

Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #51



Reporting Period:

April 1, 2018 through June 30, 2018

Submitted To:

Kentucky Department of Environmental Protection
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Submitted By:

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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 fifty-first Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from April 1, 2018, through June 30, 2018. 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 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.msdprowin.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 347 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 Table 1.2 at the end of this section for a detailed report.

The following identifies on-going activities; those completed during the current period; and those anticipated to be completed during the next period:

- 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, MSD transitioned the existing RTC sites from Csoft3 to Csoft4. MSD and the RTC consultant continue to monitor and evaluate the performance of the RTC system against operational objectives and issue updates to configurations as necessary to improve performance. MSD performed RTC local site startup for DRG area facilities, including SED2, Buechel Basin, Northern Ditch Diversion, and DRG WQTC wet weather equalization basin. Local site startup activities included confirming data transmission using iFix, reviewing data, updating RTC related local site programming, confirming site configurations and parameters, and updating facility SOPs. The RTC consultant developed configuration updates incorporating the DRG area into Csoft4 and began off-line testing to ensure compliance with operating objectives.

MSD updated the RTC SOPs for Clifton Heights CSO Storage Basin, the Southwestern Parkway CSO Basin, and Southern Outfall Retention 1 (SOR1). These SOPs will be incorporated into the FY18 Master SOP update, with final updates being prepared as the facilities are brought online and commissioned into the RTC network.

The SOR1 facility is substantially operational and nearing final completion. MSD continued implementing RTC and local site programming of the SOR1 facility in advance of a period of manual operation followed by local site RTC startup and commissioning into the RTC network.

MSD and the RTC consultant continued developing an educational presentation for engineering and operations staff focused on the fundamentals of the RTC system operation and the RTC role in the MSD system and IOAP projects.

During the next quarter, MSD anticipates commissioning the DRG area and the upgraded Southwestern Sluice Gate facility into the RTC network. Completion of local site startup is planned for the upgraded Nightingale Pump Station, Bells Lane Wet Weather Treatment Facility, Southwestern Pump Station, Logan & Breckinridge Storage Basin, and the SOR1 facility. The FY18 Master RTC SOP document will be released, and FY19 contracting with the RTC consultant will be finalized.

- 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 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 completed the two initiatives at the Southwestern Outfall Retention Phase 2 (SWOR2) site, including a simplified human-machine interface (HMI) program and adjustment to position and flow deadband parameters aimed at reducing the number of gate movements and improving site performance.

MSD has completed planned gate adjustments to reduce leakage from the Brady Lake and Executive Inn basins to the collection system. Actuators at both locations will be replaced in the upcoming reporting period.

MSD completed a field survey and geotechnical investigation to verify the constructability of the proposed Sneads Branch modifications to eliminate the pumping facility. The project includes installation of an actuated gate, enabling the transfer of stored volumes to existing infrastructure and utilizing the Logan CSO Basin pumps for dewatering the facility. Design will begin next quarter.

The Ashland RTC Facility Upgrade project was bid June 13, 2018. The final design for the Ashland project was completed in May 2017 and provides for the replacement of the existing gate, check valves, and actuator as well as installation of a backup generator.

During the next reporting period, MSD will continue to monitor the RTC system to ensure proper operations with the commissioning of Csoft4.

- Southwest Sluice Gate / Southwestern Outfall Retention Phase 1 (SWSG/SWOR1) – MSD continues to work towards the completion of RTC and local site programming to connect the SWSG/SWOR1 facility to the new PLCs at the Southwestern Pump Station.

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

Plant Outages

Major construction on the Morris Forman WQTC Headworks Replacement Project is complete. The East Headworks was in service during the reporting period. Channels were taken out of service due to low flow as appropriate. Channel Three of the West Headworks remained out of service for the majority of the period for

contractor work and inspection. The Final Effluent Pump Station (FEPS) was in service 54 days of the reporting period. Plant capacity was 280 MGD for the majority of the period. Flows at Morris Forman WQTC were sustained between 120 and 160 MGD as shown in Figures 1.1 through 1.3, depending on equipment in service, before allowing flow to bypass secondary treatment during the reporting period.

Morris Forman WQTC Projects

- Morris Forman WQTC Headworks Replacement – Substantial completion on East & West Headworks is anticipated during the next reporting period.
- Morris Forman WQTC FEPS Generator – Substantial completion achieved December 21, 2017. Project reached final completion on May 25, 2018.
- Morris Forman WQTC High Yard Modifications – Substantial completion was achieved May 9, 2018. Capacitor start-up was delayed several times due to high river elevations and inclement weather, and will be completed during the next reporting period. Final completion is projected for the first quarter of FY19.
- Morris Forman WQTC Centrifuge Electrical Controls – The project reached final completion on March 15, 2018.
- Morris Forman WQTC Oxygen Generation Plants 1 and 2 Replacement – System installation is substantially complete and providing 100% of the oxygen demand to the facility. Plant SCADA system programming is nearly complete. Signal testing of instrumentation and controls are 80% complete. Change orders for piping modifications and revisions to hazardous gas shutdown controls are expected to extend final completion to the second quarter of FY19.

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 flows 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 Ohio River backwater effects 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. 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.

There are occasions in which a communications failure with telemetry has led to short-term gaps in the data. This is illustrated by multiple gaps in flow shown in Figure 1.2, including May 21, when there was a communication issue with the flow meter, and May 23, when the AT&T server was down. On multiple

occasions shown in Figures 1.1 through 1.3, secondary effluent flow fell slightly below 120 MGD. MSD is investigating plant operations and equipment reliability to address these anomalies.

Morris Forman effluent compliance is summarized in Table 1.1. MSD continues to employ additional solids processing methods, including dewatered cake and an outside vendor to assist with solids handling in addition to purchasing additional liquid oxygen in an effort to meet permit requirements.

Table 1.1. Morris Forman WQTC Permit Compliance

PARAMETER	APRIL	MAY	JUNE
Ammonia Nitrogen, 30 Day Secondary Effluent	X	X	X
Ammonia Nitrogen, 7 Day Secondary Effluent	X	X	X
BOD, 30 Day Secondary Effluent			
BOD, 7 Day Secondary Effluent			
BOD, Percent Removal	X		
Chlorine, Residual	X		
Dissolved Oxygen	X	X	X
Fecal Coliform, 30 Day Geomean	X	X	X
Fecal Coliform, 7 Day Geomean	X	X	X
pH	X	X	X
TSS, 30 Day Secondary Effluent			
TSS, 7 Day Effluent			
TSS, Percent Removal			

1.4. NMC ACTIVITY SCHEDULE

NMC capital project milestones for the current reporting period as well as a look-ahead for the upcoming reporting period are provided in Figure 1.4.

Table 1.2. Wet Weather Storage in the Morris Forman Sewer System via the RTC System

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 (4.1)	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 (43.1)		
				TRFD (in)	TRFD (in)	Rain Gauge										
2018-029	3/31/18 22:20	4/3/18 9:50	59:30:00	0.94	1.06	TR12	17.70	5.00	2.90	3.30	1.20	3.85	0.95	34.90	1	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-030	4/3/18 16:55	4/4/18 13:00	20:05:00	0.53	0.66	TR12	10.30	4.25	1.40	2.60	1.00	3.05	0.45	23.05	1	Moderate back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-033	4/14/18 9:15	4/16/18 8:40	47:25:00	1.33	1.94	TR12	18.65	5.45	2.65	5.70	1.35	6.65	0.75	41.20	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-037	4/25/18 20:35	4/26/18 17:10	20:35:00	0.06	0.44	TR04	0.00	0.00	0.05	0.00	0.00	0.60	0.00	0.65	0	Small storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-039	5/4/18 21:55	5/7/18 0:45	50:50:00	2.02	4.16	TR12	13.78	3.90	12.54	2.39	0.78	2.81	2.40	38.60	0	Very large back-to-back storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-042	5/17/18 15:20	5/18/18 15:10	23:50:00	0.14	0.26	TR12	6.25	1.40	0.85	2.90	0.40	3.10	0.80	15.70	0	Small back-to-back storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-045	5/27/18 4:10	5/27/18 22:55	18:45:00	0.41	1.06	TR04	11.70	3.20	1.15	3.05	0.50	3.60	0.20	23.40	0	Moderate back-to-back storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-046	5/28/18 15:25	5/30/18 21:45	54:20:00	0.31	0.67	TR11	2.15	0.50	0.70	0.35	0.20	2.15	0.00	6.05	0	Small back-to-back storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-047	5/31/18 10:10	6/2/18 13:55	51:45:00	1.43	1.84	TR13	17.55	4.95	8.35	4.20	1.20	4.95	1.70	42.90	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-049	6/10/18 15:25	6/13/18 6:20	62:55:00	1.08	1.20	TR05	15.70	5.65	4.45	6.55	1.65	7.65	0.80	42.45	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-050	6/20/18 13:30	6/23/18 4:05	62:35:00	0.91	1.40	TR04	5.70	1.45	1.65	2.35	0.20	6.15	0.25	17.75	0	Moderate back-to-back storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually.
2018-052	6/25/18 1:15	6/26/18 13:10	35:55:00	0.82	0.97	TR11	9.65	2.70	2.00	3.10	0.65	3.65	0.55	22.30	0	Moderate storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
2018-053	6/26/18 13:10	6/28/18 5:30	40:20:00	1.12	1.84	TR13	12.67	3.58	7.88	5.45	0.87	6.39	1.40	38.24	0	Large storm cells homogeneously distributed over the service area. The SWSG site was controlled manually.
* 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																

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Figure 1.1. Morris Forman WQTC – Plant Flows and Associated CSO Activations – April 2018

