095.00	
	1/19/17 7:00 PM	1/20/17 1:00 AM	360	0.89	6,638.06	2.35	0.408	12	Atlas	5,907.87	
	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.23	18,864.67	0.27	0.183	1	Atlas	4,338.88	
	2/28/17 10:00 AM	2/28/17 10:00 AM	0	0.35	4,274.20	0.54	0.169	6	Atlas	1,495.97	
	3/1/17 3:15 AM	3/1/17 8:45 AM	330	1.31	8,656.89	1.94	0.667	6	Atlas	11,340.52	
	3/7/17 7:00 AM	3/7/17 7:00 AM	0	0.48	731.71	1.93	0.220	12	Atlas	351.22	
CSO051 Total										30,425.76	8
CSO053	3/1/17 7:00 AM	3/1/17 7:00 AM	0	1.35	119.93	1.73	0.707	3	Atlas	161.91	
	3/27/17 4:30 PM	3/27/17 4:30 PM	0	0.31	656.12	0.41	0.191	1	Atlas	203.40	
CSO053 Total										365.30	2
CSO055	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.16	18,306.38	0.37	0.113	1	Atlas	2,929.02	
	1/12/17 3:30 PM	1/12/17 3:30 PM	0	0.45	13,365.51	0.59	0.224	6	Atlas	6,014.48	
	1/16/17 11:45 PM	1/17/17 5:30 AM	345	0.60	132,113.54	2.19	0.275	12	Atlas	79,268.12	
	1/19/17 7:15 PM	1/20/17 6:45 AM	690	0.95	97,805.78	2.46	0.431	12	Atlas	92,915.49	
	2/7/17 7:00 AM	2/7/17 7:00 AM	0	0.44	3,420.08	0.13	0.219	6	Atlas	1,504.83	
	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.44	89,743.18	0.48	0.357	1	Atlas	39,487.00	
	2/28/17 10:15 AM	2/28/17 10:15 AM	0	0.41	1,339.00	0.85	0.197	6	Atlas	548.99	
	3/1/17 3:15 AM	3/1/17 9:45 AM	390	1.35	69,440.10	2.24	0.707	3	Atlas	93,744.14	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.68	5,720.70	1.99	0.221	48	Atlas	3,890.07	
	3/27/17 4:30 PM	3/27/17 4:30 PM	0	0.31	40,361.49	0.41	0.191	1	Atlas	12,512.06	
	3/30/17 10:45 PM	3/30/17 10:45 PM	0	0.25	2,481.29	0.79	0.120	6	Atlas	620.32	
CSO055 Total										333,434.54	11
CSO058	1/2/17 7:30 PM	1/3/17 5:00 AM	570	0.22	3,884.09	0.41	0.087	6	Atlas	854.50	
	1/3/17 3:00 PM	1/3/17 3:00 PM	0	0.22	174.72	0.32	0.087	6	Atlas	38.44	
	1/10/17 7:30 PM	1/10/17 7:45 PM	15	0.13	3,443.99	0.37	0.096	1	Atlas	447.72	
	1/11/17 12:00 PM	1/11/17 1:45 PM	105	0.20	2,957.97	0.56	0.139	1	Atlas	591.59	
	1/12/17 3:15 PM	1/12/17 7:00 PM	225	0.34	11,633.70	0.60	0.164	6	Atlas	3,955.46	
	1/13/17 2:30 PM	1/13/17 3:30 PM	60	0.34	1,539.03	0.99	0.207	3	Atlas	523.27	
	1/14/17 11:00 AM	1/14/17 1:45 PM	165	0.24	5,573.52	1.24	0.110	12	Atlas	1,337.65	
	1/16/17 6:30 PM	1/17/17 3:15 AM	525	0.54	1,932.72	1.89	0.248	12	Atlas	1,043.67	
	1/19/17 6:30 PM	1/20/17 3:15 AM	525	0.96	2,811.11	2.34	0.440	12	Atlas	2,698.67	
	2/7/17 5:15 AM	2/8/17 1:45 PM	1,950	0.36	6,292,028.65	0.36	0.164	6	Atlas	2,265,130.31	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO058	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.42	92,546.08	0.47	0.357	1	Atlas	38,869.35	
	2/28/17 5:30 AM	2/28/17 11:15 AM	345	0.29	25,568.39	0.76	0.142	6	Atlas	7,414.83	
	3/1/17 3:15 AM	3/1/17 8:45 AM	330	1.07	33,224.20	1.83	0.568	6	Atlas	35,549.89	
	3/7/17 5:00 AM	3/7/17 2:45 PM	585	0.55	5,840.68	1.88	0.179	48	Atlas	3,212.38	
	3/26/17 1:00 AM	3/26/17 9:00 AM	480	0.40	24,509.51	0.41	0.180	6	Atlas	9,803.80	
	3/27/17 4:30 PM	3/27/17 7:15 PM	165	0.33	7,310.76	0.73	0.200	3	Atlas	2,412.55	
	3/30/17 8:30 PM	3/31/17 1:15 AM	285	0.24	49,973.09	0.94	0.110	12	Atlas	11,993.54	
CSO058 Total										2,385,877.62	17
CSO082	1/17/17 12:30 AM	1/17/17 3:30 AM	180	0.50	512,020.47	1.91	0.229	12	Atlas	256,010.23	
	1/19/17 7:30 PM	1/20/17 4:00 AM	510	1.03	894,742.21	2.38	0.472	12	Atlas	921,584.48	
	3/1/17 7:00 AM	3/1/17 9:15 AM	135	1.05	99,310.49	1.78	0.546	6	Atlas	104,276.02	
CSO082 Total										1,281,870.73	3
CSO083	3/1/17 3:15 AM	3/1/17 7:00 AM	225	1.07	6,731.15	1.44	0.574	6	Atlas	7,202.33	
CSO083 Total										7,202.33	1
CSO084	1/10/17 7:45 PM	1/10/17 7:45 PM	0	0.11	2,052.65	0.35	0.078	1	Atlas	225.79	
	1/12/17 6:30 PM	1/12/17 6:30 PM	0	0.33	3,814.27	0.55	0.164	6	Atlas	1,258.71	
	1/14/17 11:30 AM	1/14/17 11:30 AM	0	0.22	5,294.56	1.12	0.104	6	Atlas	1,164.80	
	1/17/17 12:15 AM	1/17/17 3:45 AM	210	0.48	13,098.09	1.82	0.216	12	Atlas	6,287.08	
	1/19/17 7:15 PM	1/20/17 1:00 AM	345	1.08	10,528.97	2.24	0.495	12	Atlas	11,371.29	
	3/1/17 3:00 AM	3/1/17 8:30 AM	330	1.07	4,014.41	1.84	0.574	6	Atlas	4,295.42	
	3/7/17 7:30 AM	3/7/17 8:00 AM	30	0.51	10,908.29	1.62	0.166	48	Atlas	5,563.23	
	3/27/17 6:15 PM	3/27/17 6:45 PM	30	0.29	6,422.81	0.73	0.173	3	Atlas	1,862.61	
CSO084 Total										32,028.94	8
CSO088	1/17/17 1:15 AM	1/17/17 4:00 AM	165	0.49	34,116.26	1.83	0.225	12	Atlas	16,716.97	
	1/19/17 8:00 PM	1/20/17 1:30 AM	330	0.99	70,117.59	2.13	0.450	12	Atlas	69,416.42	
	2/24/17 7:30 PM	2/24/17 7:30 PM	0	0.35	4,646.99	0.43	0.296	1	Atlas	1,626.45	
	3/1/17 3:30 AM	3/1/17 9:15 AM	345	0.98	88,206.16	1.61	0.464	6	Atlas	86,442.04	
	3/6/17 10:15 AM	3/6/17 10:15 AM	0	0.20	3,052.45	1.30	0.077	24	Atlas	610.49	
	3/7/17 8:00 AM	3/7/17 8:00 AM	0	0.40	6,817.11	1.62	0.183	12	Atlas	2,726.84	
CSO088 Total										177,539.20	6
CSO092	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.54	203.03	0.60	0.461	1	Atlas	109.64	
CSO092 Total										109.64	1
CSO093	2/7/17 9:45 AM	2/7/17 9:45 AM	0	0.26	1,228.61	0.10	0.126	6	Atlas	319.44	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	1.06	1,316.87	1.17	0.536	6	Atlas	1,395.89	
CSO093 Total										1,715.32	2
CSO104	1/6/17 8:15 AM	1/9/17 3:30 AM	4,035	0.24	8,284,361.58	0.50	0.096	12	Atlas	1,988,246.78	
	1/12/17 7:30 PM	1/16/17 7:45 PM	5,775	0.37	5,160,280.45	1.92	0.186	6	Atlas	1,909,303.77	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	1.37	1,259.32	1.28	0.727	6	Atlas	1,725.27	
CSO104 Total										3,899,275.82	3