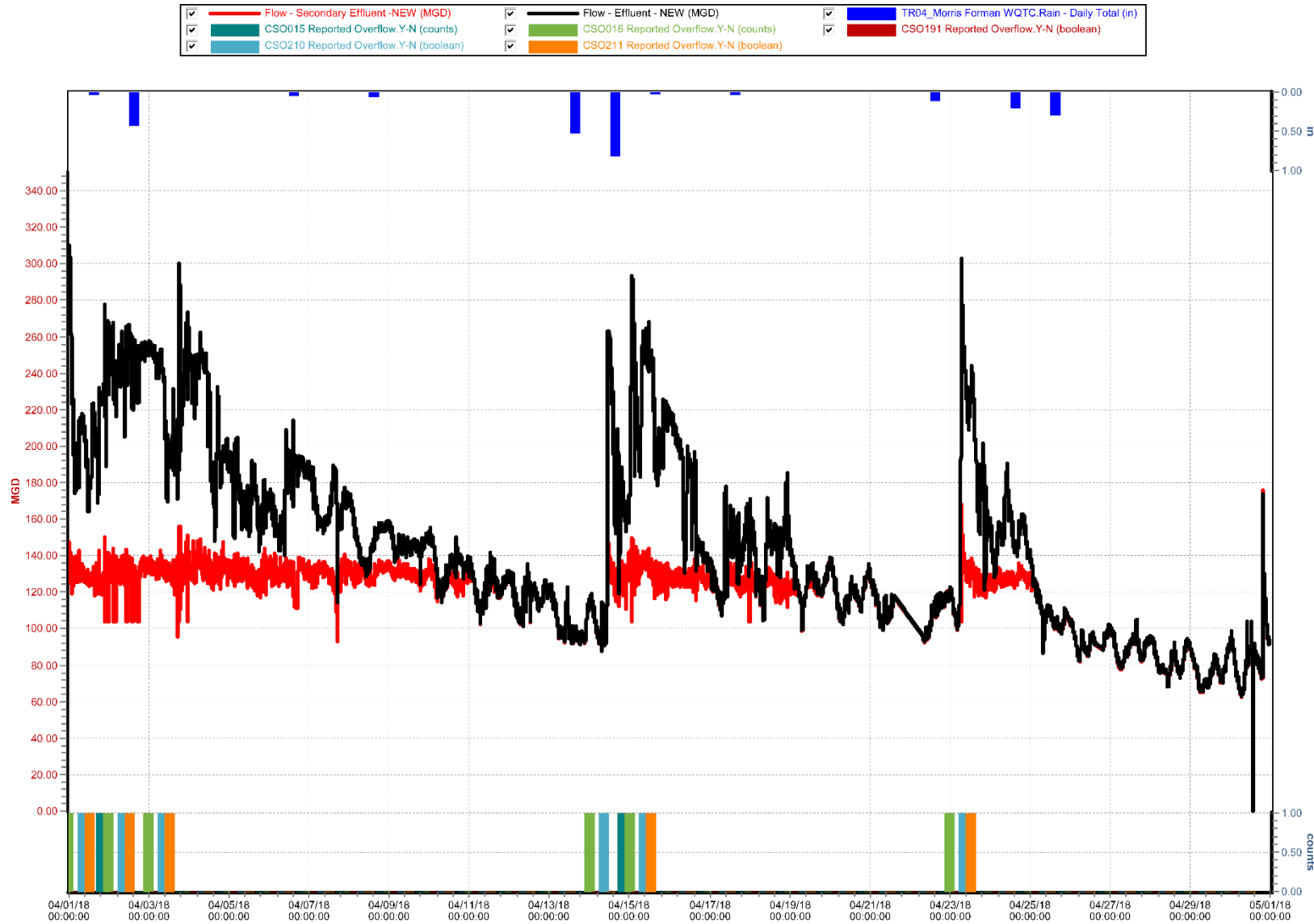


Figure 1.2. Morris Forman WQTC – Plant Flows and Associated CSO Activations – May 2018

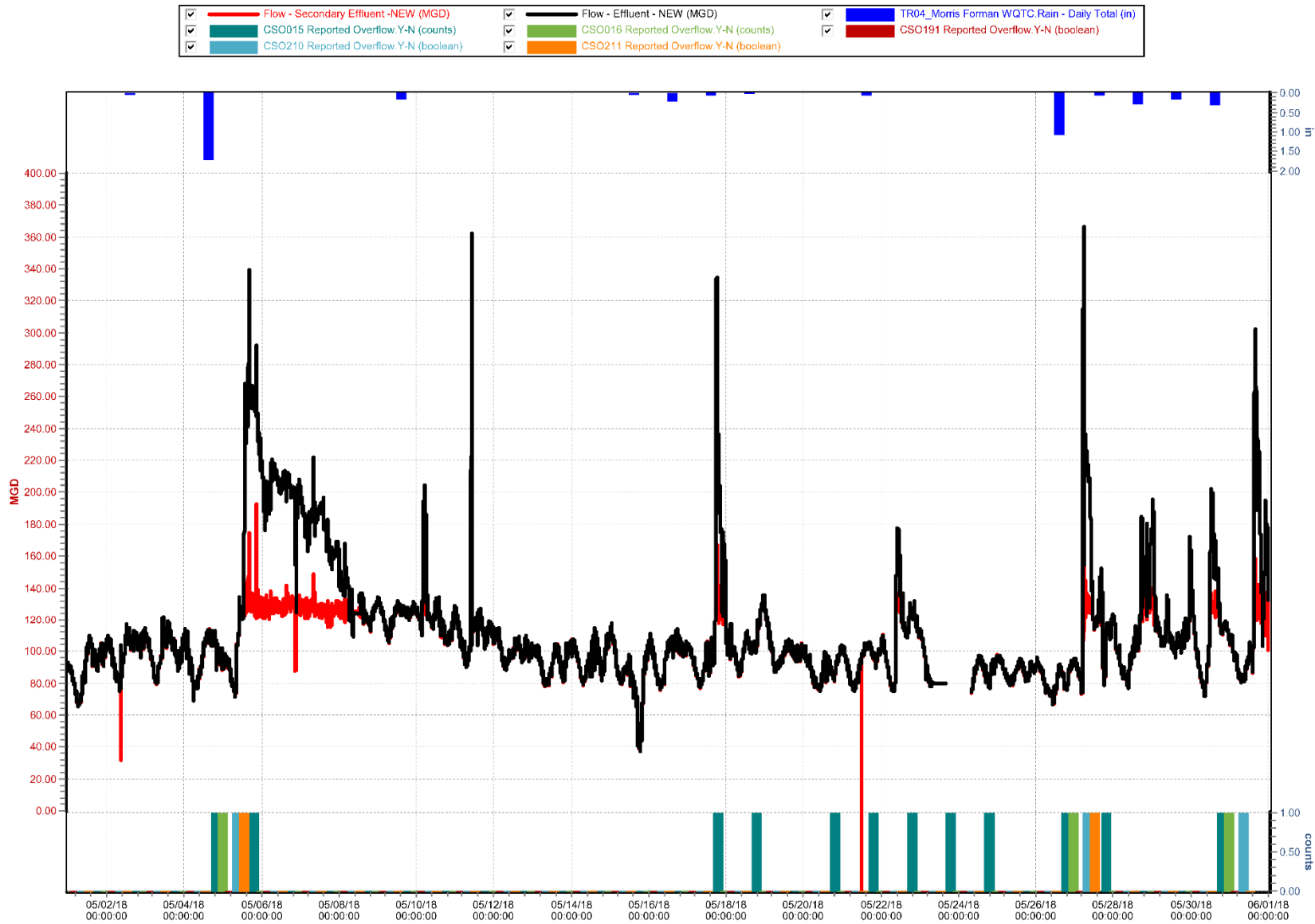


Figure 1.3. Morris Forman WQTC – Plant Flows and Associated CSO Activations – June 2018

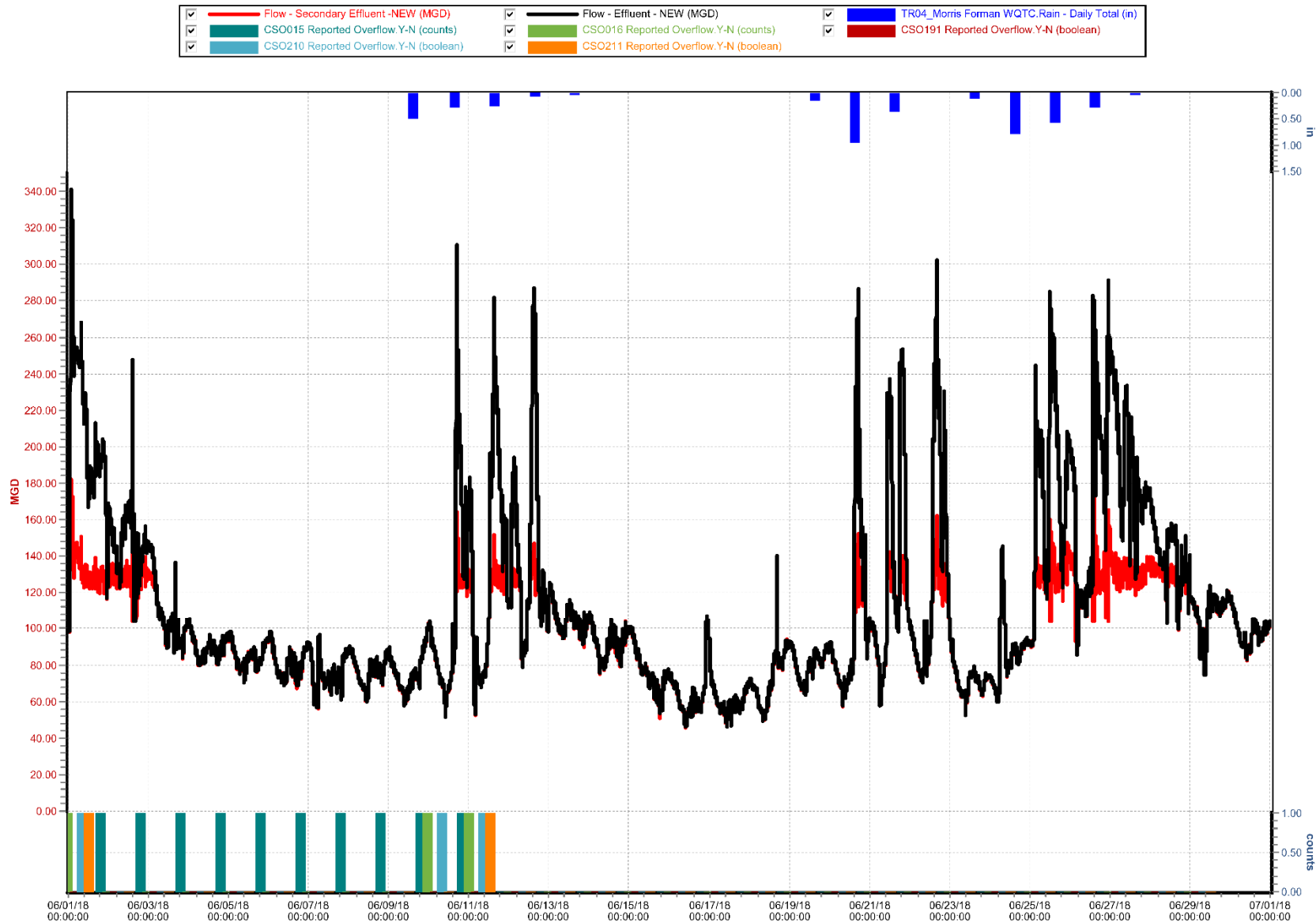


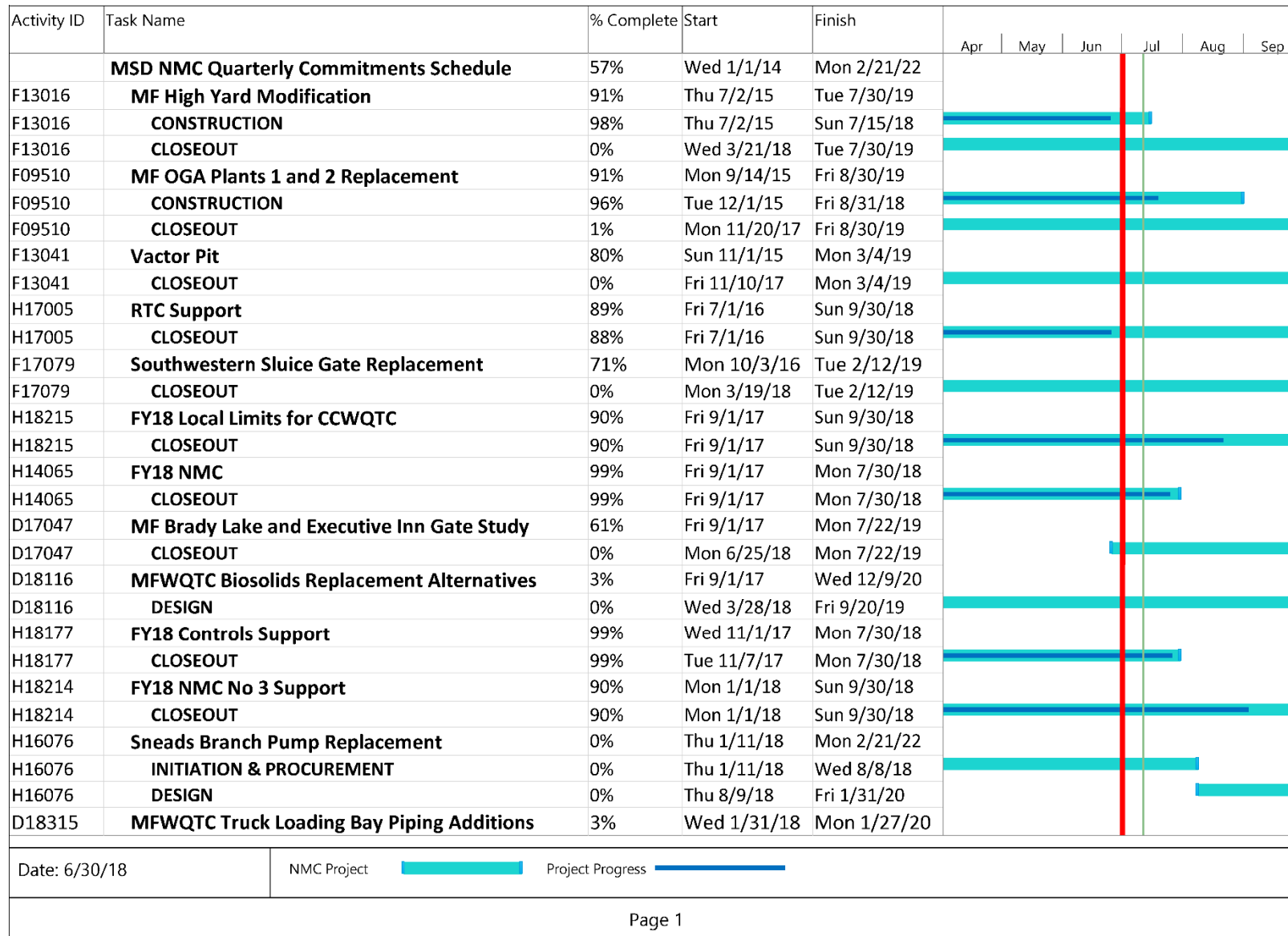
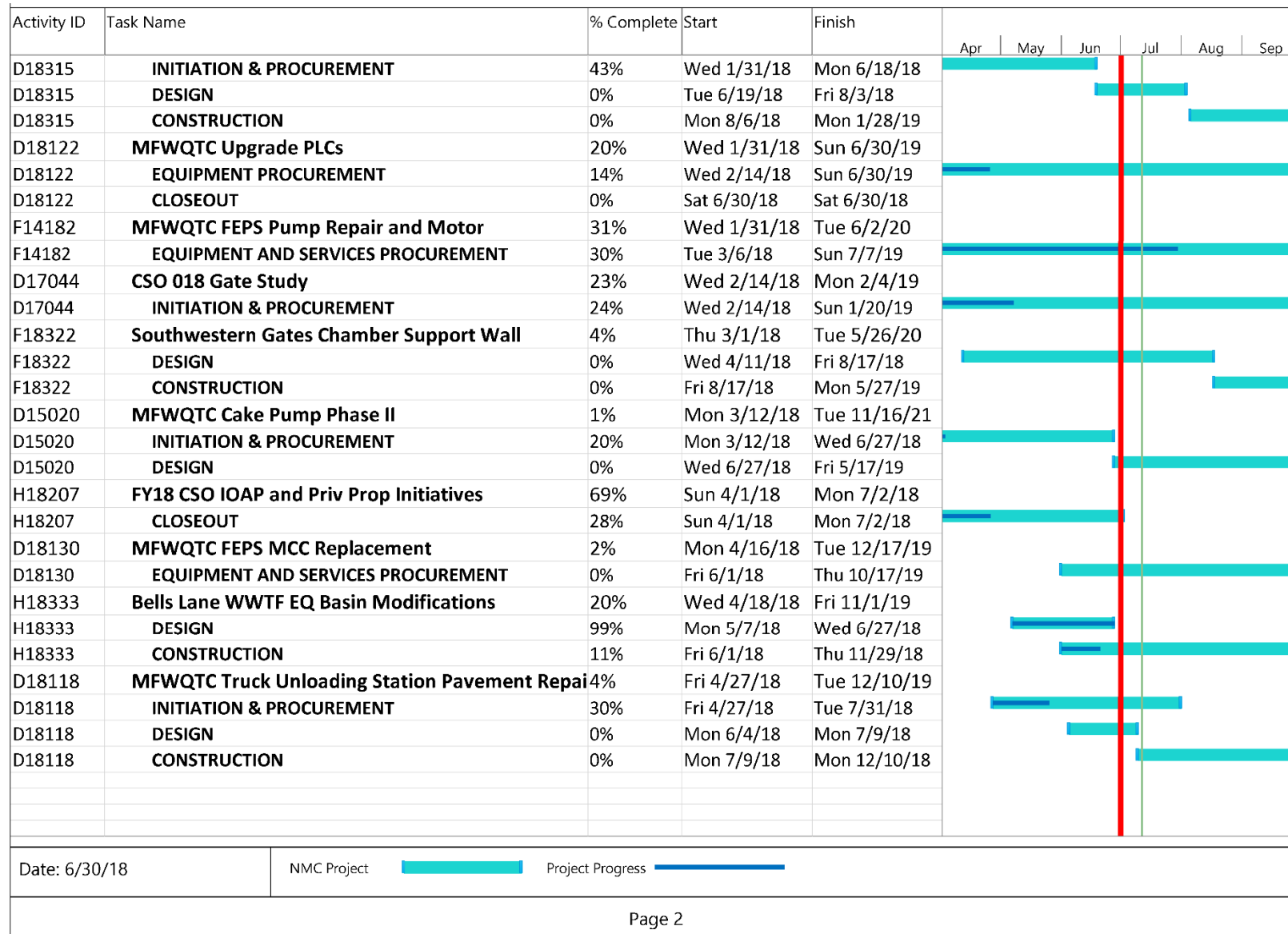
Figure 1.4. NMC Quarterly Commitments Schedule


Figure 1.4. NMC Quarterly Commitments Schedule


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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. Modifications were made to the document in 2016 to reflect the elimination of the Jeffersontown WQTC, and were approved on July 21, 2017. 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.msdpjwin.org. The following activities were performed during this reporting period.

2.2. OVERFLOW MANAGEMENT AND FIELD DOCUMENTATION

MSD monitored approximately 134 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, 13 unauthorized discharges were identified through route reconnaissance. Inspection routes were run during rain events, as described in Table 2.1.

MSD Operations staff hauled 3,000 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

DATE	ENGINEERING	HIKES POINT	JTOWN	JTOWN & FERN CREEK	MIDDLE FORK & MUDDY FORK	WEST COUNTY
April 2, 2018		X	X	X	X	X
April 4, 2018		X	X	X	X	X
April 15, 2018	X	X	X	X	X	X
May 5, 2018		X	X	X	X	X
June 11, 2018		X	X	X	X	X
June 25, 2018		X	X	X	X	X
June 26, 2018	X	X	X	X	X	X

Table 2.2. Hauled Volumes in Gallons

PROBLEM	APR	MAY	JUN
LACK OF SYSTEM CAPACITY	3,000	0	0
STRUCTURAL FAILURE	0	216,500	0

2.3. STAFF TRAINING AND COMMUNICATION

MSD launched a new online training delivery system to allow more flexibility for employees to complete training at convenient times during the quarter and to integrate SORP training with new employee and contractor orientation. The existing training program was reviewed and updated, and repackaging into an enhanced online format was under development for the 2018 second quarter SORP training that included three modules under Assessment, Mitigation, & Documentation:

- Overflow Assessment
- Overflow Mitigation
- Minimum Documentation for Reporting

A fourth module was under development that included updates related to progress under the IOAP and projects under the CMOM and NMC programs. Due to staffing limitations, the modules were not completed for delivery but will be used as the basis for second quarter training going forward. The content was delivered in person to 235 staff in Operations and Engineering.

The two modules being developed to provide a SORP overview include the purpose for the SORP process, definitions and history related to overflows and the Clean Water Act, applicable regulations, obligations of MSD employees and contractors, and an overview of the procedures, including the procedure MSD employees and contractors need to follow should an overflow occur. It is anticipated that these modules will be customized for contractors and for MSD employees who are not directly responsible for overflow response, to be used for annual training and onboarding.

Third quarter training was previously repackaged to utilize the online format, and includes three modules under Public Notification & Overflow Cleanup:

- Public Notification: Event-Based Activities
- Public Notification: Programmatic Activities
- Overflow Cleanup

These modules will be reviewed and updated as needed for delivery during the third quarter. A fourth module developed to provide continued updates related to progress under the IOAP and projects under the CMOM and NMC programs will also be updated for delivery.