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO105	1/2/17 4:30 PM	1/2/17 4:30 PM	465	0.03	15,745.49	0.39				472.36	
	1/3/17 1:30 AM	1/3/17 6:45 AM	315	0.16	2,208,999.58	0.29	0.082	6	Atlas	353,439.93	
	1/10/17 7:30 PM	1/10/17 9:30 PM	120	0.31	608,358.25	0.56	0.209	1	Atlas	188,591.06	
	1/11/17 12:00 PM	1/11/17 3:00 PM	180	0.19	122,498.19	0.75	0.130	1	Atlas	23,274.66	
	1/12/17 3:15 PM	1/12/17 9:30 PM	375	0.37	549,316.54	0.94	0.186	6	Atlas	203,247.12	
	1/13/17 2:15 PM	1/13/17 4:00 PM	105	0.41	17,412.35	1.27	0.253	3	Atlas	7,139.06	
	1/14/17 8:30 AM	1/14/17 3:45 PM	435	0.21	1,692,912.73	1.50	0.096	12	Atlas	355,511.67	
	1/15/17 4:45 PM	1/15/17 7:30 PM	165	0.22	52,955.59	1.72	0.115	6	Atlas	11,650.23	
	1/16/17 6:00 PM	1/17/17 5:30 AM	690	0.83	4,538,199.62	2.54	0.376	12	Atlas	3,766,705.69	
	1/19/17 5:45 PM	1/20/17 5:15 AM	690	1.36	7,524,045.69	3.27	0.619	12	Atlas	10,232,702.14	
	2/7/17 7:00 AM	2/7/17 1:45 PM	405	0.55	68,269.45	0.54	0.273	6	Atlas	37,548.20	
	2/8/17 5:00 PM	2/8/17 9:00 PM	240	0.09	33,739.00	0.65	0.049	6	Atlas	3,036.51	
	2/24/17 6:45 PM	2/24/17 9:15 PM	150	0.50	2,578,277.99	0.60	0.417	1	Atlas	1,289,138.99	
	2/28/17 5:30 AM	2/28/17 12:45 PM	435	0.27	908,538.92	0.84	0.124	12	Atlas	245,305.51	
	3/1/17 3:00 AM	3/1/17 11:30 AM	510	1.37	6,780,991.41	2.20	0.727	6	Atlas	9,289,958.24	
	3/6/17 7:15 AM	3/6/17 7:45 PM	750	0.88	15,272.19	1.91	0.313	1	Atlas	13,439.53	
	3/7/17 4:45 AM	3/7/17 2:45 PM	600	0.88	1,268,474.42	2.48	0.313	1	Atlas	1,116,257.49	
	3/26/17 12:45 AM	3/26/17 8:15 AM	450	0.42	379,086.94	0.43	0.183	12	Atlas	159,216.52	
	3/27/17 11:00 AM	3/27/17 8:30 PM	570	0.26	4,017,452.49	0.68	0.139	1	Atlas	1,044,537.65	
	3/30/17 9:45 PM	3/31/17 3:45 AM	360	0.18	220,555.27	0.85	0.087	6	Atlas	39,699.95	
CSO105 Total										28,380,872.50	20
CSO108	3/1/17 4:00 AM	3/2/17 10:45 AM	1,845	1.22	1,171,734.89	2.78	0.645	6	Atlas	1,429,516.57	
CSO108 Total										1,429,516.57	1
CSO109	1/17/17 3:45 AM	1/17/17 3:45 AM	0	0.71	100,577.86	2.28	0.321	12	Atlas	71,410.28	
	1/19/17 11:30 PM	1/19/17 11:30 PM	0	1.26	13,763.51	2.24	0.578	12	Atlas	17,342.02	
	2/24/17 7:15 PM	2/24/17 7:30 PM	15	0.78	938,002.59	0.86	0.661	1	Atlas	731,642.02	
	3/1/17 3:30 AM	3/1/17 10:45 AM	435	1.17	1,556,850.47	2.55	0.623	6	Atlas	1,821,515.05	
CSO109 Total										2,641,909.37	4
CSO110	1/10/17 8:00 PM	1/10/17 8:30 PM	30	0.15	906.48	0.40	0.113	1	Atlas	135.97	
	1/11/17 12:45 PM	1/11/17 2:30 PM	105	0.21	336.56	0.61	0.140	3	Atlas	70.68	
	1/12/17 4:00 PM	1/12/17 10:15 PM	375	0.49	813.03	0.88	0.240	6	Atlas	398.38	
	1/13/17 4:00 PM	1/13/17 4:30 PM	30	0.25	69.32	1.10	0.153	3	Atlas	17.33	
	1/14/17 11:30 AM	1/14/17 3:15 PM	225	0.20	1,302.54	1.31	0.092	12	Atlas	260.51	
	1/15/17 5:00 PM	1/15/17 7:30 PM	150	0.11	136.51	1.42	0.055	6	Atlas	15.02	
	1/16/17 7:00 PM	1/17/17 5:15 AM	615	0.54	1,587.99	1.96	0.243	12	Atlas	857.52	
	1/19/17 6:45 PM	1/20/17 9:00 AM	855	1.20	1,540.69	2.47	0.546	12	Atlas	1,848.83	
	2/7/17 1:15 PM	2/7/17 1:15 PM	0	0.43	9.42	0.42	0.180	6	Atlas	4.05	
	2/24/17 7:15 PM	2/24/17 8:30 PM	75	0.62	1,120.75	0.70	0.530	1	Atlas	694.86	
	2/28/17 10:45 AM	2/28/17 11:15 AM	30	0.25	398.89	0.91	0.115	12	Atlas	99.72	
	3/1/17 3:30 AM	3/1/17 2:30 PM	660	0.95	2,441.67	1.87	0.497	6	Atlas	2,319.58	
	3/7/17 8:00 AM	3/7/17 3:45 PM	465	0.51	754.38	1.63	0.166	48	Atlas	384.73	
	3/26/17 2:30 AM	3/26/17 4:00 AM	90	0.46	115.51	0.36	0.208	6	Atlas	53.13	
	3/27/17 6:30 PM	3/27/17 8:00 PM	90	0.27	903.81	0.73	0.153	3	Atlas	244.03	
	3/30/17 8:45 PM	3/30/17 11:15 PM	150	0.52	227.34	1.22	0.257	6	Atlas	118.22	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO110											
Total										7,522.56	16
CSO111	2/24/17 7:15 PM	2/24/17 7:15 PM	0	0.62	3,214.20	0.70	0.530	1	Atlas	1,992.80	
	3/1/17 4:00 AM	3/1/17 4:00 AM	0	0.95	757.28	1.27	0.497	6	Atlas	719.42	
CSO111											
Total										2,712.22	2
CSO118	1/2/17 7:30 PM	1/3/17 5:30 AM	600	0.17	16,955.45	0.38	0.087	6	Atlas	2,882.43	
	1/3/17 3:00 PM	1/3/17 3:30 PM	30	0.04	4,103.65	0.31	0.022	6	Atlas	164.15	
	1/10/17 7:30 PM	1/10/17 8:15 PM	45	0.11	1,499,751.98	0.35	0.078	1	Atlas	164,972.72	
	1/11/17 12:00 PM	1/11/17 2:15 PM	135	0.22	343,958.38	0.57	0.148	1	Atlas	75,670.84	
	1/12/17 3:30 PM	1/12/17 9:30 PM	360	0.33	715,487.14	0.71	0.164	6	Atlas	236,110.76	
	1/13/17 2:15 PM	1/13/17 3:45 PM	90	0.32	2,847.85	0.96	0.193	3	Atlas	911.31	
	1/14/17 8:30 AM	1/14/17 2:15 PM	345	0.22	863,577.23	1.20	0.104	6	Atlas	189,986.99	
	1/15/17 3:15 PM	1/15/17 6:45 PM	210	0.14	14,658.78	1.35	0.073	3	Atlas	2,052.23	
	1/16/17 11:15 PM	1/17/17 4:30 AM	315	0.48	2,122,449.71	1.82	0.216	12	Atlas	1,018,775.86	
	1/19/17 6:15 PM	1/20/17 4:00 AM	585	1.08	3,152,063.15	2.40	0.495	12	Atlas	3,404,228.21	
	2/7/17 7:15 AM	2/7/17 3:15 PM	480	0.32	25,286.49	0.32	0.148	6	Atlas	8,091.68	
	2/8/17 4:45 PM	2/8/17 9:00 PM	255	0.08	12,106.51	0.40	0.044	6	Atlas	968.52	
	2/18/17 7:45 PM	2/18/17 8:45 PM	60	0.07	11,213.84	0.07	0.033	6	Atlas	784.97	
	2/24/17 7:00 PM	2/24/17 7:45 PM	45	0.53	1,445,241.10	0.60	0.452	1	Atlas	765,977.78	
	2/28/17 5:30 AM	2/28/17 11:30 AM	360	0.26	516,690.60	0.84	0.120	6	Atlas	134,339.55	
	3/1/17 1:15 AM	3/1/17 11:45 AM	630	1.07	3,740,275.17	1.91	0.574	6	Atlas	4,002,094.43	
	3/6/17 8:00 AM	3/6/17 8:00 AM	0	0.51	591.67	1.41	0.166	48	Atlas	301.75	
	3/6/17 6:45 PM	3/6/17 7:15 PM	30	0.51	1,471.18	1.53	0.166	48	Atlas	750.30	
	3/7/17 5:00 AM	3/7/17 3:00 PM	600	0.51	1,296,984.86	1.81	0.166	48	Atlas	661,462.28	
	3/26/17 1:00 AM	3/26/17 7:45 AM	405	0.45	273,786.77	0.46	0.208	6	Atlas	123,204.05	
	3/27/17 11:15 AM	3/27/17 8:00 PM	525	0.29	2,016,757.69	0.74	0.173	3	Atlas	584,859.73	
	3/30/17 8:45 AM	3/30/17 9:30 AM	45	0.16	15,480.08	0.90	0.139	1	Atlas	2,476.81	
	3/30/17 8:30 PM	3/31/17 2:45 AM	375	0.36	23,040.39	1.22	0.169	6	Atlas	8,294.54	
CSO118											
Total										11,389,361.89	23
CSO119	1/10/17 7:30 PM	1/10/17 7:45 PM	15	0.11	130,680.49	0.35	0.078	1	Atlas	14,374.85	
	1/11/17 12:30 PM	1/11/17 12:30 PM	0	0.22	21,309.94	0.52	0.148	1	Atlas	4,688.19	
	1/12/17 3:30 PM	1/12/17 6:30 PM	180	0.33	72,095.49	0.56	0.164	6	Atlas	23,791.51	
	1/14/17 11:15 AM	1/14/17 1:45 PM	150	0.22	134,796.76	1.19	0.104	6	Atlas	29,655.29	
	1/17/17 12:00 AM	1/17/17 3:45 AM	225	0.48	344,089.31	1.82	0.216	12	Atlas	165,162.87	
	1/19/17 7:00 PM	1/20/17 3:30 AM	510	1.08	423,296.97	2.37	0.495	12	Atlas	457,160.73	
	2/24/17 6:45 PM	2/24/17 7:15 PM	30	0.53	141,276.09	0.59	0.452	1	Atlas	74,876.33	
	2/28/17 10:15 AM	2/28/17 10:15 AM	0	0.26	38,966.47	0.82	0.120	6	Atlas	10,131.28	
	3/1/17 3:00 AM	3/1/17 9:00 AM	360	1.07	322,973.12	1.91	0.574	6	Atlas	345,581.24	
	3/7/17 7:30 AM	3/7/17 8:00 AM	30	0.51	125,559.83	1.62	0.166	48	Atlas	64,035.51	
	3/27/17 6:00 PM	3/27/17 6:45 PM	45	0.29	274,823.81	0.73	0.173	3	Atlas	79,698.90	
	3/30/17 8:30 PM	3/30/17 9:45 PM	75	0.36	45,403.44	1.08	0.169	6	Atlas	16,345.24	
CSO119											
Total										1,285,501.95	12
CSO120	1/10/17 7:45 PM	1/10/17 7:45 PM	0	0.12	102,819.44	0.35	0.087	1	Atlas	12,338.33	
	1/12/17 3:45 PM	1/12/17 6:30 PM	165	0.39	122,840.93	0.58	0.186	6	Atlas	47,907.96	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO120	1/14/17 11:15 AM	1/14/17 1:45 PM	150	0.24	91,932.40	1.29	0.115	6	Atlas	22,063.78	
	1/16/17 11:45 PM	1/17/17 3:45 AM	240	0.50	100,354.93	1.92	0.229	12	Atlas	50,177.46	
	1/19/17 7:15 PM	1/20/17 3:30 AM	495	1.03	197,885.92	2.37	0.472	12	Atlas	203,822.50	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.42	259,255.48	0.47	0.357	1	Atlas	108,887.30	
	2/28/17 10:15 AM	2/28/17 10:30 AM	15	0.26	85,580.93	0.72	0.120	6	Atlas	22,251.04	
	3/1/17 3:15 AM	3/1/17 9:00 AM	345	1.05	369,070.81	1.78	0.546	6	Atlas	387,524.35	
	3/7/17 7:45 AM	3/7/17 8:00 AM	15	0.56	186,594.58	1.66	0.182	48	Atlas	104,492.97	
	3/26/17 2:15 AM	3/26/17 2:15 AM	0	0.45	6,491.44	0.29	0.208	6	Atlas	2,921.15	
	3/27/17 6:15 PM	3/27/17 7:00 PM	45	0.31	140,009.37	0.76	0.187	3	Atlas	43,402.90	
	3/30/17 9:00 AM	3/30/17 9:00 AM	0	0.06	223,050.18	0.82	0.052	1	Atlas	13,383.01	
	3/30/17 10:00 PM	3/30/17 10:00 PM	0	0.26	23,838.50	0.92	0.120	6	Atlas	6,198.01	
CSO120 Total										1,025,370.76	13
CSO121	3/1/17 3:15 AM	3/1/17 8:30 AM	315	1.05	16,600.77	1.71	0.546	6	Atlas	17,430.81	
CSO121 Total										17,430.81	1
CSO125	1/2/17 8:00 PM	1/2/17 8:15 PM	15	0.24	67,827.43	0.23	0.098	6	Atlas	16,278.58	
	1/3/17 4:30 AM	1/3/17 5:15 AM	45	0.24	246,474.22	0.29	0.098	6	Atlas	59,153.81	
	1/10/17 7:45 PM	1/10/17 8:15 PM	30	0.16	252,570.35	0.40	0.122	1	Atlas	40,411.26	
	1/11/17 12:45 PM	1/11/17 1:00 PM	15	0.21	292,846.69	0.57	0.133	3	Atlas	61,497.81	
	1/12/17 3:45 PM	1/12/17 7:00 PM	195	0.32	261,773.53	0.62	0.164	6	Atlas	83,767.53	
	1/14/17 11:30 AM	1/14/17 2:15 PM	165	0.23	360,683.12	1.22	0.109	6	Atlas	82,957.12	
	1/17/17 12:15 AM	1/17/17 4:15 AM	240	0.55	519,433.92	1.91	0.252	12	Atlas	285,688.65	
	1/19/17 7:30 PM	1/20/17 4:15 AM	525	1.12	528,806.78	2.43	0.514	12	Atlas	592,263.59	
	2/24/17 7:15 PM	2/24/17 7:45 PM	30	0.70	482,543.88	0.75	0.591	1	Atlas	337,780.72	
	2/28/17 10:30 AM	2/28/17 10:45 AM	15	0.23	157,185.62	0.98	0.106	12	Atlas	36,152.69	
	3/1/17 3:30 AM	3/1/17 9:45 AM	375	1.07	911,731.88	2.06	0.519	6	Atlas	975,553.11	
	3/26/17 1:45 AM	3/26/17 1:45 AM	0	0.50	14,557.65	0.27	0.225	12	Atlas	7,278.82	
CSO125 Total										2,578,783.69	12
CSO127	1/3/17 2:30 AM	1/3/17 5:00 AM	150	0.21	133,911.62	0.29	0.098	6	Atlas	28,121.44	
	1/10/17 8:00 PM	1/10/17 8:30 PM	30	0.16	261,960.21	0.43	0.122	1	Atlas	41,913.63	
	1/11/17 12:30 PM	1/11/17 2:15 PM	105	0.23	701,439.11	0.65	0.147	3	Atlas	161,330.99	
	1/12/17 3:45 PM	1/12/17 10:00 PM	375	0.43	637,922.05	0.87	0.219	6	Atlas	274,306.48	
	1/13/17 3:15 PM	1/13/17 4:15 PM	60	0.32	268,360.14	1.13	0.193	3	Atlas	85,875.25	
	1/14/17 11:15 AM	1/14/17 2:30 PM	195	0.21	1,231,430.31	1.35	0.098	6	Atlas	258,600.37	
	1/16/17 11:45 PM	1/17/17 4:30 AM	285	0.55	980,883.50	2.02	0.248	12	Atlas	539,485.92	
	1/19/17 6:45 PM	1/20/17 4:30 AM	585	1.19	1,429,275.40	2.55	0.546	12	Atlas	1,700,837.72	
	2/7/17 9:45 AM	2/7/17 10:45 AM	60	0.34	201,167.43	0.24	0.158	6	Atlas	68,396.93	
	2/24/17 7:00 PM	2/24/17 7:30 PM	30	0.83	1,842,556.18	0.88	0.704	1	Atlas	1,529,321.63	
	2/28/17 5:45 AM	2/28/17 10:30 AM	285	0.27	241,242.87	1.14	0.126	6	Atlas	65,135.57	
	3/1/17 4:00 AM	3/1/17 12:00 PM	480	1.02	187,179.38	2.18	0.503	6	Atlas	190,922.97	
	3/7/17 7:45 AM	3/7/17 3:00 PM	435	0.48	676,285.44	1.65	0.156	48	Atlas	324,617.01	
	3/26/17 1:15 AM	3/26/17 2:30 AM	75	0.54	344,659.88	0.35	0.239	12	Atlas	186,116.33	
	3/27/17 6:00 PM	3/27/17 7:00 PM	60	0.30	554,232.24	0.84	0.167	3	Atlas	166,269.67	
	3/30/17 8:45 PM	3/30/17 8:45 PM	0	0.60	64,279.00	1.18	0.301	6	Atlas	38,567.40	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO127											
Total											16
CSO130	1/10/17 8:15 PM	1/10/17 8:15 PM	0	0.13	2,451.76	0.35	0.096	1	Atlas	318.73	
	1/12/17 9:15 PM	1/15/17 12:30 PM	3,795	0.34	970,348.69	1.26	0.164	6	Atlas	329,918.55	
	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.35	3,386.13	0.43	0.296	1	Atlas	1,185.15	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	0.98	10,867.77	0.98	0.464	6	Atlas	10,650.42	
CSO130											
Total											4
CSO131	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.35	77,782.74	0.36	0.296	1	Atlas	27,223.96	
	3/1/17 3:00 AM	3/1/17 6:45 AM	225	0.98	42,985.11	1.10	0.464	6	Atlas	42,125.41	
CSO131											
Total											2
CSO132	1/2/17 8:00 PM	1/2/17 8:00 PM	0	0.19	132,502.20	0.19	0.093	6	Atlas	25,175.42	
	1/3/17 4:15 AM	1/3/17 5:30 AM	75	0.19	1,517,371.97	0.27	0.093	6	Atlas	288,300.67	
	1/10/17 7:45 PM	1/10/17 8:15 PM	30	0.13	916,164.56	0.36	0.104	1	Atlas	119,101.39	
	1/11/17 12:30 PM	1/11/17 1:00 PM	30	0.20	632,354.49	0.51	0.133	3	Atlas	126,470.90	
	1/12/17 3:30 PM	1/12/17 7:15 PM	225	0.32	831,641.77	0.60	0.153	6	Atlas	266,125.37	
	1/13/17 3:45 PM	1/13/17 4:00 PM	15	0.31	192,148.13	0.97	0.193	3	Atlas	59,565.92	
	1/14/17 11:30 AM	1/14/17 3:00 PM	210	0.22	1,494,599.80	1.21	0.101	12	Atlas	328,811.96	
	1/17/17 12:00 AM	1/17/17 4:30 AM	270	0.50	1,267,706.71	1.80	0.225	12	Atlas	633,853.35	
	1/19/17 7:00 PM	1/20/17 6:00 AM	660	1.05	1,156,496.98	2.29	0.482	12	Atlas	1,214,321.83	
	2/24/17 7:00 PM	2/24/17 7:45 PM	45	0.37	83,821.53	0.42	0.313	1	Atlas	31,013.97	
	2/28/17 10:15 AM	2/28/17 10:45 AM	30	0.24	486,444.48	0.64	0.110	12	Atlas	116,746.68	
	3/1/17 3:00 AM	3/1/17 10:00 AM	420	1.03	2,280,312.89	1.70	0.492	6	Atlas	2,348,722.28	
	3/7/17 7:30 AM	3/7/17 1:00 PM	330	0.31	1,696,556.99	1.68	0.142	12	Atlas	525,932.67	
	3/26/17 1:15 AM	3/26/17 2:45 AM	90	0.49	450,818.52	0.34	0.224	6	Atlas	220,901.08	
	3/27/17 6:00 PM	3/27/17 7:15 PM	75	0.25	1,583,176.09	0.74	0.147	3	Atlas	395,794.02	
	3/30/17 8:30 PM	3/30/17 8:45 PM	15	0.27	267,419.07	0.82	0.126	6	Atlas	72,203.15	
CSO132											
Total											16
CSO140	3/1/17 3:00 AM	3/1/17 7:00 AM	240	1.06	192,779.61	1.48	0.536	6	Atlas	204,346.39	
	3/7/17 7:30 AM	3/7/17 7:30 AM	0	0.53	112,437.39	1.57	0.172	48	Atlas	59,591.82	
CSO140											
Total											2
CSO142	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.57	54,518.49	0.64	0.487	1	Atlas	31,075.54	
	3/1/17 3:15 AM	3/1/17 7:15 AM	240	1.00	46,873.00	1.46	0.519	6	Atlas	46,873.00	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.54	20,895.54	1.56	0.175	48	Atlas	11,283.59	
CSO142											
Total											3
CSO148	1/10/17 7:30 PM	1/10/17 7:45 PM	15	0.18	10,947.74	0.46	0.139	1	Atlas	1,970.59	
	1/11/17 12:30 PM	1/11/17 12:30 PM	0	0.21	995.24	0.60	0.133	3	Atlas	209.00	
	1/12/17 3:30 PM	1/12/17 6:30 PM	180	0.50	779.56	0.78	0.251	6	Atlas	389.78	
	1/14/17 11:30 AM	1/14/17 1:45 PM	135	0.20	1,200.63	1.35	0.092	12	Atlas	240.13	
	1/17/17 12:15 AM	1/17/17 3:30 AM	195	0.52	32,245.94	2.00	0.234	12	Atlas	16,767.89	
	1/19/17 7:00 PM	1/20/17 12:45 AM	345	1.16	5,655.93	2.25	0.532	12	Atlas	6,560.87	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.80	70,353.46	0.88	0.687	1	Atlas	56,282.77	
	2/28/17 5:30 AM	2/28/17 5:30 AM	0	0.27	4,807.83	0.94	0.124	12	Atlas	1,298.11	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO148	3/1/17 3:15 AM	3/1/17 8:45 AM	330	0.99	89,200.62	2.12	0.525	6	Atlas	88,308.61	
	3/7/17 7:45 AM	3/7/17 8:00 AM	15	0.55	22,433.24	1.60	0.179	48	Atlas	12,338.28	
	3/27/17 6:00 PM	3/27/17 6:15 PM	15	0.29	13,470.01	0.70	0.167	3	Atlas	3,906.30	
	3/30/17 8:30 PM	3/30/17 9:45 PM	75	0.49	49,232.29	1.11	0.240	6	Atlas	24,123.82	
CSO148 Total										212,396.16	12
CSO150	1/17/17 2:00 AM	1/17/17 5:00 AM	180	0.60	108,474.50	2.19	0.275	12	Atlas	65,084.70	
	1/19/17 8:30 PM	1/20/17 4:30 AM	480	0.95	367,851.89	2.42	0.431	12	Atlas	349,459.30	
	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.44	8,537.43	0.47	0.357	1	Atlas	3,756.47	
	3/1/17 3:00 AM	3/1/17 10:30 AM	450	1.35	102,611.73	2.24	0.707	3	Atlas	138,525.83	
CSO150 Total										556,826.30	4
CSO151	1/3/17 2:15 AM	1/3/17 6:00 AM	225	0.20	961,920.23	0.27	0.082	6	Atlas	192,384.05	
	1/10/17 7:45 PM	1/10/17 9:30 PM	105	0.13	1,432,274.29	0.39	0.096	1	Atlas	186,195.66	
	1/11/17 12:30 PM	1/11/17 4:00 PM	210	0.24	886,793.45	0.63	0.160	3	Atlas	212,830.43	
	1/12/17 4:00 PM	1/13/17 12:30 AM	510	0.40	1,500,925.94	0.82	0.202	6	Atlas	600,370.38	
	1/13/17 2:45 PM	1/13/17 9:15 PM	390	0.29	663,987.32	1.08	0.187	3	Atlas	192,556.32	
	1/14/17 10:00 AM	1/14/17 8:00 PM	600	0.21	2,023,604.88	1.29	0.096	12	Atlas	424,957.02	
	1/15/17 1:00 PM	1/15/17 9:15 PM	495	0.13	1,087,452.45	1.41	0.067	3	Atlas	141,368.82	
	1/16/17 6:30 PM	1/17/17 11:45 PM	1,755	0.49	2,256,289.15	1.90	0.225	12	Atlas	1,105,581.68	
	1/19/17 6:45 PM	1/21/17 12:30 AM	1,785	1.18	1,628,494.08	2.47	0.541	12	Atlas	1,921,623.02	
	2/7/17 9:45 AM	2/7/17 3:30 PM	345	0.33	635,397.95	0.33	0.158	6	Atlas	209,681.32	
	2/8/17 5:15 PM	2/8/17 5:45 PM	30	0.08	961,550.81	0.36	0.044	6	Atlas	76,924.07	
	2/24/17 7:15 PM	2/24/17 10:45 PM	210	0.48	1,607,427.54	0.57	0.409	1	Atlas	771,565.22	
	2/28/17 5:45 AM	2/28/17 12:00 PM	375	0.30	747,915.95	0.81	0.138	12	Atlas	224,374.78	
	3/1/17 3:30 AM	3/2/17 12:15 AM	1,245	1.01	2,321,692.29	1.84	0.530	6	Atlas	2,344,909.21	
	3/7/17 8:00 AM	3/7/17 5:15 PM	555	0.54	1,500,545.42	1.73	0.175	48	Atlas	810,294.52	
	3/20/17 12:00 PM	3/20/17 12:00 PM	0	0.02	29,344.27	0.09	0.017	1	Atlas	586.89	
	3/26/17 1:30 AM	3/26/17 11:00 AM	570	0.50	693,575.76	0.52	0.220	12	Atlas	346,787.88	
	3/27/17 5:45 PM	3/27/17 9:15 PM	210	0.29	1,104,320.04	0.79	0.173	3	Atlas	320,252.81	
	3/30/17 9:00 PM	3/31/17 3:15 AM	375	0.63	355,437.18	1.60	0.317	6	Atlas	223,925.42	
CSO151 Total										10,307,169.51	19
CSO152	1/3/17 2:30 AM	1/3/17 5:30 AM	180	0.16	106,904,892.20	0.27	0.082	6	Atlas	17,104,782.75	
	1/10/17 7:45 PM	1/10/17 8:30 PM	45	0.15	590,858,060.00	0.39	0.096	1	Atlas	88,628,709.00	
	1/11/17 12:30 PM	1/11/17 2:30 PM	120	0.24	266,490,967.70	0.62	0.153	3	Atlas	63,957,832.25	
	1/12/17 3:45 PM	1/12/17 10:00 PM	375	0.53	207,075,609.40	0.95	0.273	6	Atlas	109,750,073.00	
	1/13/17 3:15 PM	1/13/17 4:15 PM	60	0.30	58,817,346.67	1.21	0.180	3	Atlas	17,645,204.00	
	1/14/17 11:30 AM	1/14/17 2:45 PM	195	0.20	484,782,567.00	1.43	0.093	6	Atlas	96,956,513.40	
	1/17/17 12:00 AM	1/17/17 4:30 AM	270	0.48	484,374,092.10	2.03	0.220	12	Atlas	232,499,564.20	
	1/19/17 7:00 PM	1/20/17 4:30 AM	570	1.20	551,438,305.80	2.48	0.550	12	Atlas	661,725,967.00	
	2/7/17 9:45 AM	2/7/17 1:30 PM	225	0.37	187,139,512.20	0.36	0.158	6	Atlas	69,241,619.50	
	2/24/17 7:45 PM	2/24/17 8:00 PM	15	0.54	65,577,825.93	0.61	0.461	1	Atlas	35,412,026.00	
	2/28/17 6:00 AM	2/28/17 11:15 AM	315	0.27	184,520,533.30	0.85	0.126	6	Atlas	49,820,544.00	
	3/1/17 3:45 AM	3/1/17 9:45 AM	360	1.01	271,266,346.50	1.87	0.530	6	Atlas	273,979,010.00	
	3/7/17 8:15 AM	3/7/17 3:15 PM	420	0.52	110,098,611.50	1.69	0.169	48	Atlas	57,251,278.00	
	3/26/17 1:30 AM	3/26/17 4:00 AM	150	0.44	355,018,877.50	0.35	0.202	6	Atlas	156,208,306.10	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO152	3/27/17 6:15 PM	3/27/17 7:45 PM	90	0.27	964,951,651.90	0.71	0.160	3	Atlas	260,536,946.00	
	3/30/17 8:45 PM	3/31/17 1:30 AM	285	0.55	157,173,098.20	1.38	0.273	6	Atlas	86,445,204.00	
CSO152 Total										2,277,163,579.20	16
CSO153	1/3/17 3:45 AM	1/3/17 4:30 AM	45	0.17	110,629.66	0.23	0.087	6	Atlas	18,807.04	
	1/10/17 7:45 PM	1/10/17 8:00 PM	15	0.12	150,470.92	0.35	0.087	1	Atlas	18,056.51	
	1/11/17 12:15 PM	1/11/17 2:00 PM	105	0.20	135,719.84	0.55	0.139	1	Atlas	27,143.97	
	1/12/17 3:45 PM	1/12/17 6:45 PM	180	0.39	111,443.69	0.59	0.186	6	Atlas	43,463.04	
	1/13/17 3:30 PM	1/13/17 3:45 PM	15	0.35	25,716.91	1.04	0.213	3	Atlas	9,000.92	
	1/14/17 11:15 AM	1/14/17 2:00 PM	165	0.24	192,513.48	1.30	0.115	6	Atlas	46,203.24	
	1/16/17 11:45 PM	1/17/17 4:00 AM	255	0.50	396,591.79	1.92	0.229	12	Atlas	198,295.90	
	1/19/17 7:00 PM	1/20/17 3:45 AM	525	1.03	605,720.12	2.37	0.472	12	Atlas	623,891.72	
	2/7/17 10:30 AM	2/7/17 10:30 AM	0	0.30	16,990.59	0.19	0.148	6	Atlas	5,097.18	
	2/24/17 7:00 PM	2/24/17 7:30 PM	30	0.42	314,073.15	0.47	0.357	1	Atlas	131,910.72	
	2/28/17 10:15 AM	2/28/17 10:45 AM	30	0.26	116,727.17	0.73	0.120	6	Atlas	30,349.06	
	3/1/17 3:15 AM	3/1/17 9:00 AM	345	1.05	750,122.02	1.78	0.546	6	Atlas	787,628.13	
	3/7/17 7:45 AM	3/7/17 1:00 PM	315	0.56	251,767.74	1.76	0.182	48	Atlas	140,989.94	
	3/26/17 1:15 AM	3/26/17 2:30 AM	75	0.45	66,078.77	0.30	0.208	6	Atlas	29,735.45	
	3/27/17 6:15 PM	3/27/17 7:00 PM	45	0.31	108,280.21	0.76	0.187	3	Atlas	33,566.87	
	3/30/17 8:45 AM	3/30/17 8:45 AM	0	0.06	162,537.32	0.82	0.052	1	Atlas	9,752.24	
	3/31/17 1:00 AM	3/31/17 1:00 AM	0	0.26	24,908.17	1.01	0.120	6	Atlas	6,476.12	
CSO153 Total										2,160,368.03	17
CSO154	1/15/17 3:45 PM	1/23/17 4:30 PM	11,565	0.10	269,857,610.40	2.86	0.053	3	Atlas	26,985,761.04	
	1/26/17 2:45 AM	1/29/17 5:15 PM	5,190	Creek Flow		1.06				7,414,040.11	
	3/1/17 3:30 AM	3/7/17 8:00 AM	8,910	1.03	17,461,070.52	2.08	0.492	6	Atlas	17,984,902.63	
CSO154 Total										52,384,703.78	3
CSO155	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.15	706.04	0.34	0.113	1	Atlas	105.91	
	1/17/17 1:00 AM	1/17/17 1:00 AM	0	0.69	2,646.23	2.04	0.317	6	Atlas	1,825.90	
	1/19/17 7:00 PM	1/20/17 12:45 AM	345	0.89	10,927.49	2.33	0.408	12	Atlas	9,725.47	
	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.23	100,866.21	0.27	0.183	1	Atlas	23,199.23	
	2/28/17 10:00 AM	2/28/17 10:00 AM	0	0.35	219.11	0.54	0.169	6	Atlas	76.69	
	3/1/17 3:00 AM	3/1/17 8:45 AM	345	1.31	5,943.15	1.94	0.667	6	Atlas	7,785.52	
	3/7/17 7:30 AM	3/7/17 7:30 AM	0	0.48	13,603.50	2.00	0.220	12	Atlas	6,529.68	
	3/13/17 4:45 PM	3/13/17 5:00 PM	15	0.06	382,775.80	0.61	0.033	3	Atlas	22,966.55	
	3/27/17 6:00 PM	3/27/17 6:45 PM	45	0.29	2,238.15	0.60	0.167	3	Atlas	649.06	
CSO155 Total										72,864.00	9
CSO160	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.13	1,765.95	0.38	0.104	1	Atlas	229.57	
	1/12/17 3:30 PM	1/12/17 3:30 PM	0	0.33	1,710.35	0.47	0.158	6	Atlas	564.42	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.42	15,468.85	0.47	0.357	1	Atlas	6,496.92	
	3/1/17 3:15 AM	3/1/17 7:00 AM	225	1.11	5,279.94	1.39	0.590	6	Atlas	5,860.73	
	3/7/17 7:15 AM	3/7/17 2:30 PM	435	0.35	4,067.80	1.83	0.161	12	Atlas	1,423.73	
	3/27/17 4:30 PM	3/27/17 4:30 PM	0	0.31	630.48	0.52	0.193	3	Atlas	195.45	
CSO160 Total										14,770.81	6