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 a Federal 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.msdpjprojectwin.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 a Federal 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.msdpjprojectwin.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.msdpjprojectwin.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.msdpjprojectwin.org.

3.3.3. GREEN INFRASTRUCTURE PROGRAM UPDATE

No new Green Infrastructure Program projects were procured during the current reporting period. The intent of the Green Infrastructure Program is to provide additional overflow volume reduction benefits to complement LTCP projects. Projects are selected for incentive by providing high value for residual AAOV reduction based on the latest modeling results.

3.4. DISCHARGE ABATEMENT PLAN PROJECT STATUS

3.4.1. SANITARY SEWER DISCHARGE PLAN (SSDP)

Per the current approved schedule, no SSDP projects were completed during the reporting period. Per the current approved schedule, no SSDP projects are anticipated to be completed or certified during the next reporting period.

3.4.2. COMBINED SEWER OVERFLOW LONG TERM CONTROL PLAN (LTCP)

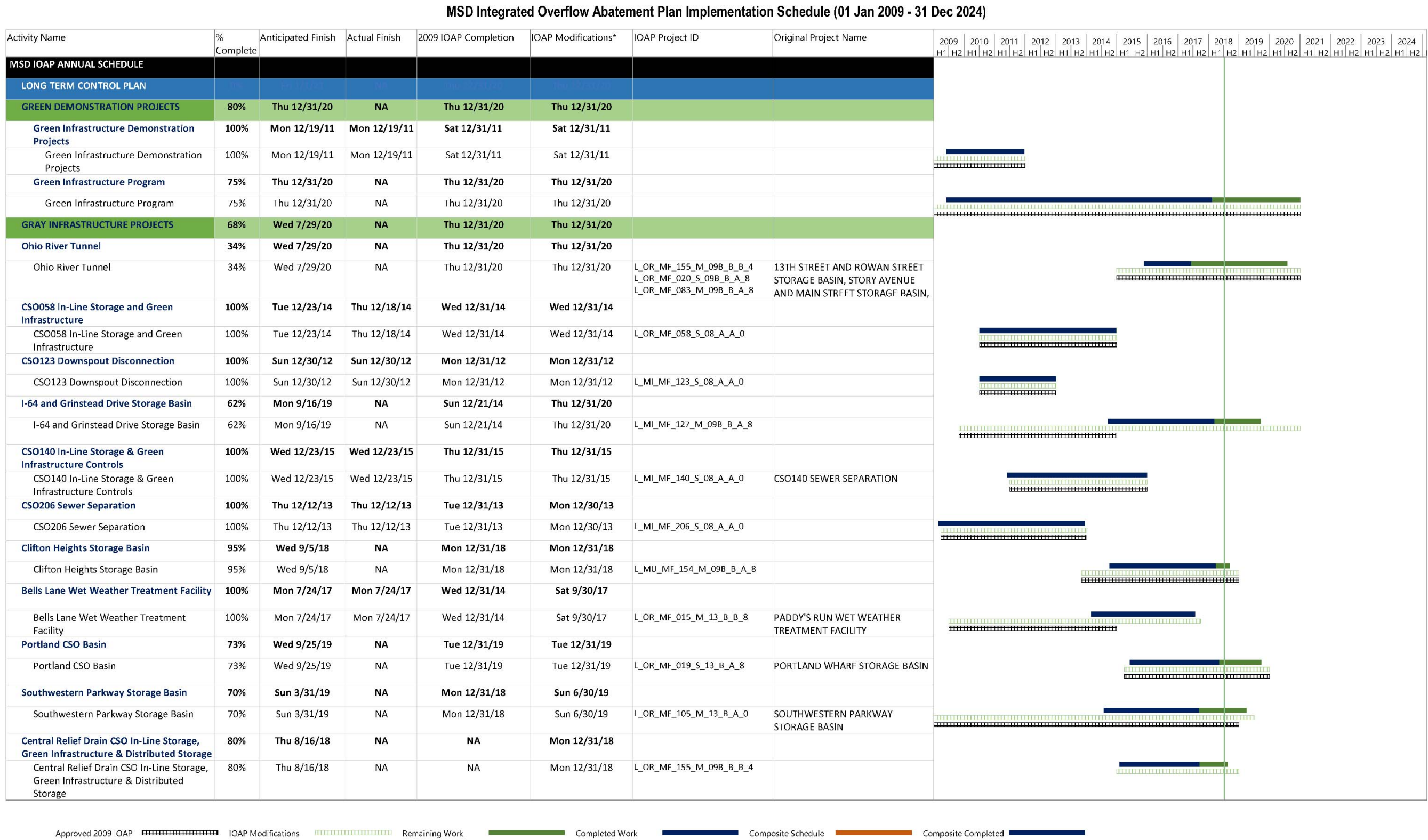
Per the current approved schedule, no CSO LTCP projects were completed during the current reporting period. Per the current approved schedule, no CSO LTCP projects are anticipated to be completed during the next reporting period.

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.

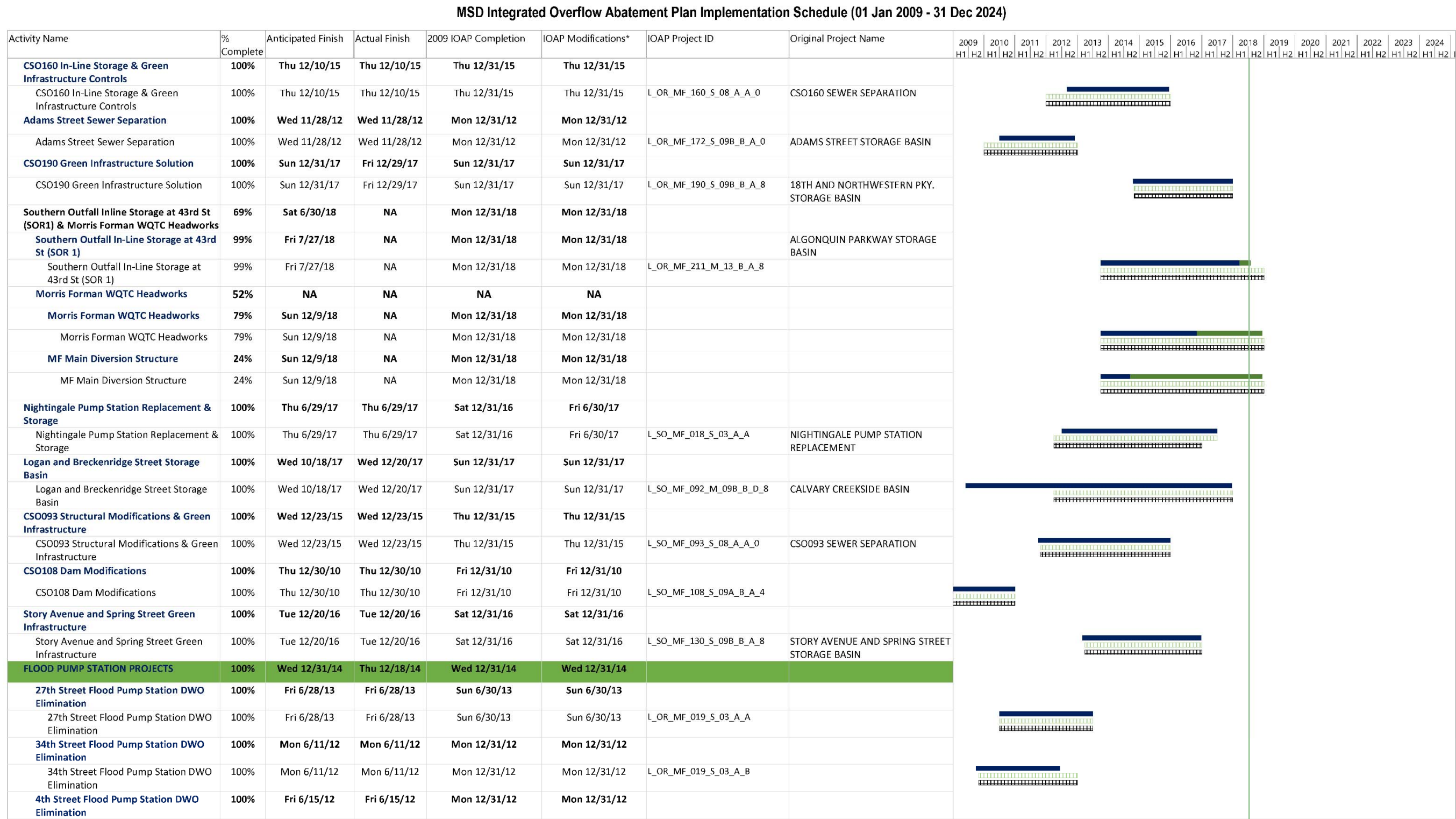
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Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP ██████████ IOAP Modifications ██████████ Remaining Work ██████████ Completed Work ██████████ Composite Schedule ██████████ Composite Completed ██████████