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO161	1/3/17 2:00 AM	1/3/17 4:30 AM	150	0.18	32,884.67	0.26	0.093	6	Atlas	5,919.24	
	1/10/17 7:15 PM	1/10/17 7:45 PM	30	0.13	43,745.19	0.39	0.104	1	Atlas	5,686.87	
	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.42	16,096.13	0.43	0.357	1	Atlas	6,760.38	
	3/1/17 3:00 AM	3/1/17 3:00 AM	0	1.11	14,860.67	0.99	0.590	6	Atlas	16,495.34	
CSO161 Total										34,861.83	4
CSO167	1/2/17 8:00 PM	1/2/17 8:00 PM	0	0.19	14,054.39	0.19	0.093	6	Atlas	2,670.33	
	1/3/17 4:15 AM	1/3/17 5:00 AM	45	0.19	360,366.76	0.27	0.093	6	Atlas	68,469.68	
	1/10/17 7:30 PM	1/10/17 8:00 PM	30	0.13	136,131.79	0.36	0.104	1	Atlas	17,697.13	
	1/11/17 12:30 PM	1/11/17 12:45 PM	15	0.20	77,713.38	0.50	0.133	3	Atlas	15,542.68	
	1/12/17 3:30 PM	1/12/17 6:45 PM	195	0.32	297,607.36	0.60	0.153	6	Atlas	95,234.35	
	1/13/17 3:45 PM	1/13/17 3:45 PM	0	0.31	1,080.44	0.97	0.193	3	Atlas	334.94	
	1/14/17 11:30 AM	1/14/17 2:00 PM	150	0.22	208,600.71	1.20	0.101	12	Atlas	45,892.16	
	1/17/17 12:00 AM	1/17/17 4:00 AM	240	0.50	391,192.18	1.80	0.225	12	Atlas	195,596.09	
	1/19/17 7:00 PM	1/20/17 4:15 AM	555	1.05	457,657.26	2.28	0.482	12	Atlas	480,540.12	
	2/24/17 7:15 PM	2/24/17 7:30 PM	15	0.37	270,625.91	0.42	0.313	1	Atlas	100,131.59	
	2/28/17 10:15 AM	2/28/17 10:30 AM	15	0.24	77,198.74	0.64	0.110	12	Atlas	18,527.70	
	3/1/17 3:00 AM	3/1/17 9:30 AM	390	1.03	510,213.49	1.70	0.492	6	Atlas	525,519.89	
	3/7/17 7:45 AM	3/7/17 8:15 AM	30	0.31	299,126.91	1.59	0.142	12	Atlas	92,729.34	
	3/26/17 1:30 AM	3/26/17 2:45 AM	75	0.49	30,647.45	0.34	0.224	6	Atlas	15,017.25	
	3/27/17 6:15 PM	3/27/17 7:15 PM	60	0.25	303,459.60	0.74	0.147	3	Atlas	75,864.90	
	3/30/17 8:30 PM	3/30/17 8:45 PM	15	0.27	45,403.16	0.82	0.126	6	Atlas	12,258.85	
CSO167 Total										1,762,027.01	16
CSO174	1/10/17 8:00 PM	1/10/17 8:00 PM	0	0.15	53,792.50	0.38	0.104	1	Atlas	8,068.88	
	1/12/17 3:45 PM	1/12/17 3:45 PM	0	0.51	19,832.80	0.53	0.262	6	Atlas	10,114.73	
	1/17/17 12:15 AM	1/17/17 3:45 AM	210	0.52	140,537.05	2.02	0.239	12	Atlas	73,079.26	
	1/19/17 7:15 PM	1/20/17 1:00 AM	345	1.13	78,833.26	2.35	0.518	12	Atlas	89,081.59	
	2/24/17 7:00 PM	2/24/17 7:30 PM	30	0.57	1,046,263.45	0.64	0.487	1	Atlas	596,370.17	
	3/1/17 3:15 AM	3/1/17 9:00 AM	345	1.00	1,183,915.50	1.87	0.519	6	Atlas	1,183,915.50	
	3/7/17 7:45 AM	3/7/17 8:00 AM	15	0.54	220,432.46	1.57	0.175	48	Atlas	119,033.53	
	3/30/17 8:45 PM	3/30/17 8:45 PM	0	0.47	1,714.16	0.87	0.230	6	Atlas	805.66	
CSO174 Total										2,080,469.31	8
CSO180	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.15	16,399.31	0.36	0.104	1	Atlas	2,459.90	
	1/12/17 3:30 PM	1/12/17 3:30 PM	0	0.51	9,053.37	0.54	0.262	6	Atlas	4,617.22	
	1/17/17 12:15 AM	1/17/17 3:30 AM	195	0.52	13,208.21	2.02	0.239	12	Atlas	6,868.27	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.57	42,178.98	0.64	0.487	1	Atlas	24,042.02	
	3/1/17 3:15 AM	3/1/17 8:45 AM	330	1.00	82,216.48	1.87	0.519	6	Atlas	82,216.48	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.54	10,547.17	1.56	0.175	48	Atlas	5,695.47	
	3/30/17 8:30 PM	3/30/17 9:45 PM	75	0.47	3,300.22	1.05	0.230	6	Atlas	1,551.10	
CSO180 Total										127,450.46	7
CSO181	2/24/17 7:15 PM	2/24/17 7:15 PM	0	0.50	570,333.81	0.55	0.426	1	Atlas	285,166.91	
	3/1/17 3:30 AM	3/1/17 3:30 AM	0	1.01	83,570,748.51	1.05	0.536	6	Atlas	84,406,456.00	
CSO181 Total										84,691,622.91	2