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



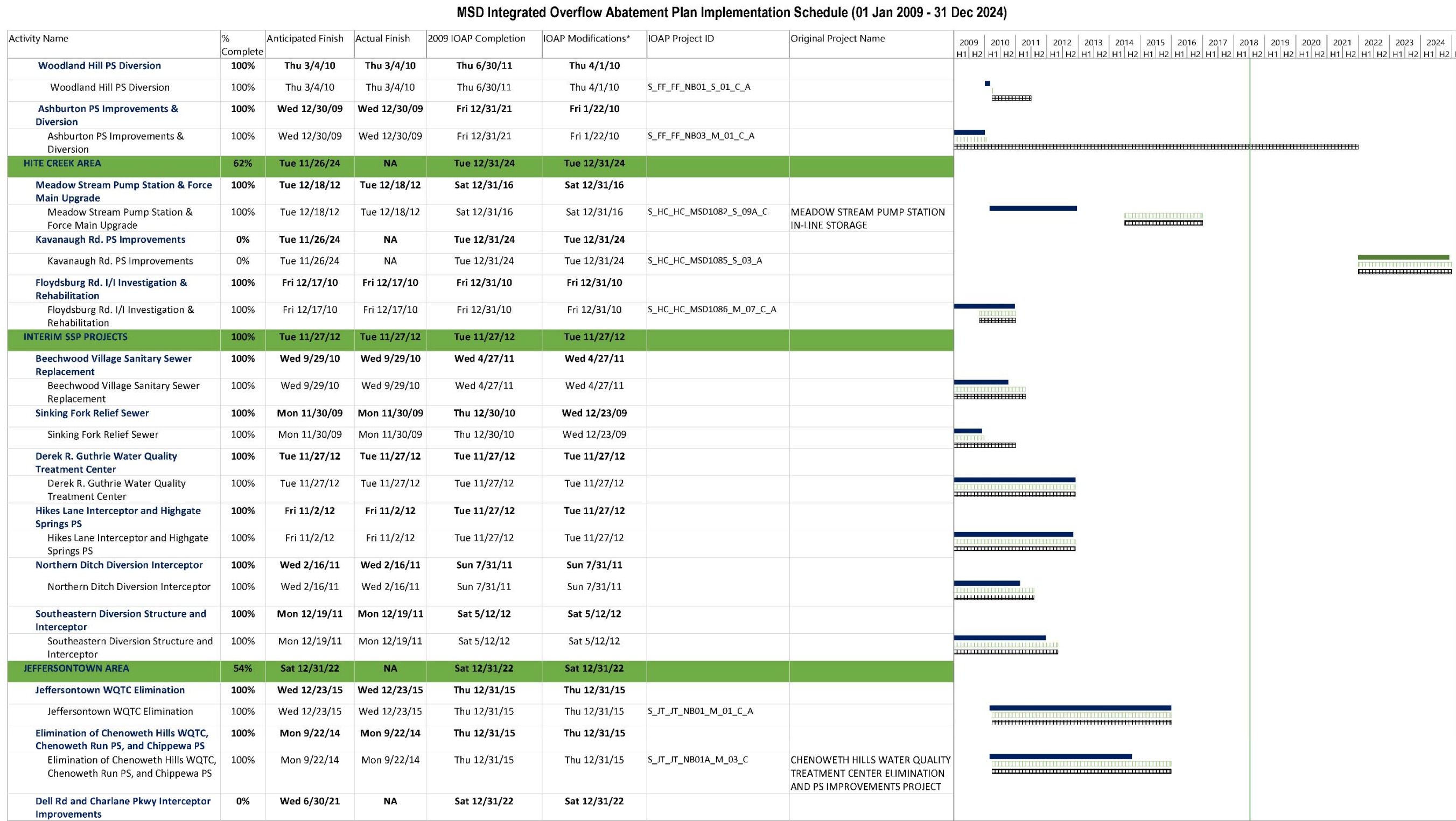
Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP ██████████ IOAP Modifications ██████████ Remaining Work ██████████ Completed Work ██████████ Composite Schedule ██████████ Composite Completed ██████████

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

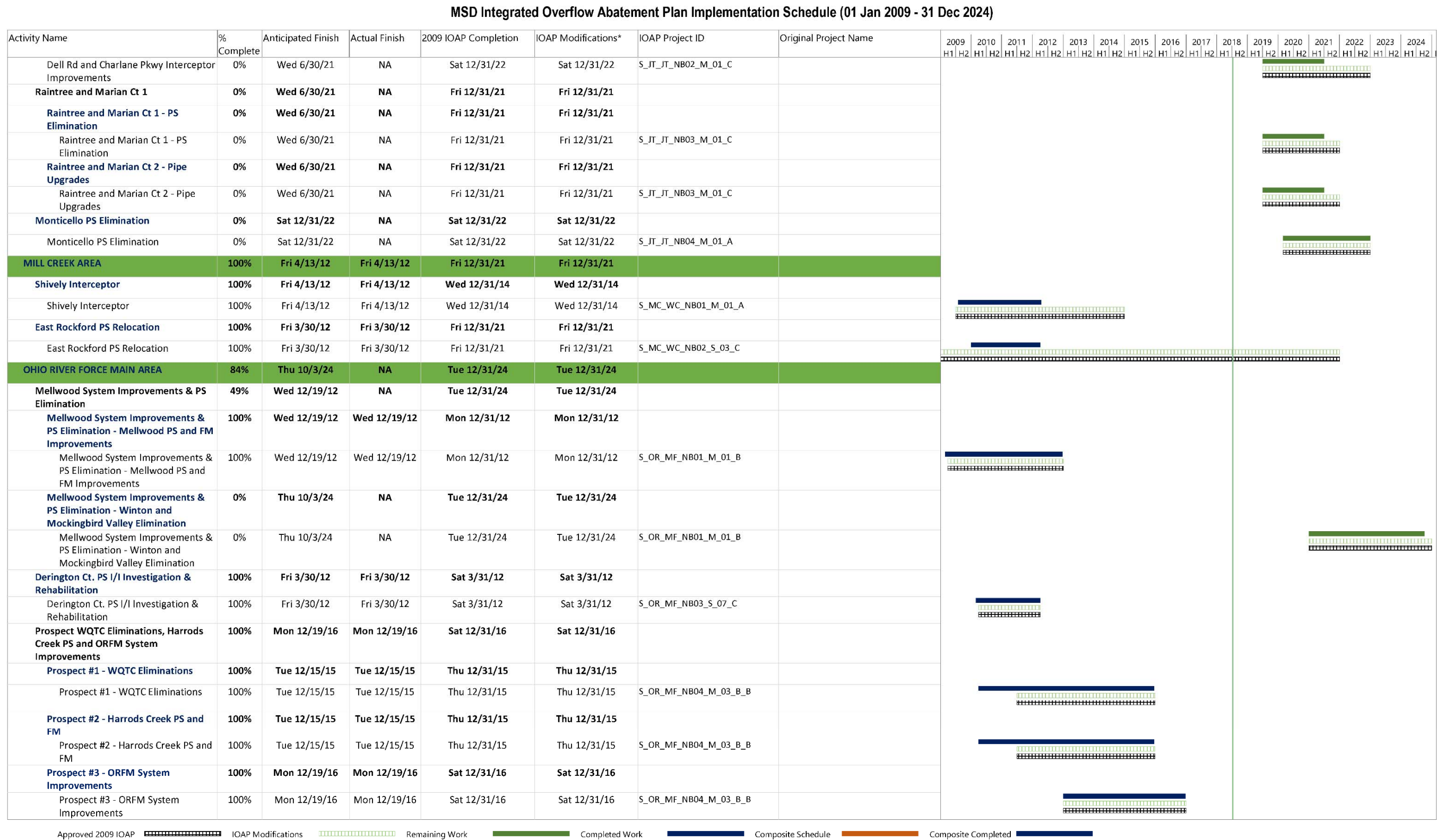
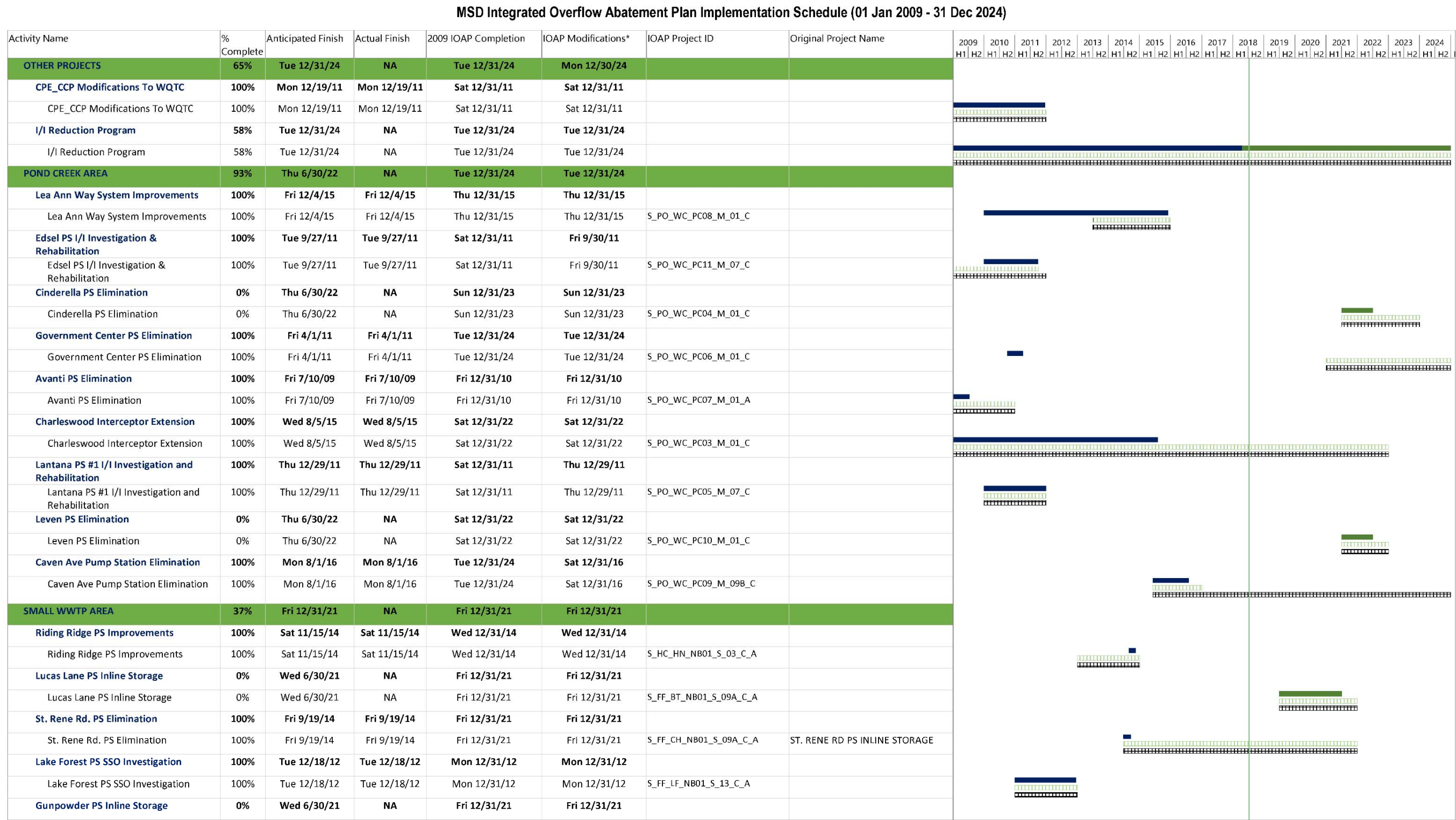


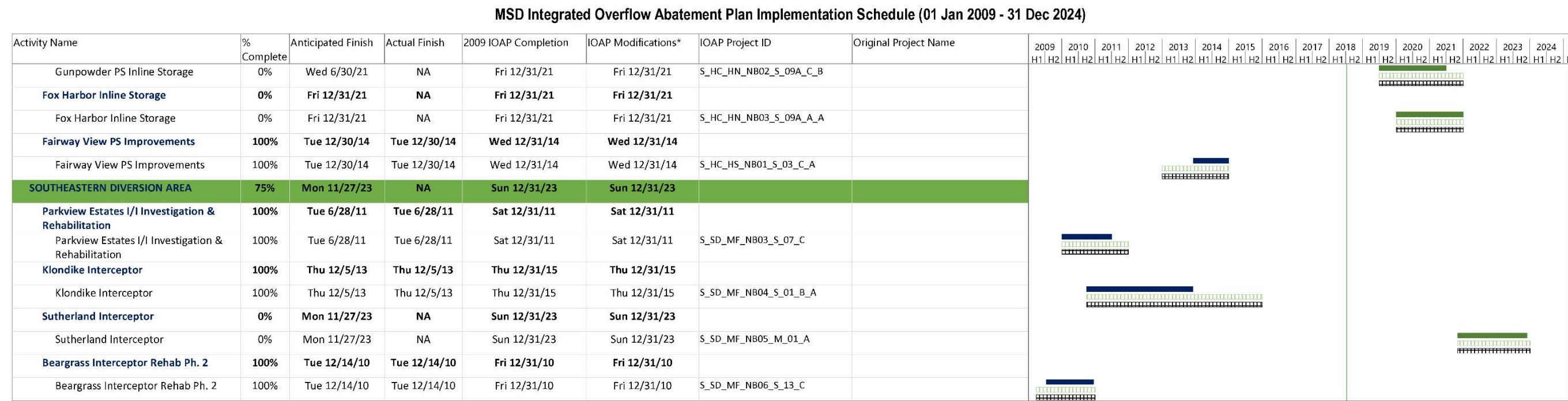
Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

Includes 2014 approval of 2012 IOAP Modification as well as all minor mod letter approvals to date.