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO182	1/3/17 2:00 AM	1/3/17 5:15 AM	195	0.15	121,841.31	0.23	0.077	6	Atlas	18,276.20	
	1/10/17 8:00 PM	1/10/17 8:30 PM	30	0.15	57,237.16	0.39	0.113	1	Atlas	8,585.57	
	1/11/17 12:30 PM	1/11/17 2:15 PM	105	0.22	101,530.58	0.61	0.147	3	Atlas	22,336.73	
	1/12/17 4:00 PM	1/12/17 10:00 PM	360	0.44	104,387.36	0.83	0.208	6	Atlas	45,930.44	
	1/13/17 3:00 PM	1/13/17 4:15 PM	75	0.26	33,820.76	1.06	0.160	3	Atlas	8,793.40	
	1/14/17 11:15 AM	1/14/17 2:30 PM	195	0.18	113,473.90	1.26	0.083	12	Atlas	20,425.30	
	1/15/17 5:00 PM	1/15/17 5:15 PM	15	0.12	3,311.11	1.34	0.055	12	Atlas	397.33	
	1/16/17 7:00 PM	1/17/17 4:30 AM	570	0.62	110,523.10	1.99	0.280	12	Atlas	68,524.32	
	1/19/17 6:45 PM	1/20/17 5:00 AM	615	1.17	134,050.75	2.54	0.537	12	Atlas	156,839.38	
	2/7/17 9:45 AM	2/7/17 1:15 PM	210	0.43	80,153.27	0.41	0.175	6	Atlas	34,465.90	
	2/8/17 5:00 PM	2/8/17 5:15 PM	15	0.08	36,825.27	0.45	0.052	1	Atlas	2,946.02	
	2/24/17 7:30 PM	2/24/17 7:45 PM	15	0.57	8,403.05	0.64	0.487	1	Atlas	4,789.74	
	2/28/17 5:45 AM	2/28/17 11:15 AM	330	0.23	87,635.37	0.85	0.109	6	Atlas	20,156.13	
	3/1/17 3:15 AM	3/1/17 10:15 AM	420	0.95	255,855.60	1.80	0.497	6	Atlas	243,062.82	
	3/7/17 7:45 AM	3/7/17 3:15 PM	450	0.50	170,136.34	1.59	0.162	48	Atlas	85,068.17	
	3/26/17 1:15 AM	3/26/17 3:00 AM	105	0.40	168,412.19	0.29	0.186	6	Atlas	67,364.87	
	3/27/17 5:30 PM	3/27/17 7:30 PM	120	0.29	287,313.42	0.69	0.160	3	Atlas	83,320.89	
	3/30/17 8:45 PM	3/31/17 1:15 AM	270	0.45	140,618.75	1.21	0.219	6	Atlas	63,278.44	
CSO182 Total										954,561.66	18
CSO185	1/10/17 7:45 PM	1/10/17 7:45 PM	0	0.18	25,836.98	0.44	0.139	1	Atlas	4,650.66	
	1/12/17 3:45 PM	1/12/17 3:45 PM	0	0.45	7,950.63	0.56	0.219	6	Atlas	3,577.78	
	1/17/17 3:45 AM	1/17/17 3:45 AM	0	0.64	5,514.32	2.06	0.294	12	Atlas	3,529.17	
CSO185 Total										11,757.60	3
CSO187	2/24/17 6:45 PM	2/24/17 6:45 PM	0	0.57	2,731.82	0.32	0.487	1	Atlas	1,557.14	
CSO187 Total										1,557.14	1
CSO189	1/11/17 7:00 PM	1/12/17 7:30 AM	750	0.19	17,070.34	0.75	0.130	1	Atlas	3,243.36	
	1/14/17 2:45 PM	1/14/17 3:00 PM	15	0.21	165,531.40	1.50	0.096	12	Atlas	34,761.59	
	1/17/17 12:15 AM	1/17/17 5:15 AM	300	0.83	2,207,628.07	2.54	0.376	12	Atlas	1,832,331.30	
	1/19/17 7:45 PM	1/20/17 5:15 AM	570	1.36	3,371,070.40	3.11	0.619	12	Atlas	4,584,655.75	
	2/24/17 7:30 PM	2/24/17 8:00 PM	30	0.50	272,334.31	0.59	0.417	1	Atlas	136,167.16	
	2/28/17 11:00 AM	2/28/17 11:00 AM	0	0.27	194,230.90	0.83	0.124	12	Atlas	52,442.34	
	3/1/17 3:15 AM	3/1/17 10:45 AM	450	1.37	3,728,611.69	2.20	0.727	6	Atlas	5,108,198.02	
	3/7/17 8:00 AM	3/7/17 9:00 AM	60	0.88	499,701.22	2.26	0.313	1	Atlas	439,737.07	
	3/27/17 6:45 PM	3/27/17 8:00 PM	75	0.26	1,078,689.44	0.68	0.139	1	Atlas	280,459.25	
CSO189 Total										12,471,995.85	9
CSO190	1/3/17 2:30 AM	1/3/17 4:30 AM	120	0.20	521,661.59	0.27	0.104	6	Atlas	104,332.32	
	1/10/17 7:15 PM	1/10/17 8:00 PM	45	0.15	90,267.99	0.35	0.113	1	Atlas	13,540.20	
	1/11/17 12:00 PM	1/11/17 12:00 PM	0	0.23	157.07	0.48	0.165	1	Atlas	36.13	
	1/12/17 3:15 PM	1/12/17 7:00 PM	225	0.43	104,441.33	0.72	0.213	6	Atlas	44,909.77	
	1/13/17 2:30 PM	1/13/17 3:30 PM	60	0.41	112.04	1.20	0.253	3	Atlas	45.94	
	1/14/17 11:30 AM	1/14/17 1:45 PM	135	0.24	66,601.13	1.45	0.110	12	Atlas	15,984.27	
	1/16/17 5:30 PM	1/17/17 3:30 AM	600	0.69	256,004.16	2.25	0.317	6	Atlas	176,642.87	
	1/19/17 6:45 PM	1/20/17 1:45 AM	420	0.89	640,909.48	2.42	0.408	12	Atlas	570,409.44	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO190											
Total											8
CSO195	1/3/17 4:45 AM	1/9/17 9:45 AM	8,940	0.15	465,609.41	0.49	0.077	6	Atlas	69,841.41	
	1/10/17 10:45 AM	1/11/17 7:00 AM	1,215	0.01	462,000.05	0.36	0.009	1	Atlas	4,620.00	
	1/17/17 5:45 AM	1/17/17 5:45 AM	0	0.61	118.34	2.03	0.280	12	Atlas	72.19	
	1/19/17 7:00 PM	1/21/17 9:30 AM	2,310	0.99	3,536.46	2.45	0.454	12	Atlas	3,501.09	
CSO195											
Total											4
CSO196	1/12/17 6:30 PM	1/12/17 6:30 PM	0	0.44	2,826.40	0.58	0.219	6	Atlas	1,243.61	
CSO196											
Total											1
CSO197	1/10/17 7:30 PM	1/10/17 7:30 PM	0	0.12	1,846.79	0.30	0.087	1	Atlas	221.61	
	1/12/17 3:30 PM	1/12/17 3:30 PM	0	0.44	503.67	0.44	0.219	6	Atlas	221.61	
	1/17/17 1:00 AM	1/17/17 1:00 AM	0	0.61	67.45	1.87	0.280	12	Atlas	41.15	
	2/14/17 8:45 AM	2/14/17 8:45 AM	0	0.01	2,123,177.15	0.39	0.009	1	Atlas	21,231.77	
	2/18/17 8:00 PM	2/18/17 8:15 PM	15	0.07	7,620.83	0.08	0.033	6	Atlas	533.46	
	2/27/17 11:00 AM	2/27/17 11:00 AM	0	0.05	18,869.79	0.46	0.023	12	Atlas	943.49	
	2/28/17 4:45 AM	2/28/17 11:30 AM	405	0.27	1,053,338.10	0.73	0.126	6	Atlas	284,401.29	
	3/1/17 3:00 AM	3/1/17 10:45 AM	465	1.15	1,220,161.36	1.88	0.585	6	Atlas	1,403,185.56	
	3/6/17 7:15 AM	3/6/17 7:45 PM	750	0.59	24,365.01	1.65	0.192	48	Atlas	14,375.35	
	3/7/17 5:00 AM	3/7/17 3:15 PM	615	0.59	652,376.59	1.96	0.192	48	Atlas	384,902.19	
	3/17/17 6:30 AM	3/17/17 12:00 PM	330	0.04	7,964,858.83	0.10	0.020	3	Atlas	318,594.35	
CSO197											
Total											11
CSO198	1/3/17 1:45 AM	1/3/17 5:15 AM	210	0.15	176,609.10	0.25	0.077	6	Atlas	26,491.36	
	1/10/17 7:30 PM	1/10/17 8:15 PM	45	0.12	175,181.17	0.32	0.087	1	Atlas	21,021.74	
	1/11/17 12:15 PM	1/11/17 2:15 PM	120	0.21	114,335.92	0.52	0.133	3	Atlas	24,010.54	
	1/12/17 3:30 PM	1/12/17 9:45 PM	375	0.44	97,536.08	0.81	0.219	6	Atlas	42,915.87	
	1/13/17 2:45 PM	1/13/17 4:00 PM	75	0.32	29,392.06	1.08	0.193	3	Atlas	9,405.46	
	1/14/17 11:00 AM	1/14/17 2:30 PM	210	0.22	124,619.94	1.32	0.107	3	Atlas	27,416.39	
	1/16/17 11:30 PM	1/17/17 4:00 AM	270	0.61	108,645.60	2.04	0.280	12	Atlas	66,273.81	
	1/19/17 6:30 PM	1/20/17 4:00 AM	570	0.99	172,816.25	2.47	0.454	12	Atlas	171,088.09	
	2/7/17 9:15 AM	2/7/17 1:15 PM	240	0.39	79,408.01	0.39	0.197	6	Atlas	30,969.13	
	2/8/17 5:00 PM	2/8/17 5:15 PM	15	0.08	3,095.57	0.42	0.044	6	Atlas	247.65	
	2/24/17 6:45 PM	2/24/17 7:45 PM	60	0.41	124,948.55	0.47	0.348	1	Atlas	51,228.90	
	2/28/17 5:30 AM	2/28/17 11:00 AM	330	0.27	89,596.34	0.73	0.126	6	Atlas	24,191.01	
	3/1/17 3:00 AM	3/1/17 9:30 AM	390	1.15	145,003.46	1.88	0.585	6	Atlas	166,753.98	
	3/7/17 7:30 AM	3/7/17 2:45 PM	435	0.59	76,185.29	1.92	0.192	48	Atlas	44,949.32	
	3/26/17 1:00 AM	3/26/17 3:15 AM	135	0.38	71,089.61	0.31	0.186	6	Atlas	27,014.05	
	3/27/17 4:45 PM	3/27/17 7:15 PM	150	0.27	123,875.85	0.65	0.147	3	Atlas	33,446.48	
	3/30/17 8:30 PM	3/31/17 1:15 AM	285	0.31	75,075.54	1.01	0.148	6	Atlas	23,273.42	
CSO198											
Total											17
CSO199	1/12/17 9:45 AM	1/12/17 3:30 PM	345	0.15		0.54				2,979.27	
	1/19/17 11:15 PM	1/19/17 11:15 PM	0	0.99	303.83	1.91	0.454	12	Atlas	300.79	
	2/24/17 7:00 PM	2/24/17 7:15 PM	15	0.41	9,436.66	0.47	0.348	1	Atlas	3,869.03	
	2/28/17 8:00 AM	2/28/17 8:00 AM	0	0.27	43,407.91	0.55	0.126	6	Atlas	11,720.14	

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard	Sum of Total Volume (Gals)	Count
CSO199	2/28/17 8:00 PM	3/1/17 1:00 PM	1,020	1.34	33,694.68	1.88				45,150.87	
	3/7/17 7:45 AM	3/7/17 8:15 AM	30	0.59	10,689.78	1.79	0.192	48	Atlas	6,306.97	
CSO199 Total										70,327.06	6
CSO200	1/12/17 3:30 PM	1/13/17 12:00 AM	510	0.44	5,211.72	0.82	0.219	6	Atlas	2,293.16	
	2/8/17 9:00 PM	2/9/17 2:00 PM	1,020	0.08	309,281.25	0.48	0.044	6	Atlas	24,742.50	
CSO200 Total										27,035.66	2
CSO202	1/12/17 7:45 PM	1/13/17 8:15 PM	1,470	0.44	632,924.30	1.11	0.219	6	Atlas	278,486.69	
	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.41	8,804.62	0.47	0.348	1	Atlas	3,609.90	
	3/1/17 3:15 AM	3/1/17 3:45 AM	30	1.15	6,701.50	1.07	0.585	6	Atlas	7,706.73	
	3/7/17 7:45 AM	3/7/17 7:45 AM	0	0.59	6,092.76	1.77	0.192	48	Atlas	3,594.73	
CSO202 Total										293,398.04	4
CSO203	1/6/17 9:30 AM	1/6/17 11:45 AM	135	0.19	6,898.03	0.45	0.083	12	Atlas	1,310.63	
	1/10/17 7:45 PM	1/10/17 7:45 PM	0	0.12	9,352.60	0.32	0.087	1	Atlas	1,122.31	
	1/12/17 5:15 PM	1/13/17 11:45 PM	1,830	0.44	271,436.13	1.13	0.219	6	Atlas	119,431.90	
	2/9/17 2:15 AM	2/10/17 10:15 AM	1,920	0.08	3,172,533.69	0.48	0.044	6	Atlas	253,802.70	
	2/24/17 7:00 PM	2/24/17 7:00 PM	0	0.41	10,950.71	0.47	0.348	1	Atlas	4,489.79	
	3/1/17 3:15 AM	3/1/17 3:15 AM	0	1.15	19,032.90	1.04	0.585	6	Atlas	21,887.83	
CSO203 Total										402,045.16	6
Grand Total										2,545,178,028.58	465