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



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 ways to reduce the risks of 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, bill inserts, social media, and MSD websites, to serve as a conduit for circulating information to the public.

MSD included Consent Decree compliance, wastewater facility upgrades, and aging infrastructure as key topics in its Critical Repair & Reinvestment Plan. Public education about this initiative included public meetings and posts on MSD's website and social media accounts.

MSD has launched a new One Water education effort. This partnership with Louisville Water enables MSD to reach a wider audience through use of classroom educators and educational tours.

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
April 2, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 2, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 2, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 3, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 4, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 5, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 6, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 6, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 7, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 7, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 7, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 8, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 8, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
April 8, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 9, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 11, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 15, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 15, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 22, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 22, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 23, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 25, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 25, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 26, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 26, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 27, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 28, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
April 28, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
April 28, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
April 29, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
April 29, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
May 4, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
May 4, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
May 5, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
May 6, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
May 8, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
May 13, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
June 1, 2018	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
June 3, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
June 8, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
June 9, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
June 10, 2018	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
June 11, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
June 11, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
June 13, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
June 16, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
June 17, 2018	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
June 23, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
June 24, 2018	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
June 25, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
June 27, 2018	I64 & Grinstead CSO Basin: Advanced Design Meeting	November 15, 2016
June 27, 2018	Portland CSO Basin: Conceptual Design Meeting	June 14, 2016
June 28, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
June 30, 2018	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
June 30, 2018	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017

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 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 anticipated during the upcoming reporting period are shown in Table 4.3.

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

DATE	EVENT
April 9, 2018	Ohio River Tunnel: Construction Meeting
April 10, 2018	Southwestern Parkway CSO Basin: Stakeholder Advisory Group Meeting
April 17, 2018	Ohio River Tunnel: Construction Meeting
May 1, 2018	Ohio River Tunnel: Construction Meeting
May 8, 2018	Ohio River Tunnel: Construction Meeting
June 5, 2018	Ohio River Tunnel: Construction Meeting
June 28, 2018	Wet Weather Team Meeting

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

DATE	EVENT
July 10, 2018	Southwestern Parkway CSO Basin: Stakeholder Advisory Group Meeting

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.msdpowerwin.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 continues 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.msdpowerwin.org.

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

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.

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

5.3.1. HITE CREEK WATER QUALITY TREATMENT CENTER

The Hite Creek WQTC Expansion project, to expand the capacity of the Hite Creek WQTC from 6 MGD to 9 MGD, is underway. Design is expected to be completed during the next reporting period.

Construction of the Preliminary Treatment Odor Control Improvements project was completed.

5.3.2. FLOYDS FORK WATER QUALITY TREATMENT CENTER

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

5.3.3. DEREK R. GUTHRIE WATER QUALITY TREATMENT CENTER

The DRG Return Activated Sludge (RAS) 1 and 4 Pump Replacement project is under construction. This project calls for the replacement and upsizing of RAS pumps 1 and 4, replacement of all four pump variable frequency drives (VFDs), and placement in the expanded and renovated electrical room. Project completion is scheduled for the end of the 2nd quarter of FY19. The pump capacity upgrade will provide the treatment facility more flexibility on a daily average and wet weather operation basis, and also help to re-rate the facility to a higher average daily discharge permit.

Design of the DRG Clarifier #7-12 Floor Repair and Gate Replacement project will begin in the next reporting period. New gates and automated actuators will be provided for the influent and the return activated sludge (RAS) lines for Clarifiers 1 - 6. Defective grout will be removed/replaced for Clarifiers 7 – 12. A new isolation gate will also be installed for the aeration basin.

5.3.4. CEDAR CREEK WATER QUALITY TREATMENT CENTER

The Cedar Creek WQTC Influent Pump Station MCC project has been expanded to include further enhancement, including valve actuators. The project is expected to be bid for construction during the next reporting period. Construction is expected to be completed in FY19.

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. 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 Figure 5.1.

Figure 5.1. CMOM Quarterly Commitments Schedule

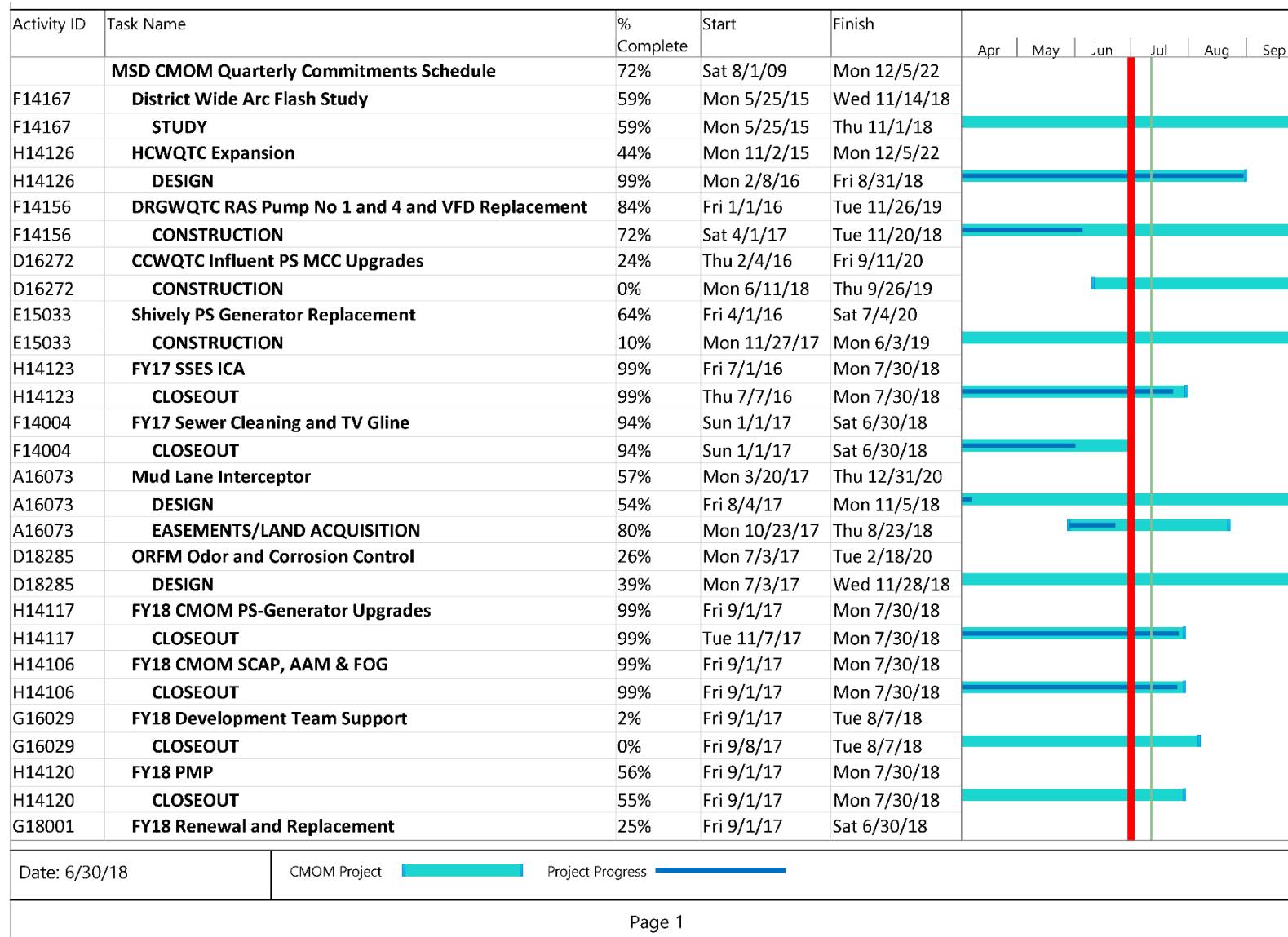
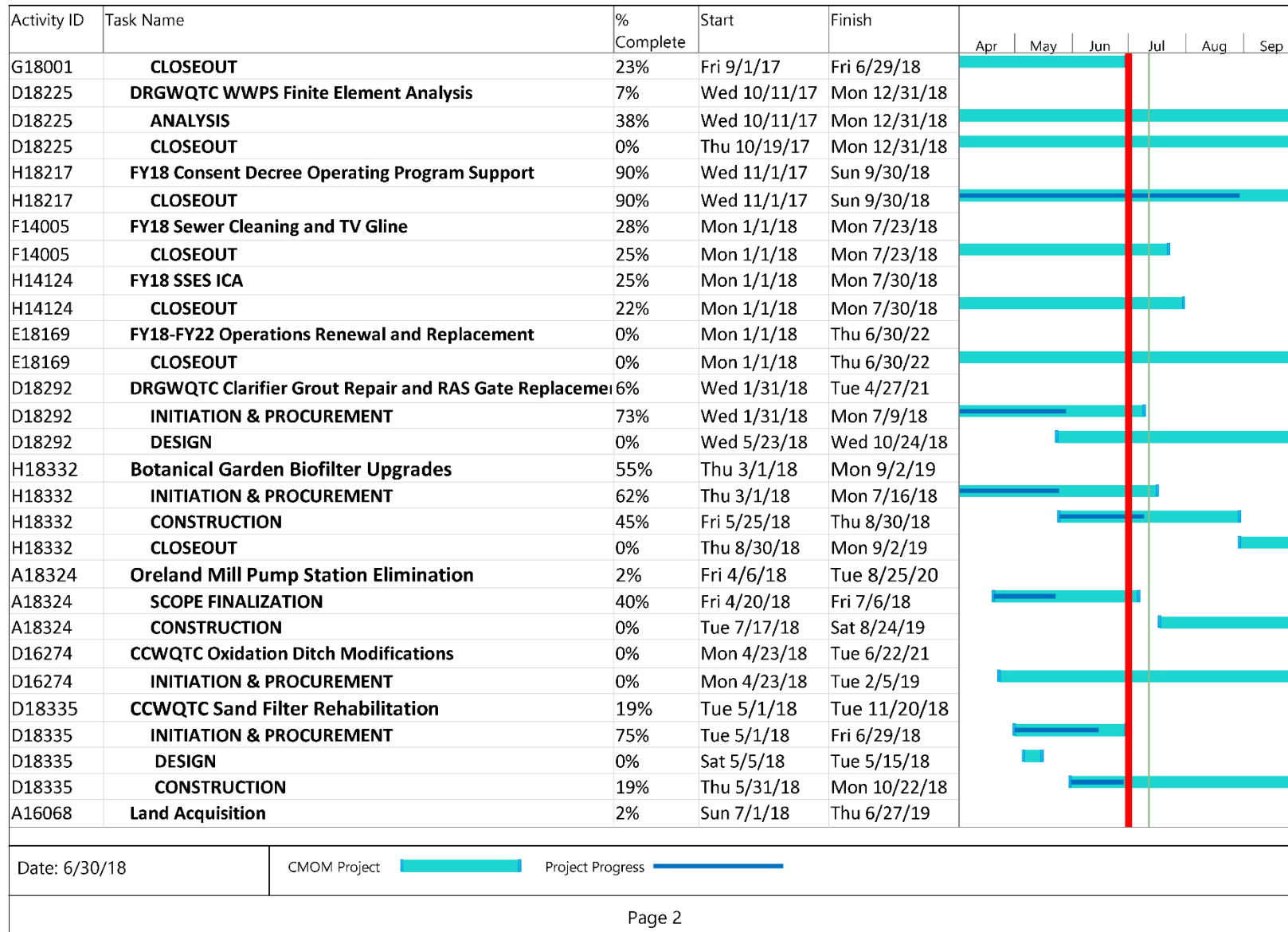
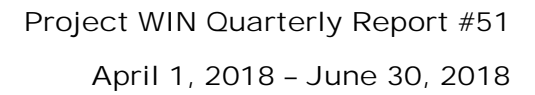


Figure 5.1. CMOM Quarterly Commitments Schedule


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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. SANITARY SEWER OVERFLOW ELIMINATION ACTIVITIES

Refer to Section 3.4.1 for Final SSDP project updates.

6.1.2. COMBINED SEWER OVERFLOW REDUCTION AND CONTROL ACTIVITIES

Refer to Section 3.4.2 for CSO LTCP project updates.

6.2. SYSTEMWIDE PERFORMANCE

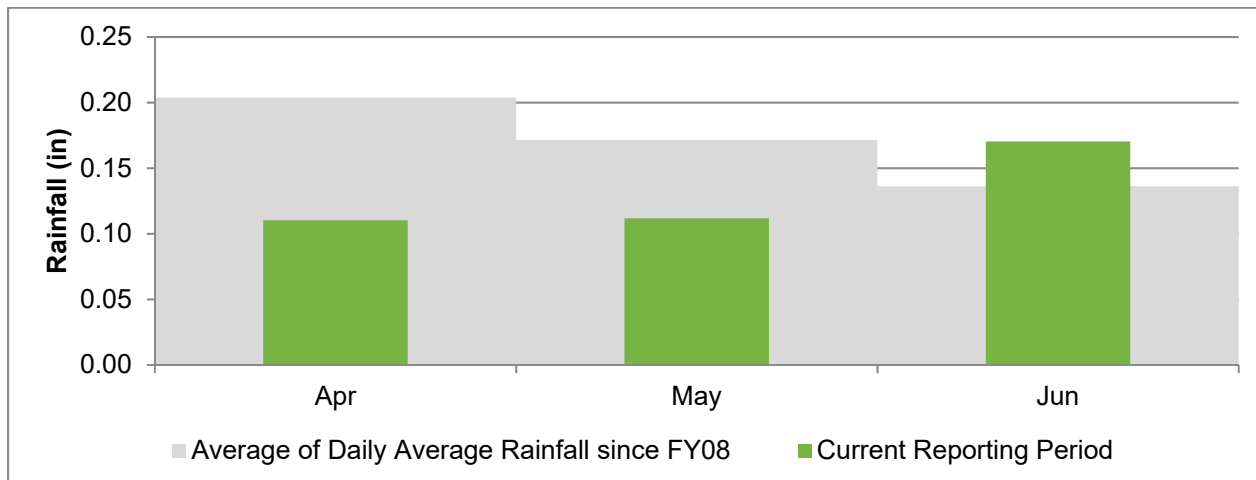
6.2.1. RAINFALL

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 below average for April and May, and above average for June when compared with the previous fiscal year average for these months.

Figure 6.1. Daily Average Rainfall by Month



6.3. WATER QUALITY TREATMENT CENTER PERFORMANCE

6.3.1. BYPASSES

No bypass events occurred during this reporting period, as reflected in Appendix A-2 .

6.3.2. JEFFERSONTOWN WATER QUALITY TREATMENT CENTER

A letter dated December 23, 2015 certified the elimination of Jeffersontown WQTC. Inspections were conducted upstream of what was previously 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

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. A certification letter dated December 15, 2015, was submitted finalizing the completion of the project.

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. This data is included as Appendix B. During development of this appendix for the previous reporting period, MSD identified a improvement issue with the rainfall analysis tool that is being investigated.

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 current reporting period. There were 2 dry weather overflows reported at CSOs during the reporting period, as shown in Table 6.1 and detailed in Appendix A-1 .

Table 6.1. Unauthorized Discharges – Dry Weather CSOs

START DATE	CSO	PROBLEM	CAUSE	VOLUME (GAL)
6/2/2018	CSO120	OBSTRUCTION (NOT GREASE OR ROOTS)	BRICK AND DEBRIS IN FLOW LINE	28,929
6/7/2018	CSO020	STRUCTURAL FAILURE	STARKEY PS SHUT DOWN TO TAKE MEASUREMENTS FOR REHABILITATION OF THE OHIO RIVER INTERCEPTOR.	578,054

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.

A workgroup was established to review CSO flow monitoring and resolve potential over-reporting of overflow volumes. Initial findings indicated that potentially significant discrepancies between modeling and monitoring data existed at 33 of MSD's 98 CSO locations. This set of 33 CSOs was the highest priority to review, correct data, document SOPs, and implement changes. For these CSO locations, MSD performed site visits including elevation surveys, performed detailed analysis, investigated equipment configurations, and investigated PLC programming or monitoring program logic. This has led to the development of an SOP for each CSO that describes the existing monitoring equipment, configuration, and flow calculation in use as of December 31, 2016, and evaluates the effectiveness of the existing setup. If a more effective arrangement was recommended, MSD added the proposed arrangement to the SOP for implementation and determined if historical data could be updated. In cases where the historical data could be updated, MSD has developed revised volumes for reporting. Locations for which revised volumes have been developed are detailed in Appendix F. In some cases, historical volumes could not be recalculated based on the available data. For instance, CSOs influenced by river or creek elevation for which there was no available historic level data could not be recalculated for historical volumes but will be calculated or measured according to the revised SOPs as they are implemented.

To date, SOPs have been drafted and historical volume data corrections (where possible) have been made for all of the 33 initial CSO locations. These changes have also been made for two additional CSO locations included in the review due to interaction with priority CSOs. Multiple SOPs require programming or equipment changes in order to implement the final SOPs. During the upcoming reporting period, MSD will continue working to procure and replace equipment as required and update the programming at the PLC or with monitoring program logic, as summarized in Figure 6.2 and detailed in Appendix F, to complete implementation of the SOPs.

The remaining 65 active CSO locations are being reviewed during the current fiscal year. MSD has also identified two inactive sites with historic data that will be reviewed. MSD has developed a schedule for review of these sites and has begun site visits, calculation review, and SOP development. Status for these remaining CSOs is summarized in Figure 6.3 and detailed in Appendix F.

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. Revised volumes for previous reporting periods up to and including FY17 for the 33 CSO locations initially reviewed were included as an appendix to the FY17 Consent Decree Annual Report. Any subsequently developed revised volumes for previous reporting periods up to and including FY18 will be included as an appendix to the FY18 Consent Decree Annual Report.