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Appendix C

Acronyms

Appendix C Acronyms

ACD	Amended Consent Decree
BOD	Biological Oxygen Demand
CCP	Composite Correction Plan
CMF	Central Maintenance Facility
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSOFT	Software Name
CSS	Combined Sewer System
DWO	Dry Weather Overflow
EPA	Environmental Protection Agency
FEPS	Final Effluent Pump Station
FY	Fiscal Year
GLPM	Gravity Line Preventive Maintenance
HMI	Human Machine Interface
ICM	Integrated Catchment Model
ID	Identification
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
LGE	Louisville Gas and Electric
LTCP	Long Term Control Plan
MG	Million Gallons
MGD	Million Gallons per Day
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NMC	Nine Minimum Controls
OPC	OLE for Process Controls
ORFM	Ohio River Force Main
PLC	Programmable Logic Controller
PM	Preventive Maintenance
PS	Pump Station
RAS	Return Activated Sludge
RTC	Real Time Control
SCAP	System Capacity Assurance Plan
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSO	Sanitary Sewer Overflow

Appendix C Acronyms

SSOP	Sanitary Sewer Overflow Plan
SWOR1	Southwestern Outfall relief – Phase 1
SWOR2	Southwestern Outfall Relief – Phase 2
SWSG	Southwest Sluice Gate
TSS	Total Suspended Solids
TV	Television
WIN	Waterway Improvements Now
WQTC	Water Quality Treatment Center
WUS	Waters of the United States
WWT	Wet Weather Team

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Appendix D SCAP Balance

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
CCREEK						
235533	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,521	6,521
362688	MAINTENANCE WORK FY09A - CEDAR	SCAPCREDIT		12/31/08	5	6,526
236380	FAIRMOUNT ROAD MH REHAB	SCAPCREDIT		6/5/09	10,734	17,260
362689	MAINTENANCE WORK FY09B - CEDAR	SCAPCREDIT		6/30/09	201	17,461
SC1011254	MAINTENANCE WORK FY10A - CEDAR	SCAPCREDIT		12/31/09	347	17,808
SC1011255	MAINTENANCE WORK FY10B - CEDAR	SCAPCREDIT		6/30/10	194	18,002
SC1011259	MAINTENANCE WORK FY11A - CEDAR	SCAPCREDIT		12/31/10	1,720	19,722
SC1011262	MAINTENANCE WORK FY11B - CEDAR	SCAPCREDIT		6/30/11	934	20,656
SC1011264	MAINTENANCE WORK FY12A - CEDAR	SCAPCREDIT		12/31/11	269	20,925
SC1011267	MAINTENANCE WORK FY12B - CEDAR	SCAPCREDIT		6/30/12	814	21,739
SC1005519	CONTRACTED WORK FY12 - CEDAR	SCAPCREDIT		9/10/12	21,321	43,060
320989	LITTLE CEDAR CREEK I/I REHABIL	SCAPCREDIT		9/27/12	652,907	695,967
263934	ST JAMES CROSSINGS	LAT EXT	9,000	11/30/12	-19,575	676,392
196927	SONIC SPRINGS	LAT EXT	3,600	12/5/12	-7,830	668,562
SC1005524	CONTRACTED WORK FY13 - CEDAR	SCAPCREDIT		8/19/13	425	668,987
14SC1000	MAINTENANCE WORK FY13A - CEDAR	SCAPCREDIT		12/31/13	2,220	671,207
13LE1155	RAISING CANE'S CEDARLOOK DRIVE	LAT EXT	1,175	5/23/14	-2,556	668,651
239030	POPLAR LAKES PH 1	LAT EXT	18,000	1/26/15	-39,150	629,501
13LE1003	Bardstown Woods Sec 6	LAT EXT	5,200	5/26/15	-11,310	618,191
LE916330	Altawood Development	LAT EXT	1,600	9/14/15	-3,480	614,711
SC1003694	CONTRACTED WORK FY16 - CEDAR	SCAPCREDIT		9/25/15	328	615,039
SC1006188	CONTRACTED WORK FY15 - CEDAR	SCAPCREDIT		9/25/15	1	615,040
LE915727	BARDSTOWN WOODS SEC 7	LAT EXT	4,400	5/25/16	-9,570	605,470
SC1006171	CONTRACTED WORK FY14 - CEDAR	SCAPCREDIT		10/26/16	45,900	651,370

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
FFORK						
235557	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	14,540	14,540
362638	MAINTENANCE WORK FY09A - FLOYDS	SCAPCREDIT		12/31/08	1	14,541
362647	MAINTENANCE WORK FY09B - FLOYDS	SCAPCREDIT		6/30/09	4	14,545
362651	MAINTENANCE WORK FY10A - FLOYDS	SCAPCREDIT		12/31/09	524	15,069
230379	SHAKES RUN SECTION 4	LAT EXT	3,770	1/5/10	-8,200	6,869
362655	MAINTENANCE WORK FY10B - FLOYDS	SCAPCREDIT		6/30/10	82	6,951
362661	MAINTENANCE WORK FY11A - FLOYDS	SCAPCREDIT		12/31/10	14,163	21,114
362669	MAINTENANCE WORK FY11B - FLOYDS	SCAPCREDIT		6/30/11	22,707	43,821
242480	CLAIBOURNE CROSSINGS PHASE 2	LAT EXT	0	10/17/11	0	43,821
359320	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	47,821
362674	MAINTENANCE WORK FY12A - FLOYDS	SCAPCREDIT		12/31/11	317	48,138
362678	MAINTENANCE WORK FY12B - FLOYDS	SCAPCREDIT		6/30/12	338	48,476
332823	SINGLE FAMILY HOME	LAT EXT	400	7/13/12	-870	47,606
315945	BROOKFIELD SEC 3	LAT EXT	12,800	10/26/12	-27,840	19,766
361689	LAKE FOREST REHAB PH1	SCAPCREDIT		12/18/12	174,769	194,535
362683	MAINTENANCE WORK FY13A - FLOYDS	SCAPCREDIT		12/31/12	10	194,545
331397	BROOKFIELD SEC 2A	LAT EXT	14,400	5/8/13	-31,320	163,225
13SC1000	FY14 STARVIEW REHABILITATION	SCAPCREDIT		6/30/13	14,183	177,408
13LE1062	SPEEDWAY #9451	LAT EXT	540	2/18/15	-1,175	176,234
SC1003809	BERRYTOWN WQTC I/I REMEDIATION	SCAPCREDIT		6/30/15	116,834	293,068
SC1003723	MIDDLETOWN SSR P2S2 I/I REMEDIATION	SCAPCREDIT		11/6/15	102	293,170
LE941673	Locust Creek Section 8B	LAT EXT	2,000	1/7/16	-4,350	288,820
SC1003331	CONTRACTED WORK FY16 - FLOYDS	SCAPCREDIT		7/7/16	35	288,855
LE932677	Shakes Run Sec 9	LAT EXT	12,000	9/20/16	-26,100	262,755

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
LE945783	Urton Woods, Section 2B	LAT EXT	17,200	1/4/17	-37,410	225,345
LE971261	Notting Hills Section 4 and Clubhouse	LAT EXT	10,400	2/27/17	-22,620	202,725
HCREEK						
SC1006307	CONTRACTED WORK FY06 - HITE CREEK	SCAPCREDIT		5/15/06	656	656
235561	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,404	7,060
362641	MAINTENANCE WORK FY09A - HITE	SCAPCREDIT		12/31/08	2	7,062
SC1006214	CONTRACTED WORK FY09 - HITE CREEK	SCAPCREDIT		6/1/09	328	7,390
362648	MAINTENANCE WORK FY09B - HITE	SCAPCREDIT		6/30/09	7	7,397
362652	MAINTENANCE WORK FY10A - HITE	SCAPCREDIT		12/31/09	10	7,407
362657	MAINTENANCE WORK FY10B - HITE	SCAPCREDIT		6/30/10	332	7,739
320906	FLOYDSBURG ROAD I/I REHABILITA	SCAPCREDIT		12/17/10	28,437	36,176
362662	MAINTENANCE WORK FY11A - HITE	SCAPCREDIT		12/31/10	9	36,185
362670	MAINTENANCE WORK FY11B - HITE	SCAPCREDIT		6/30/11	9	36,194
SC1011058	Meadow Stream Pump Station & Force Main	SCAPCREDIT		9/7/11	2,304,000	2,340,194
246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/11	-1,740	2,338,454
362675	MAINTENANCE WORK FY12A - HITE	SCAPCREDIT		12/31/11	340	2,338,794
362679	MAINTENANCE WORK FY12B - HITE	SCAPCREDIT		6/30/12	5,007	2,343,801
290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/12	-26,970	2,316,831
304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/12	-20,663	2,296,169
335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/12	-13,920	2,282,249
362684	MAINTENANCE WORK FY13A - HITE	SCAPCREDIT		12/31/12	7	2,282,256
SC1005530	CONTRACTED WORK FY13 - HITE CREEK	SCAPCREDIT		4/11/13	1,442	2,283,698
SC1006178	CONTRACTED WORK FY14 - HITE CREEK	SCAPCREDIT		1/27/15	77,660	2,361,358
SC983697	MEADOWSTREAM REHABILITATION -	SCAPCREDIT		3/13/15	448,447	2,809,805
LE943178	Rock Springs Farm Section 5A	LAT EXT	6,800	9/13/16	-14,790	2,795,015

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
SC1006192	CONTRACTED WORK FY15 - HITE CREEK	SCAPCREDIT		10/26/16	1	2,795,016
LE971406	Old Henry Business Park	LAT EXT	930	3/17/17	-2,023	2,792,993
JTOWN						
235563	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,203	6,203
359323	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	10,203
254871	LAKESIDE BAPT CHURCH PRIV PS	LAT EXT	2,500	8/10/10	-5,438	4,766
340213	JEFFERSONTOWN ENG REHAB	SCAPCREDIT		8/11/11	997,448	1,002,214
359324	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	4,000	1,006,214
14SC1002	MAINTENANCE WORK FY13A -	SCAPCREDIT		12/31/12	3,490	1,009,704
337261	SINGLE FAMILY 2909 PELHAM CT	LAT EXT	400	5/28/13	-870	1,008,834
13LE1010	SWOPE HR & TRAINING BLDG	LAT EXT	400	6/28/13	-870	1,007,964
13LE1092	BALE EQUIPMENT	LAT EXT	450	10/25/13	-979	1,006,985
13LE1098	UNIPAK	LAT EXT	720	2/27/14	-1,566	1,005,419
LE924043	Bluegrass Indoor Carting	LAT EXT	400	5/1/14	-870	1,004,549
13LE1067	PARK COMMUNITY	LAT EXT	2,220	12/31/14	-4,829	999,720
14LE1149	Grand Lakes Section 3	LAT EXT	5,600	2/1/16	-12,180	987,540
LE924049	Blankenbaker Road S/S	LAT EXT	9,010	3/10/16	-19,597	967,944
326360	WATTERSON TRAIL CENTER	LAT EXT	2,745	5/4/16	-5,970	961,973
LE930127	Vantage Point Sec 3B	LAT EXT	7,200	6/21/16	-15,660	946,313
14LE1148	Grand Lakes Section 2	LAT EXT	4,400	11/8/16	-9,570	936,743
LE926081	Monticello Manors Sec 2	LAT EXT	7,600	3/23/17	-16,530	920,213
MCREEK						
359380	CALENDAR 2005 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/05	12,000	12,000
359381	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	24,000	36,000

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
235568	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	51,530	87,530
359382	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	103,530
362642	MAINTENANCE WORK FY09A - MILL	SCAPCREDIT		12/31/08	93	103,623
362649	MAINTENANCE WORK FY09B - MILL	SCAPCREDIT		6/30/09	1,507	105,130
236614	DEVEROES	LAT EXT	960	9/9/09	-2,088	103,042
362653	MAINTENANCE WORK FY10A - MILL	SCAPCREDIT		12/31/09	25,272	128,314
359383	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	32,000	160,314
253586	KINGSFORD RETAIL CENTER	LAT EXT	480	1/6/10	-1,044	159,270
238421	6840 DIXIE HWY OUTLOT	LAT EXT	2,100	4/28/10	-4,568	154,703
362658	MAINTENANCE WORK FY10B - MILL	SCAPCREDIT		6/30/10	6,216	160,919
259408	FAMILY DOLLAR 5105 DIXIE	LAT EXT	1,200	7/2/10	-2,610	158,309
264294	SAINT PETER THE APOSTLE CATHOL	LAT EXT	2,000	7/23/10	-4,350	153,959
276215	FAMILY DOLLAR - KRISTIN WAY	LAT EXT	400	10/12/10	-870	153,089
362664	MAINTENANCE WORK FY11A - MILL	SCAPCREDIT		12/31/10	22,745	175,834
359384	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	4,000	179,834
359325	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	8,000	187,834
320916	SONNE AVE PS REHABILITATION -	SCAPCREDIT		6/30/11	120,800	308,634
362671	MAINTENANCE WORK FY11B - MILL	SCAPCREDIT		6/30/11	11,745	320,379
299399	FAMILY DOLLAR - GREENWOOD RD	LAT EXT	800	10/4/11	-1,740	318,639
309018	PRP PERFORMING ARTS ADDITION	LAT EXT	1,134	11/9/11	-2,466	316,172
359385	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	328,172
362676	MAINTENANCE WORK FY12A - MILL	SCAPCREDIT		12/31/11	4,800	332,972
359326	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	12,000	344,972
318096	CRACKER BARREL OLD COUNTRY	LAT EXT	6,000	1/19/12	-13,050	331,922
SC1005678	CONTRACTED WORK FY12 - MILL CREEK	SCAPCREDIT		3/16/12	22	331,944
262545	DIXIE MANOR SHOPPING CENTER	LAT EXT	965	5/21/12	-2,099	329,845

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
300374	FORT KNOX FEDERAL CREDIT UNION	LAT EXT	400	6/26/12	-870	328,975
362680	MAINTENANCE WORK FY12B - MILL	SCAPCREDIT		6/30/12	4,133	333,108
361693	FY12 MILL CREEK REHAB	SCAPCREDIT		6/30/12	81,675	414,783
231800	PIONEER MOBILE HOME PARK	LAT EXT	11,200	7/24/12	-24,360	390,423
237457	WAVERLY HILLS	LAT EXT	400	9/18/12	-870	389,553
341883	NHK SPRING PRECISION	LAT EXT	17,800	10/19/12	-38,715	350,838
334997	BEECHLAND BAPTIST CHURCH	LAT EXT	2,715	12/5/12	-5,905	344,933
359327	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	148,000	492,933
362685	MAINTENANCE WORK FY13A - MILL	SCAPCREDIT		12/31/12	22,996	515,929
359386	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	519,929
343763	SOUTHEAST CHRISTIAN CHURCH SW	LAT EXT	6,000	1/18/13	-13,050	506,879
224875	ASHBY GREEN APARTMENT HOMES	LAT EXT	36,400	3/20/13	-79,170	427,709
265944	RIVERPORT PHASE 4A - MICHELIN	LAT EXT	400	6/6/13	-870	426,839
314887	DAYTON FREIGHT	LAT EXT	1,200	9/10/13	-2,610	424,229
13LE1014	LOUISVILLE FREE PUBLIC LIBRARY	LAT EXT	8,200	9/26/13	-17,835	406,394
357140	FAMILY DOLLAR CANE RUN ROAD	LAT EXT	832	10/3/13	-1,810	404,584
13LE1171	SINGLE FAMILY HOME 3700 ROMANIA DR	LAT EXT	400	1/29/14	-870	403,714
SC1005536	ROSA TERRACE I/I REHABILITATION FY13	SCAPCREDIT		3/10/15	156,635	560,349
SC1003690	CONTRACTED WORK FY15 - MILL CREEK	SCAPCREDIT		7/31/15	58	560,407
LE937142	ZAXBYS DIXIE HWY	LAT EXT	924	8/10/15	-2,010	558,398
LE944727	Britz Deer Hollow Lane	LAT EXT	800	7/28/16	-1,740	556,658
MFORK						
359400	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	84,000	84,000
359328	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	20,000	104,000
235566	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	43,779	147,779

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
359329	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	8,000	155,779
SC1011287	MAINTENANCE WORK FY09A - MIDDLE	SCAPCREDIT		12/31/08	13	155,792
236517	ANCHOR ESTATES MH REHAB	SCAPCREDIT		1/16/09	15,552	171,344
217235	SINKING FORK ICA PHASE I REHAB	SCAPCREDIT		3/30/09	437,967	609,311
235376	MIDDLE FORK INT REHAB PH1	SCAPCREDIT		5/15/09	487,744	1,097,055
179246	SHADY GLEN OF LYNDON PERSONAL	LAT EXT	-500	5/26/09	1,088	1,098,143
SC1011288	MAINTENANCE WORK FY09B - MIDDLE	SCAPCREDIT		6/30/09	4,208	1,102,351
250572	1316 WITAWANGA AVE	LAT EXT	400	11/4/09	-870	1,101,481
359331	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	24,000	1,125,481
359401	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	4,000	1,129,481
SC1011290	MAINTENANCE WORK FY10A - MIDDLE	SCAPCREDIT		12/31/09	50	1,129,531
197432	ALMOST HOME KENNELS - ALL PET	LAT EXT	3,700	3/16/10	-8,048	1,121,483
260064	OXMOOR GOLF FRONT 9	LAT EXT	400	4/15/10	-870	1,120,613
260065	OXMOOR GOLF BACK 9	LAT EXT	400	4/15/10	-870	1,119,743
229834	THE BROOK HOS- DUPONT ADDITION	LAT EXT	1,763	4/27/10	-3,835	1,115,908
SC1011292	MAINTENANCE WORK FY10B - MIDDLE	SCAPCREDIT		6/30/10	1,113	1,117,021
265723	Z-XPRESS CAR WASH	LAT EXT	5,449	7/2/10	-11,852	1,105,170
255793	HERR LANE APARTMENTS - 4 PLEX	LAT EXT	1,200	7/14/10	-2,610	1,102,560
255792	HERR LANE APARTMENTS - 8 PLEX	LAT EXT	2,400	7/14/10	-5,220	1,097,340
274303	FARM CREDIT SERVICES	LAT EXT	525	9/9/10	-1,142	1,096,198
278015	METROPOLITAN UROLOGY	LAT EXT	400	12/15/10	-870	1,095,328
359402	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	8,000	1,103,328
359333	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	1,115,328
SC1011293	MAINTENANCE WORK FY11A - MIDDLE	SCAPCREDIT		12/31/10	1,205	1,116,533
285637	SHELBYHURST OFFICE BUILDING 1	LAT EXT	6,600	1/20/11	-14,355	1,102,178
313465	DORSEY POINTE/CODOMINIUMS 8-13	LAT EXT	2,400	1/27/11	-5,220	1,096,958

Capacity Credit Balance Sheet per Credit Basin

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291263	BROWNS LANE BUILDING	LAT EXT	400	4/14/11	-870	1,096,088
293400	FOUR PLEX APARTMENTS	LAT EXT	1,200	6/14/11	-2,610	1,093,478
SC1011294	MAINTENANCE WORK FY11B - MIDDLE	SCAPCREDIT		6/30/11	7,183	1,100,661
330019	FY11 ANCHOR ESTATES REHAB	SCAPCREDIT		8/11/11	1,359	1,102,020
310046	EL NAPEL - MCMAHAN CENTER	LAT EXT	3,100	10/31/11	-6,743	1,095,278
314591	CHOCOLATE MARTINI BAR/REST	LAT EXT	3,275	11/29/11	-7,123	1,088,154
320983	HURSTBOURNE I/I INVESTIGATION	SCAPCREDIT		12/27/11	1,408,279	2,496,433
359335	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	2,512,433
SC1011295	MAINTENANCE WORK FY12A - MIDDLE	SCAPCREDIT		12/31/11	919	2,513,352
321228	SINGLE FAMILY UNIT	LAT EXT	400	2/15/12	-870	2,512,482
SC1005671	CONTRACTED WORK FY12 - MIDDLE	SCAPCREDIT		3/16/12	7,305	2,519,787
321647	SINGLE FAMILY	LAT EXT	400	3/27/12	-870	2,518,917
328074	SINGLE FAMILY-703 FOUNTAIN AVE	LAT EXT	400	6/22/12	-870	2,518,047
SC1011297	MAINTENANCE WORK FY12B - MIDDLE	SCAPCREDIT		6/30/12	949	2,518,996
193195	CEDAR LAKE LODGE WASHBURN	LAT EXT	1,900	8/20/12	-4,133	2,514,864
320923	ST MATTHEWS I/I REHABILITATION	SCAPCREDIT		8/23/12	20,841	2,535,705
337796	CHAMPPS	LAT EXT	635	9/5/12	-1,381	2,534,324
347126	ADVANCE PRODUCTION SYSTEMS	LAT EXT	400	12/28/12	-870	2,533,454
359336	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	92,000	2,625,454
14SC1003	MAINTENANCE WORK FY13A - MIDDLE	SCAPCREDIT		12/31/12	3,309	2,628,763
339367	BAPTIST RADIATION ONCOLOGY	LAT EXT	1,500	1/4/13	-3,263	2,625,500
340778	PANDA RESTAURANT	LAT EXT	1,725	1/16/13	-3,752	2,621,748
349044	BLAIRWOOD POOL ADDITION	LAT EXT	400	1/29/13	-870	2,620,878
328659	SINGLE FAMILY HOME - 6911 AMBR	LAT EXT	400	2/4/13	-870	2,620,008
352805	POOL HOUSE 9213 REIGATE COURT	LAT EXT	200	2/20/13	-435	2,619,573
14LE1001	MIRANDA LAGRANGE RD	LAT EXT	400	3/19/13	-870	2,618,703

Capacity Credit Balance Sheet per Credit Basin

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350246	SINGLE FAMILY - 218 BLISS AVE	LAT EXT	400	3/20/13	-870	2,617,833
349974	SINGLE FAMILY 205 N WATTERSON	LAT EXT	400	3/26/13	-870	2,616,963
342433	SHELBYHURST 700 OFFICE BLDG	LAT EXT	7,500	4/15/13	-16,313	2,600,651
350340	JARED THE GALLERY OF JEWELRY	LAT EXT	770	4/16/13	-1,675	2,598,976
SC1005532	CONTRACTED WORK FY13 - MIDDLE	SCAPCREDIT		5/30/13	6,480	2,605,456
13LE1009	Single family 11716 Wetherby Ave	LAT EXT	400	6/7/13	-870	2,604,586
13LE1001	Single Family 835 Fountain Ave	LAT EXT	400	8/28/13	-870	2,603,716
355162	PROPOSED RESTAURANT	LAT EXT	7,540	9/10/13	-16,400	2,587,317
13LE1045	SINGLE FAMILY 8325 WHIPPS MILL RD	LAT EXT	400	9/30/13	-870	2,586,447
319292	WATERMARK ON HURSTBOURNE	LAT EXT	71,600	10/22/13	-155,730	2,430,717
331542	DENTAL/MEDICAL OFFICE BLDG	LAT EXT	400	10/28/13	-870	2,429,847
13LE1128	SINGLE FAMILY HOME 1327 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,428,977
13LE1144	SINGLE FAMILY 1329 ETAWAH AVE	LAT EXT	400	11/5/13	-870	2,428,107
13LE1165	SINGLE FAMILY 8504 LORE LANE	LAT EXT	400	11/25/13	-870	2,427,237
13LE1146	CITY OF ST MATTHEWS COMMUNITY CTR	LAT EXT	1,500	11/26/13	-3,263	2,423,974
13LE1099	NICKLIES - ST MATTHEWS	LAT EXT	1,920	12/11/13	-4,176	2,419,798
353963	DORSEY COMMONS TRACTS 1,2,3	LAT EXT	4,335	12/18/13	-9,429	2,410,370
352026	MCMAHAN PLAZA PHASE II BLDG B	LAT EXT	766	12/31/13	-1,666	2,408,703
13LE1117	THE VININGS	LAT EXT	850	4/10/14	-1,849	2,406,855
14LE1021	KODA KENTUCKY ORGAN DONOR	LAT EXT	400	6/18/14	-870	2,405,985
14LE1128	WALDORF SCHOOL OF LOUISVILLE	LAT EXT	400	6/30/14	-870	2,405,115
SC1006201	GOOSE CREEK PLANTATION I/I	SCAPCREDIT		2/10/15	163,919	2,569,034
SC1006179	CONTRACTED WORK FY14 - MIDDLE	SCAPCREDIT		2/11/15	15,043	2,584,077
LE939199	Westport Road Apartments	LAT EXT	62,800	6/8/16	-136,590	2,447,487
LE971405	Lyndon Lane Office Condos	LAT EXT	2,652	8/30/16	-5,768	2,441,719
SC1003387	CONTRACTED WORK FY16 - MIDDLE	SCAPCREDIT		10/18/16	91,264	2,532,983

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SC1006194	CONTRACTED WORK FY15 - MIDDLE	SCAPCREDIT		10/24/16	3	2,532,986
LE938563	The Paddock at Sawyer Park	LAT EXT	99,800	12/20/16	-217,065	2,315,921
NDITCH						
359404	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	28,000	28,000
235569	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	11,147	39,147
236363	NORTHERN DITCH INT REHAB PH1	SCAPCREDIT		11/25/08	108,760	147,907
SC1011338	MAINTENANCE WORK FY09A -	SCAPCREDIT		12/31/08	11	147,918
SC1011339	MAINTENANCE WORK FY09B -	SCAPCREDIT		6/30/09	1,884	149,802
359339	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	153,802
SC1011340	MAINTENANCE WORK FY10A -	SCAPCREDIT		12/31/09	1,177	154,979
234678	THE LIGHTHOUSE PROMISE COMPLEX	LAT EXT	2,825	3/5/10	-6,144	148,835
SC1011343	MAINTENANCE WORK FY10B -	SCAPCREDIT		6/30/10	2,532	151,367
284728	SUBWAY - NEW CUT RD	LAT EXT	1,314	12/21/10	-2,858	148,509
359340	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	152,509
SC1011344	MAINTENANCE WORK FY11A -	SCAPCREDIT		12/31/10	2,456	154,965
320908	PARKVIEW ESTATES REHABILITATIO	SCAPCREDIT		6/28/11	36	155,001
SC1011345	MAINTENANCE WORK FY11B -	SCAPCREDIT		6/30/11	1,989	156,990
312810	WILLOW PLACE APT COMMUNITY CEN	LAT EXT	400	11/11/11	-870	156,120
359341	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	24,000	180,120
359405	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	12,000	192,120
SC1011346	MAINTENANCE WORK FY12A -	SCAPCREDIT		12/31/11	911	193,031
315723	JCPS EARLY CHILDHOOD DEVELOP	LAT EXT	6,000	1/26/12	-13,050	179,981
312057	DOLLAR GENERAL - MEDALLION CT	LAT EXT	400	3/21/12	-870	179,111
SC1011336	MAINTENANCE WORK FY12B -	SCAPCREDIT		6/30/12	7,893	187,004
312659	KROGER L-350 FUEL STATION	LAT EXT	400	8/20/12	-870	186,134

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359343	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	210,134
14SC1004	MAINTENANCE WORK FY13A -	SCAPCREDIT		12/31/12	4,239	214,373
13LE1147	CARLON ROOFING	LAT EXT	992	12/5/13	-2,158	212,215
13LE1126	JENNINGS CROSSING TRACT 3	LAT EXT	2,100	12/12/13	-4,568	207,648
SC1006180	CONTRACTED WORK FY14 - NORTHERN	SCAPCREDIT		10/21/14	5	207,653
LE947316	Heimbrock I	LAT EXT	400	8/14/15	-870	206,783
LE947318	Heimbrock II	LAT EXT	400	8/14/15	-870	205,913

ORFM

359433	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	56,000	56,000
359344	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	4,000	60,000
235572	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	19,826	79,826
362643	MAINTENANCE WORK FY09A - ORFM	SCAPCREDIT		12/31/08	2	79,828
362650	MAINTENANCE WORK FY09B - ORFM	SCAPCREDIT		6/30/09	3,835	83,663
362654	MAINTENANCE WORK FY10A - ORFM	SCAPCREDIT		12/31/09	7,330	90,993
263548	SINGLE FAMILY CONNECTION	LAT EXT	400	5/18/10	-870	90,123
213488	NORTHEAST CHRISTIAN CHURCH	LAT EXT	10,000	6/28/10	-21,750	68,373
362660	MAINTENANCE WORK FY10B - ORFM	SCAPCREDIT		6/30/10	6,773	75,146
362665	MAINTENANCE WORK FY11A - ORFM	SCAPCREDIT		12/31/10	181	75,327
362672	MAINTENANCE WORK FY11B - ORFM	SCAPCREDIT		6/30/11	4,139	79,466
280837	SPRINGHURST TOWNE CTR LOT C	LAT EXT	400	9/20/11	-870	78,596
320920	SHADOW WOOD I/I REHABILITATION	SCAPCREDIT		9/30/11	14,279	92,875
311412	SPRINGHURST CHEVROLET	LAT EXT	855	10/14/11	-1,860	91,015
359345	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	16,000	107,015
359434	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	16,000	123,015
362677	MAINTENANCE WORK FY12A - ORFM	SCAPCREDIT		12/31/11	7,268	130,283

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320921	DERINGTON COURT I/I REHABILITA	SCAPCREDIT		3/1/12	56,208	186,491
187028	GLENVIEW PARK SUBD SECTION 1	LAT EXT	4,400	3/5/12	-9,570	176,921
213450	GLENVIEW PARK SUB, SEC 2	LAT EXT	5,600	3/5/12	-12,180	164,741
322455	FIRST LADY NAILS	LAT EXT	400	3/12/12	-870	163,871
362681	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/12	19,941	183,812
SC1011315	MAINTENANCE WORK FY12B - ORFM	SCAPCREDIT		6/30/12	19,941	203,753
292239	SPRINGHURST RESTAURANT/ RETAIL	LAT EXT	3,440	7/5/12	-7,482	196,271
323821	TIRE DISCOUNTERS WESTPORT RD	LAT EXT	400	12/11/12	-870	195,401
363238	FY13 PROSPECT MANHOLE REHAB	SCAPCREDIT		12/18/12	72,703	268,104
341319	RAISING CANES RETAIL CENTER	LAT EXT	1,225	12/18/12	-2,664	265,440
359346	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	24,000	289,440
363235	FY13 MUDDY FORK MH REHAB	SCAPCREDIT		12/31/12	41,653	331,093
362686	MAINTENANCE WORK FY13A - ORFM	SCAPCREDIT		12/31/12	1,161	332,254
360262	SINGLE FAMILY 3419 HILLVALE RD	LAT EXT	400	5/13/13	-870	331,384
343729	RETAIL & RESTAURANT	LAT EXT	3,500	6/21/13	-7,613	323,772
334154	GLENVIEW PARK SUBD SEC 4	LAT EXT	3,600	11/7/13	-7,830	315,942
13LE1024	Overlook at Beech Spring Farm Sec 4	LAT EXT	5,600	12/31/13	-12,180	303,762
199896	SPRINGDALE OFFICE BUILDING	LAT EXT	4,210	3/11/14	-9,157	294,605
225863	SPRING FARM LAKES SEC 1	LAT EXT	4,800	5/16/14	-10,440	284,165
177756	SUMMIT GARDENS PHASE 1	LAT EXT	32,000	9/22/14	-69,600	214,565
14LE1121	Riverside Sewer Extension	LAT EXT	1,200	11/10/14	-2,610	211,955
SC1006181	CONTRACTED WORK FY14 - ORFM	SCAPCREDIT		12/31/14	1,654	213,609
13LE1071	SPRING FARM LAKE SEC 2	LAT EXT	6,000	1/16/15	-13,050	200,559
352634	BAUER PROPERTY	LAT EXT	2,920	2/12/15	-6,351	194,208
SC983704	PROSPECT I&I REHABILITATION - FY13	SCAPCREDIT		7/12/15	1,034,758	1,228,966
SC1003730	RIVER ROAD I/I REMEDIATION	SCAPCREDIT		8/5/15	120,418	1,349,384

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LE929244	Summit Gardens Phase 2	LAT EXT	18,000	10/21/15	-39,150	1,310,234
SC1006195	CONTRACTED WORK FY15 - ORFM	SCAPCREDIT		11/19/15	1	1,310,235
LE938166	Spring Farm Lake Section 3	LAT EXT	3,200	12/14/15	-6,960	1,303,275
SC1003696	CONTRACTED WORK FY16 - ORFM	SCAPCREDIT		8/10/16	17,566	1,320,841
SC1003728	PROSPECT I&I REHABILITATION - FY16	SCAPCREDIT		10/6/16	199,036	1,519,877
LE923204	Indian Springs Hotel	LAT EXT	13,000	11/16/16	-28,275	1,491,602
PCREEK						
235574	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	71,782	71,782
359347	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	75,782
359438	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	4,000	79,782
SC1011298	MAINTENANCE WORK FY09A - POND	SCAPCREDIT		12/31/08	1,913	81,695
SC1011299	MAINTENANCE WORK FY09B - POND	SCAPCREDIT		6/30/09	6,403	88,098
359439	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	12,000	100,098
359348	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	4,000	104,098
SC1011305	MAINTENANCE WORK FY10A - POND	SCAPCREDIT		12/31/09	22,337	126,435
192513	BANNON CROSSINGS SECTION 3A-1	LAT EXT	800	2/17/10	-1,740	124,695
261115	EMERGENCY RESTORATION	LAT EXT	400	4/27/10	-870	123,825
SC1011307	MAINTENANCE WORK FY10B - POND	SCAPCREDIT		6/30/10	11,060	134,885
276977	DADISMAN BUILDERS-POPLAR TREE	LAT EXT	400	10/13/10	-870	134,015
266833	THORNTONS @ PRESTON HWY	LAT EXT	400	12/1/10	-870	133,145
280751	NOTTINGTON HILLS SEC 1	LAT EXT	4,400	12/29/10	-9,570	123,575
359350	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	12,000	135,575
SC1011308	MAINTENANCE WORK FY11A - POND	SCAPCREDIT		12/31/10	19,773	155,348
187739	GLENGARRY INDUSTRIAL PARK	LAT EXT	4,300	1/13/11	-9,353	145,996
277777	TIRE DISCOUNTERS - BOERSTE WAY	LAT EXT	2,960	3/21/11	-6,438	139,558

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
SC1011309	MAINTENANCE WORK FY11B - POND	SCAPCREDIT		6/30/11	10,562	150,120
304408	UPS SUPPLY CHAIN SOLUTIONS #7	LAT EXT	2,250	9/14/11	-4,894	145,226
320918	EDSEL I/I REHABILITATION - FY1	SCAPCREDIT		9/27/11	106,700	251,926
313444	PLANET FITNESS - JEFF BLVD	LAT EXT	1,600	11/4/11	-3,480	248,446
312391	LONGHORN STEAKHOUSE RESTAURANT	LAT EXT	4,840	11/29/11	-10,527	237,919
320919	LANTANA I/I REHABILITATION - F	SCAPCREDIT		12/29/11	5,000	242,919
359351	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	20,000	262,919
SC1011310	MAINTENANCE WORK FY12A - POND	SCAPCREDIT		12/31/11	5,380	268,299
310845	ZAXBY'S RESTAURANT	LAT EXT	3,750	2/28/12	-8,156	260,143
255044	ISA-RECYCLING CENTER	LAT EXT	400	3/13/12	-870	259,273
312814	MILLER TRANSPORTATION	LAT EXT	1,800	3/19/12	-3,915	255,358
324554	NORTONS TEMPORARY OFFICE	LAT EXT	900	4/16/12	-1,958	253,400
234102	ETHOS AT VALLEY FARM SR LIVING	LAT EXT	7,050	6/19/12	-15,334	238,066
322367	SHEPHERDS CARE MEMORY HOME	LAT EXT	2,000	6/21/12	-4,350	233,716
SC1011313	MAINTENANCE WORK FY12B - POND	SCAPCREDIT		6/30/12	3,877	237,593
307332	LOUISVILLE INDUSTRIAL BLDG B	LAT EXT	2,520	8/6/12	-5,481	232,112
SC1005684	CONTRACTED WORK FY12 - POND	SCAPCREDIT		8/10/12	3,812	235,924
279860	BANNON CROSSINGS SEC 3B-2	LAT EXT	9,600	8/10/12	-20,880	215,044
312053	DOLLAR GENERAL - CLEARWATER FA	LAT EXT	400	8/13/12	-870	214,174
343455	SINGLE FAMILY 1812 GREYLING DR	LAT EXT	400	10/12/12	-870	213,304
243109	OVERBROOK APARTMENTS	LAT EXT	41,200	11/9/12	-89,610	123,694
359354	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	56,000	179,694
14SC1005	MAINTENANCE WORK FY13A - POND	SCAPCREDIT		12/31/12	25,984	205,678
329624	COPART	LAT EXT	400	2/20/13	-870	204,808
346082	ZAXBYS	LAT EXT	2,065	5/2/13	-4,491	200,317
320924	LEA ANN WAY INTERCEPTOR I&I RE	SCAPCREDIT		6/30/13	1,017,423	1,217,740

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
335385	HARRISON LOW PRESSURE S/S	LAT EXT	1,600	7/2/13	-3,480	1,214,260
SC1005534	PICADILLY I/I REHABILITATION FY13	SCAPCREDIT		7/12/13	187,564	1,401,824
320940	4 RESIDENCE SFU 7821 MANSCLICK	LAT EXT	400	8/16/13	-870	1,400,954
SC1005538	CONTRACTED WORK FY13 - POND	SCAPCREDIT		8/27/13	18,958	1,419,912
361336	RENAISSANCE SOUTH BUSINESS	LAT EXT	540	9/6/13	-1,175	1,418,737
324886	PNC BANK	LAT EXT	400	9/6/13	-870	1,417,867
13LE1083	SINGLE FAMILY HOME 5402 (H) E	LAT EXT	400	9/26/13	-870	1,416,997
SC1005319	FEGENBUSH I/I REHABILITATION FY13	SCAPCREDIT		11/12/13	226,201	1,643,198
353125	PEGASUS TRANSPORTATION	LAT EXT	250	12/9/13	-544	1,642,655
341439	PRESTON GARDENS APTS	LAT EXT	22,200	12/10/13	-48,285	1,594,370
308206	APPLEGATE FARMS	LAT EXT	57,200	12/10/13	-124,410	1,469,960
13LE1179	TIMBERBEND SUBDIVISION SEC 5B	LAT EXT	6,400	2/14/14	-13,920	1,456,040
13LE1035	RENAISSANCE SOUTH BUSINESS PARK	LAT EXT	5,415	4/10/14	-11,778	1,444,262
13LE1115	VERIZON-OUTER LOOP	LAT EXT	400	4/22/14	-870	1,443,392
348014	ASHTON PARK TOWN HOMES	LAT EXT	9,000	4/24/14	-19,575	1,423,817
280180	LOUISVILLE INDUSTRIAL CTR F	LAT EXT	2,480	5/16/14	-5,394	1,418,423
14LE1085	Williams Properties - Self Storage Facility	LAT EXT	400	5/28/14	-870	1,417,553
13LE1034	6300 GEIL LANE WAREHOUSE	LAT EXT	720	6/9/14	-1,566	1,415,987
284215	HURSTBOURNE POINTE APTS	LAT EXT	9,600	7/7/14	-20,880	1,395,107
344230	AUSTIN PARK APARTMENTS PH6	LAT EXT	27,600	8/25/14	-60,030	1,335,077
13LE1105	JEFFERSON COMMONS	LAT EXT	17,075	11/13/14	-37,138	1,297,939
SC1005323	FERN CREEK I/I REHABILITATION FY13	SCAPCREDIT		11/18/14	551,108	1,849,047
13LE1017	APEX ON PRESTON APT HOMES(Formerly	LAT EXT	84,400	1/13/15	-183,570	1,665,477
SC1005541	STONY BROOK I/I REHABILITATION FY13	SCAPCREDIT		3/10/15	345,397	2,010,874
SC995942	CAVEN AVE I/I REMEDIATION - FY13	SCAPCREDIT		3/11/15	225,645	2,236,519
354207	COOPER FARMS SEC 11B	LAT EXT	12,400	4/29/15	-26,970	2,209,549

Capacity Credit Balance Sheet per Credit Basin

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354209	COOPER FARMS SEC 11A	LAT EXT	13,200	4/29/15	-28,710	2,180,839
LE948692	Jim's Express Wash	LAT EXT	10,500	7/28/15	-22,838	2,158,001
LE951121	Allgeier Site	LAT EXT	400	8/7/15	-870	2,157,131
13LE1086	WOODS OF PENN RUN OFFSITE SS	LAT EXT	1,000	8/25/15	-2,175	2,154,956
13LE1140	JEFFERSON POST APARTMENTS	LAT EXT	28,800	10/2/15	-62,640	2,092,316
14LE1116	CATALPA SPRINGS	LAT EXT	2,800	12/30/15	-6,090	2,086,226
SC939830	Lea Ann Way West Quad 1 & 2 Rehabilitation	SCAPCREDIT		12/31/15	445,911	2,532,137
358356	WOODS OF PENN RUN Section 1	LAT EXT	18,800	2/12/16	-40,890	2,491,247
SC1003699	CONTRACTED WORK FY16 - POND	SCAPCREDIT		5/17/16	36,063	2,527,310
LE936598	Jefferson Commerce Center Tract 1A	LAT EXT	5,250	6/6/16	-11,419	2,515,892
LE918484	AUSTIN PARK SS PHASE 8	LAT EXT	16,800	6/21/16	-36,540	2,479,352
14LE1170	Austin Park Phase 7 & 8	LAT EXT	26,400	6/21/16	-57,420	2,421,932
SC1003087	HILLRIDGE I/I REMEDIATION	SCAPCREDIT		8/5/16	308,184	2,730,116
SC1003292	LEA ANN WAY WEST (LAWW) QUAD 3 I/I	SCAPCREDIT		8/31/16	311,526	3,041,642
SC1006197	CONTRACTED WORK FY15 - POND	SCAPCREDIT		10/24/16	310	3,041,952
SC1006182	CONTRACTED WORK FY14 - POND	SCAPCREDIT		10/26/16	8,390	3,050,342
SC1005639	SILVER HEIGHTS SEWER REHAB	SCAPCREDIT		10/31/16	284,936	3,335,278
SC1005631	LEA ANN WAY WEST (LAWW) QUAD 4 I/I	SCAPCREDIT		10/31/16	692,905	4,028,183
LE954229	Jefferson Commerce Center Bldg.2	LAT EXT	3,150	2/2/17	-6,851	4,021,331
SEDIV						
359355	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	8,000	8,000
359440	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	128,000	136,000
235575	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	71,472	207,472
236214	GOLDSMITH BUECHB ICA PHI REHAB	SCAPCREDIT		12/22/08	314,808	522,280
236296	BEARGRASS INT REHAB PH1 SEDIV	SCAPCREDIT		12/22/08	122,688	644,968

Capacity Credit Balance Sheet per Credit Basin

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359441	CALENDAR 2008 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/08	16,000	660,968
359356	CALENDAR 2008 SUMP PUMP CREDIT	SCAPCREDIT		12/31/08	4,000	664,968
SC1011317	MAINTENANCE WORK FY09A - SE	SCAPCREDIT		12/31/08	1,555	666,523
SC1011318	MAINTENANCE WORK FY09B - SE	SCAPCREDIT		6/30/09	2,929	669,452
229854	TINY HANDS DAYCARE	LAT EXT	1,225	10/20/09	-2,664	666,788
359357	CALENDAR 2009 SUMP PUMP CREDIT	SCAPCREDIT		12/31/09	12,000	678,788
359443	CALENDAR 2009 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/09	8,000	686,788
SC1011322	MAINTENANCE WORK FY10A - SE	SCAPCREDIT		12/31/09	16,974	703,762
235291	SULLIVAN COLLEGE OF TECHNOLOGY	LAT EXT	900	2/11/10	-1,958	701,804
238328	LOUISVILLE COLLEGIATE SPORTS	LAT EXT	400	3/1/10	-870	700,934
241759	FRISCHS BIG BOY RESTAURANT	LAT EXT	2,400	3/5/10	-5,220	695,714
257275	LOUISVILLE JUNIOR ACADEMY	LAT EXT	520	4/16/10	-1,131	694,583
SC1011326	MAINTENANCE WORK FY10B - SE	SCAPCREDIT		6/30/10	10,739	705,322
320993	BEARGRASS CREEK PHASE II - FY1	SCAPCREDIT		12/14/10	10,368	715,690
359358	CALENDAR 2010 SUMP PUMP CREDIT	SCAPCREDIT		12/31/10	4,000	719,690
359444	CALENDAR 2010 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/10	24,000	743,690
SC1011328	MAINTENANCE WORK FY11A - SE	SCAPCREDIT		12/31/10	11,090	754,780
286513	GARDINER POINT RESIDENCE HALL	LAT EXT	10,800	2/16/11	-23,490	731,290
276378	TIRE DISCOUNTERS - BARDSTOWN	LAT EXT	1,500	5/6/11	-3,263	728,028
287888	BEVERAGE WAREHOUSE	LAT EXT	1,180	5/30/11	-2,567	725,461
SC1011330	MAINTENANCE WORK FY11B - SE	SCAPCREDIT		6/30/11	3,661	729,122
296295	KEN TOWERY -3800 S HURSTBOURNE	LAT EXT	400	7/1/11	-870	728,252
359445	CALENDAR 2011 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/11	8,000	736,252
359359	CALENDAR 2011 SUMP PUMP CREDIT	SCAPCREDIT		12/31/11	64,000	800,252
SC1011331	MAINTENANCE WORK FY12A - SE	SCAPCREDIT		12/31/11	5,071	805,323
SC1011316	MAINTENANCE WORK FY12B - SE	SCAPCREDIT		6/30/12	24,202	829,525

Capacity Credit Balance Sheet per Credit Basin

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SC1011333	MAINTENANCE WORK FY12B - SE	SCAPCREDIT		6/30/12	6,141	835,666
307018	HOOK PROPERTY FAMILY DOLLAR	LAT EXT	400	8/10/12	-870	834,796
359361	CALENDAR 2012 SUMP PUMP CREDIT	SCAPCREDIT		12/31/12	68,000	902,796
359446	CALENDAR 2012 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/12	4,000	906,796
14SC1006	MAINTENANCE WORK FY13A - SE	SCAPCREDIT		12/31/12	24,202	930,998
187741	BROOKSTONE SENIOR APARTMENTS	LAT EXT	16,800	3/11/13	-36,540	894,458
232601	RAINTREE/MARIAN CT P/S ELIM	LAT EXT	105,800	6/14/13	-230,115	664,343
SC1005539	CONTRACTED WORK FY13 - SOUTHEAST	SCAPCREDIT		9/18/13	25,344	689,687
330437	COLLEGIATE ATHLETIC FIELD	LAT EXT	800	11/26/13	-1,740	687,947
SC1006185	CONTRACTED WORK FY14 - SOUTHEAST	SCAPCREDIT		2/11/15	187,478	875,425
SC1006199	CONTRACTED WORK FY15 - SOUTHEAST	SCAPCREDIT		10/20/15	1	875,426
LE919560	Todd's Place Express Car Wash	LAT EXT	4,830	12/22/15	-10,505	864,921
SC1003718	SOUTHEAST DIVERSION AREA G (SEDG)	SCAPCREDIT		2/16/16	75,998	940,919
SC1003704	CONTRACTED WORK FY16 - SOUTHEAST	SCAPCREDIT		5/24/16	66	940,985
LE943171	Costco Wholesale and Fuel Facility	LAT EXT	8,000	7/28/16	-17,400	923,585

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Appendix E IOAP Project Crosswalk

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO022	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO023	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO050	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO051	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO052	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO053	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO054	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO055	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO056	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO150	L_OR_MF_155_M_09B_B_B_4
13TH STREET AND ROWAN STREET STORAGE BASIN	IOAP	CSO155	L_OR_MF_155_M_09B_B_B_4
17TH STREET FLOOD PUMP STATION DRY WEATHER OVERFLOW ELIMINATION	IOAP	MSD0306-FP	L_OR_MF_190_S_03_A_A
18TH AND NORTHWESTERN PARKWAY STORAGE BASIN	IOAP	CSO190	L_OR_MF_190_S_09B_B_A_8
27TH STREET FLOOD PUMP STATION DRY WEATHER OVERFLOW ELIMINATION	IOAP	MSD0307-FP	L_OR_MF_019_S_03_A_A
34TH STREET FLOOD PUMP STATION DRY WEATHER OVERFLOW ELIMINATION	IOAP	MSD0308-FP	L_OR_MF_019_S_03_A_B
4TH STREET FLOOD PUMP STATION DRY WEATHER OVERFLOW ELIMINATION	IOAP	MSD0303-FP	L_OR_MF_022_M_03_A_A
ADAMS STREET STORAGE BASIN	IOAP	CSO172	L_OR_MF_172_S_09B_B_A_0
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO016	L_OR_MF_211_M_13_B_A_8
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO210	L_OR_MF_211_M_13_B_A_8
ALGONQUIN PKY STORAGE BASIN	IOAP	CSO211	L_OR_MF_211_M_13_B_A_8
ANCHOR ESTATES PUMP STATION ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PUMP STATION ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PUMP STATION ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00746	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PUMP STATION ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00817	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PUMP STATION ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PUMP STATION ELIMINATIONS 2 - ANCHOR ESTATES #1 AND #2 PUMP STATION ELIMINATION	IOAP	01106	S_MI_MF_NB06_M_01_A_A - 1
ASHBURTON PUMP STATION IMPROVEMENTS AND DIVERSION	IOAP	MSD0165-PS	S_FF_FF_NB03_M_01_C_A

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
ASHBURTON PUMP STATION IMPROVEMENTS AND DIVERSION	IOAP	MSD0166-PS	S_FF_FF_NB03_M_01_C_A
AVANTI PUMP STATION ELIMINATION	IOAP	21229	S_PO_WC_PC07_M_01_C
BARDSTOWN ROAD PUMP STATION IMPROVEMENTS	IOAP	88545	S_CC_CC_MSD1025_S_03_B
BEARGRASS INTERCEPTOR REHABILITATION PHASE 2	IOAP	51594	S_SD_MF_NB06_S_13_C
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21061	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21089	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21089A	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21101	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21153	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21156	BEECHWOOD VILLAGE SEWER REPL
BELLS LANE WET WEATHER TREATMENT FACILITY (FORMERLY KNOWN AS PADDY'S RUN)	IOAP	CSO015	L_OR_MF_015_M_13_B_B_8
BELLS LANE WET WEATHER TREATMENT FACILITY (FORMERLY KNOWN AS PADDY'S RUN)	IOAP	CSO191	L_OR_MF_015_M_13_B_B_8
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	08717	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104223	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104224	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104231	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13931	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13943	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13946	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	34093542	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	36763	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	44396	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	44397	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	51301	S_SF_MF_30917_M_09_A

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	66349	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	99259	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	KK14815019	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	KK14855239	S_SF_MF_30917_M_09_A
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	17724	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	27116	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	61667	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	61687	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	70212	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	MSD0133-PS	S_PO_WC_PC09_M_09B_C
CHARLESWOOD INTERCEPTOR EXTENSION	IOAP	25477	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXTENSION	IOAP	25479	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXTENSION	IOAP	25480	S_PO_WC_PC03_M_01_C
CHARLESWOOD INTERCEPTOR EXTENSION	IOAP	MSD0130-PS	S_PO_WC_PC03_M_01_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	64096	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	86052	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	92061	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	MSD0196-PS	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	MSD0263	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
CHENOWETH HILLS WQTC ELIMINATION AND PUMP STATION IMPROVEMENTS	IOAP	MSD1043-PS	S_JT_JT_NB01A_M_03_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	102339	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	35309	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	60679	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	MSD1013-PS	S_PO_WC_PC04_M_01_C
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO083	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO088	L_MU_MF_154_M_09B_B_A_8

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CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO131	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO132	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO154	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO167	L_MU_MF_154_M_09B_B_A_8
CSO058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE	IOAP	CSO058	L_OR_MF_058_S_08_A_A_0
CSO093 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE	IOAP	CSO093	L_SO_MF_093_S_08_A_A_0
CSO108 DAM MODIFICATIONS	IOAP	CSO108	L_SO_MF_108_S_09A_B_A_4
CSO140 IN-LINE STORAGE AND GREEN INFRASTRUCTURE	IOAP	CSO140	L_MI_MF_140_S_08_A_A_0
CSO160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE	IOAP	CSO160	L_OR_MF_160_S_08_A_A_0
CSO206 SEWER SEPARATION	IOAP	CSO206	L_MI_MF_206_S_08_A_A_0
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	104289	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28249	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28250	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28336	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28340	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28413	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28414	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28415	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28416	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28417	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28451	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28453	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28711	S_JT_JT_NB02_M_01_C
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22307	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22370	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22385	DEREK R GUTHRIE WQTC UPGRADES

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DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	32682	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	32688	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	59169	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	MSD0277	DEREK R GUTHRIE WQTC UPGRADES
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	20154-W	S_OR_MF_NB03_S_07_C
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	20155	S_OR_MF_NB03_S_07_C
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
EAST ROCKFORD PUMP STATION RELOCATION	IOAP	04699-W	S_MC_WC_NB02_S_03_C
EDEN CARE PUMP STATION SSO INVESTIGATION	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	92098	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	92099	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	94009	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	116106	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	81316	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97362	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97363	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97365	S_FF_CC_81316_M_03_C_A
FAIRWAY VIEW PUMP STATION IMPROVEMENTS	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A

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FOX HARBOR IN-LINE STORAGE	IOAP	62769	S_HC_HN_NB03_S_09A_A_A
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	105936	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	117721	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	43472	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	46891	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	62418	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	62420	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	91629	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	91630	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	MSD0040-PS	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	94541	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	94542	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
GUNPOWDER PUMP STATION IN-LINE STORAGE	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
HAZELWOOD PUMP STATION I&I INVESTIGATION & REHABILITATION	IOAP	55665	S_MC_MF_55665_S_07_C
HAZELWOOD PUMP STATION I&I INVESTIGATION & REHABILITATION	IOAP	55667	S_MC_MF_55665_S_07_C
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	17571	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18134	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18297	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18298	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18299	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18302	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18318-W	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18370	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18434	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18471	HIKES LN INTER & HIGHGATE SPR

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HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18483	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18505	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18595	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	30680	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	30681	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	47960A	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48885	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48886	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48888	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49224	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49236	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49672	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49673	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	73111	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	MSD0012-PS	HIKES LN INTER & HIGHGATE SPR
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	01793	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	47650	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	47656	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	67535	S_MI_MF_NB07_S_07_C
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	IOAP	CSO125	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	IOAP	CSO126	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	IOAP	CSO127	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE STORAGE BASIN	IOAP	CSO166	L_MI_MF_127_M_09B_B_A_8
IDLEWOOD IN-LINE STORAGE	IOAP	28984	S_CC_CC_70158_M_09A_C
IDLEWOOD IN-LINE STORAGE	IOAP	28985	S_CC_CC_70158_M_09A_C
IDLEWOOD IN-LINE STORAGE	IOAP	28998	S_CC_CC_70158_M_09A_C
IDLEWOOD IN-LINE STORAGE	IOAP	63094	S_CC_CC_70158_M_09A_C

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IDLEWOOD IN-LINE STORAGE	IOAP	63095	S_CC_CC_70158_M_09A_C
IDLEWOOD IN-LINE STORAGE	IOAP	70158	S_CC_CC_70158_M_09A_C
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28173	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28390	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28391	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28392	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28395	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	28551	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	31733	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	64505	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	IS028-SI	S_JT_JT_NB01_M_01_C_A
JEFFERSONTOWN WQTC ELIMINATION	IOAP	MSD0255	S_JT_JT_NB01_M_01_C_A
KAVANAUGH ROAD PUMP STATION IMPROVEMENTS	IOAP	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
KLONDIKE INTERCEPTOR	IOAP	20644	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	25676	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	26650	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	26651	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	49513	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	66232	S_SD_MF_NB04_S_01_B_A
LAKE FOREST PUMP STATION SSO INVESTIGATION	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	25484	S_PO_WC_PC05_M_07_C
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	93719	S_PO_WC_PC05_M_07_C
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	19360	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	19369	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29933	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29943	S_PO_WC_PC08_M_01_C



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LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29948	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29949	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31073	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31074	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31083	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31084	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	57874	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	61266	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	79076	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
LELAND ROAD SSO INVESTIGATION	IOAP	96020	S_OR_MF_NB02_S_13_C
LEVEN PUMP STATION ELIMINATION	IOAP	36419	S_PO_WC_PC10_M_01_C
LEVEN PUMP STATION ELIMINATION	IOAP	MSD1019-PS	S_PO_WC_PC10_M_01_C
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO082	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO084	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO118	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO119	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO120	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO121	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO141	L_SO_MF_083_M_09B_B_A_8
LEXINGTON ROAD AND PAYNE STREET STORAGE BASIN	IOAP	CSO153	L_SO_MF_083_M_09B_B_A_8
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	67997	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	67999	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	86423	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	86424	S_CC_CC_67997_M_01_C
LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	89196	S_CC_CC_67997_M_01_C

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LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	89197	S_CC_CC_67997_M_01_C
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO091	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO097	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO106	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO110	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO111	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO113	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO137	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO146	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO148	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO149	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO151	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO152	L_SO_MF_092_M_09B_B_D_8
LUCAS LANE PUMP STATION IN-LINE STORAGE	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
MEADOW STREAM PUMP STATION IN-LINE STORAGE	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
MEADOW STREAM PUMP STATION IN-LINE STORAGE	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	24152-W	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	24472	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	26752	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	41374	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	41416	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02932	S_MISF_MF_NB01_M_01_C_A1

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02933	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02935	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	08537	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	15195	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	24553	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	40471	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45829	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45900	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47596	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1

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MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51221	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	74513	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	96672	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	96673	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 2 - PUMP STATION DIVERSION AND STORAGE	IOAP	43726	S_MISF_MF_NB01_M_01_C_A1-2
MONTICELLO PUMP STATION ELIMINATION	IOAP	27969	S_JT_JT_NB04_M_01_A
MONTICELLO PUMP STATION ELIMINATION	IOAP	MSD0151-PS	S_JT_JT_NB04_M_01_A
NIGHTINGALE PUMP STATION REPLACEMENT	IOAP	CSO018	L_SO_MF_018_S_03_A_A
NORTHERN DITCH DIVERSION INTERCEPTOR	ISSDP	MSD0271	NORTHERN DITCH DIVERSION INTER
PARKVIEW ESTATES I&I INVESTIGATION AND REHABILITATION	IOAP	47250	S_SD_MF_NB03_S_07_C
PORTLAND WHARF STORAGE BASIN	IOAP	CSO019	L_OR_MF_019_S_13_B_A_8
PROSPECT SYSTEM IMPROVEMENTS	IOAP	16455	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	22436	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40870	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40871	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40872	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40879	S_OR_MF_NB04_M_03_B_B

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PROSPECT SYSTEM IMPROVEMENTS	IOAP	40880	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	42675	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	42680	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46621	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46623	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46627	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65606	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65610	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65623	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65633	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65635	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	89646	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	89791	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0291	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0292	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS	IOAP	28729-W	S_JT_JT_NB03_M_01_C
RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
RIDING RIDGE PUMP STATION IMPROVEMENTS	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
RUNNING FOX PUMP STATION ELIMINATION	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
SHAWNEE FLOOD PUMP STATION DRY WEATHER OVERFLOW ELIMINATION	IOAP	MSD0309-FP	L_OR_MF_189_M_03_A_A

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SHIVELY INTERCEPTOR	IOAP	04498	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	04542	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	81814-W	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0016-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0043-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0044-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0047-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0049-PS	S_MC_WC_NB01_M_01_A
SHIVELY INTERCEPTOR	IOAP	MSD0050-PS	S_MC_WC_NB01_M_01_A
SINKING FORK RELIEF SEWER	IOAP	21103	SINKING FORK RELIEF SEWER
SINKING FORK RELIEF SEWER	IOAP	25012	SINKING FORK RELIEF SEWER
SINKING FORK RELIEF SEWER	IOAP	63319	SINKING FORK RELIEF SEWER
SONNE PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08426	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08427	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08430	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08431	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	18654	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30701	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30702	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30704	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	49647	SOUTHEASTERN DIVERSION STRUCT



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SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	63779	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	72571-X	SOUTHEASTERN DIVERSION STRUCT
SOUTHWESTERN PARKWAY STORAGE BASIN	IOAP	CSO104	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PARKWAY STORAGE BASIN	IOAP	CSO105	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PARKWAY STORAGE BASIN	IOAP	CSO189	L_OR_MF_105_M_13_B_A_0
ST RENE ROAD PUMP STATION IN-LINE STORAGE	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
STORY AVENUE AND MAIN STREET STORAGE BASIN	IOAP	CSO020	L_OR_MF_020_S_09B_B_A_8
SUTHERLAND INTERCEPTOR	IOAP	16649	S_SD_MF_NB05_M_01_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	33003	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	65516	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	65531	S_FF_FF_NB01_S_01_C_A