Figure 6.2. CSO Flow Monitoring Quality Improvement Status – Phase 1

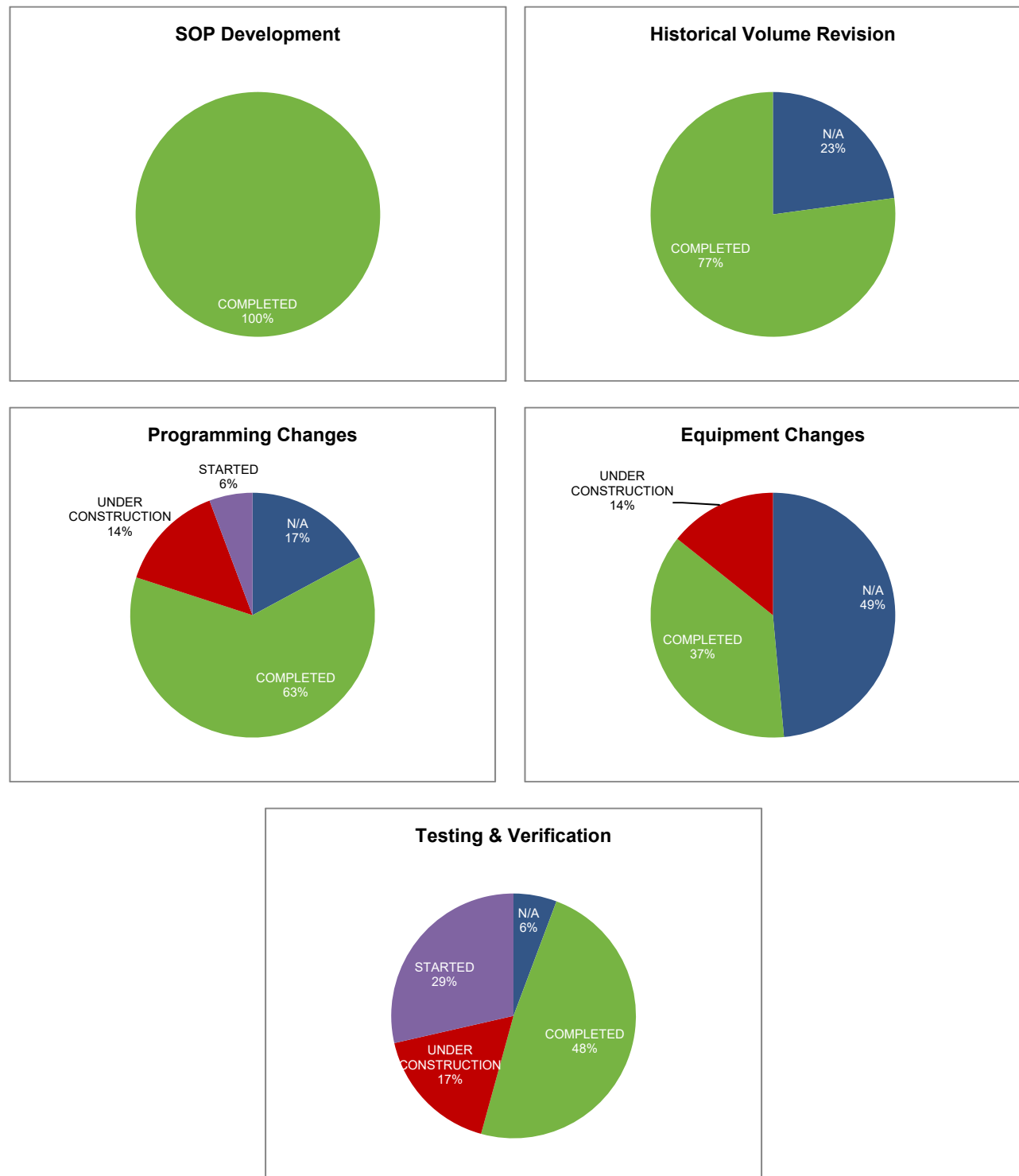
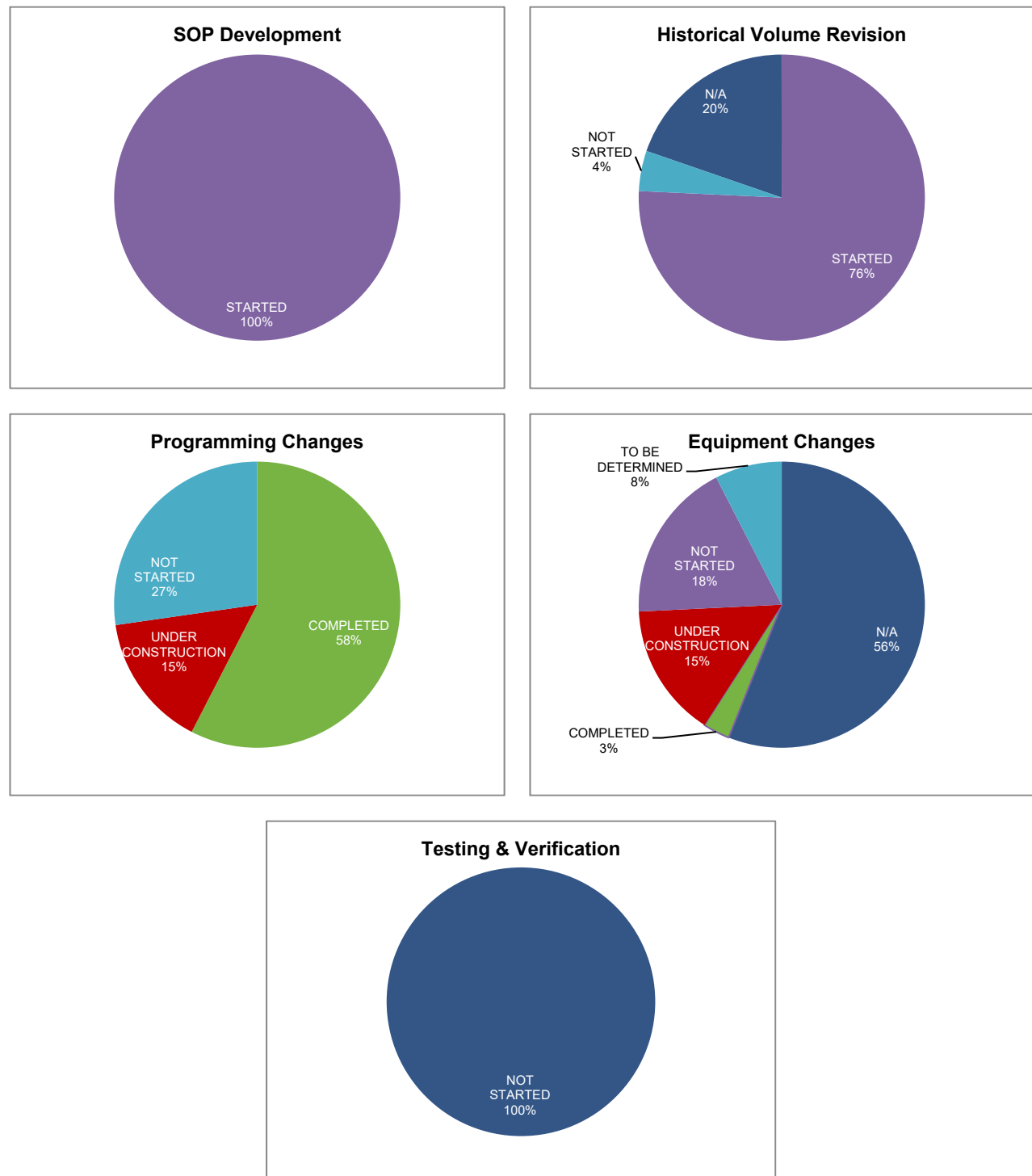


Figure 6.3. CSO Flow Monitoring Quality Improvement Status – Phase 2



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, 27 unauthorized discharges to WUS were reported, summarized in Table 6.2.

Table 6.2. 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	16
OBSTRUCTION-NOT GREASE / ROOTS	3	1
POWER OUTAGE (LG&E)	0	2
ROOTS	1	0
STRUCTURAL FAILURE	2	1

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 reporting period.

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 reporting period.

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 6.3.

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 6.3. Rolling Quarterly GLPM Performance with Targets

ACTIVITY	ACTIVITY TYPE	AREA	JUL-SEP	OCT-DEC	JAN-MAR	APR-JUN	TOTAL	TARGET / QTR	% OF ANNUAL TARGET
Catch Basins Cleaned	PM	Combine System	6,317	5,524	3,526	5,490	20,857	4,460	31%
		Separate System	1,587	184	477	2,340	4,588	1,144	51%
	UM	Combined System	54	274	203	268	799		
		Separate System	367	45	86	101	599		
CSO Inspections	PM	Combined System	1,279	1,260	1,250	1,263	5,052	1,272	25%
CSO Debris Removal WO	UM		149	139	140	170	598		
Sewer Main Chemical Root Treatment (LF)	UM	Combined System	0	0	18,437	539	18,976		
		Separate System	0	0	362,026	4,801	366,827		
Sewer Main Flushing and Cleaning (LF)	UM	Combined System	6,159	1,720	1,908	175	9,962		
		Separate System	58,818	29,288	38,469	20,043	146,618		
Total Sewer Main Inspections (LF)	PM	County Wide	93,687	115,147	36,894	12,714	95,128	198,000	2%
Sewer Main Root Cutting (LF)	UM	Combined System	310	0	510	15,306	178,620	198,000	2%
		Separate System	6,228	83,418	20,513	28,020	273,748	396,000	2%

6.7. OHIO RIVER INTERCEPTOR EMERGENCY REPAIR

6.7.1. BACKGROUND

The Ohio River Interceptor (ORI) is a critical asset for MSD. The ORI was constructed by MSD in the late 1950s to intercept and convey flow from multiple combined sewer pipes to the newly-constructed Fort Southworth Treatment Plant (now Morris Forman WQTC). Portions of the ORI and its associated structures, including gates and combination sanitary / flood pump stations, were built in by the US Army Corps of Engineers with the City of Louisville as the local sponsor, to provide an outlet for wastewater while protecting the city from riverine flooding.

The seven-mile long non-circular pipe ranges from 60 to 102 inches in diameter and runs west from Starkey PS (SPS) under Main Street to I-264, then turns southwest to Morris Forman WQTC. Because of its location under busy Main Street, a sensitive downtown corridor subjected daily to heavy traffic loading and home to multiple large businesses and entertainment venues, portions of the interceptor were constructed as a hand-dug tunnel. These tunnel sections extend for up to a mile with no direct access structures or manholes. Because the pipe was constructed to intercept other existing structures, there are multiple vertical transitions. While most of the transitions are 12 inches or less, a transition at 4th Street drops flow approximately 9 vertical feet at a 1:1 slope.

The interceptor receives flow from local sources; the Ohio River Force Main (ORFM), which conveys flow from northeastern Jefferson County; and SPS, which lifts flow from the Beargrass Interceptor (BGI) and Middle Fork Interceptor (MFI). Together these sources account for 40% of dry weather flow in the district.

On August 30, 2017, a major failure occurred on the ORI at the intersection of Main and Hancock near the junction with the ORFM. The intersection was closed for weeks and caused major traffic issues downtown. The line had previously been inspected in 2009 using video only. A new inspection was commissioned in November 2017 using video as well as sonar to detect debris under the water surface and laser profiling to detect pipe wall defects and losses above the water surface to determine if other new defects existed in the line that could lead to failure.

The reinspection was performed in January 2018, and the report was delivered to MSD on March 1, 2018. The report was reviewed immediately, and showed a 1,700 LF stretch of 84-inch pipe from 4th Street to just beyond 7th Street with significant deterioration due to hydrogen sulfide attack. This section is part of the mile-long tunnel section from 4th to 15th street. No manholes or other ways for gasses to escape the interior of the pipe exist in this section. The section is also just downstream of the significant vertical transition, and video revealed turbulence caused by the transition that extended nearly 100 LF. Due to technology limitations of the time, the 2009 inspection was not attempted on this section, and high flows prevent person-entry for manual inspection, so this was MSD's first glimpse at the condition of this pipe since its construction.

6.7.2. EMERGENCY REPAIR SOLUTION

MSD consulted with an outside engineering firm to perform a limited finite element analysis of the ORI. The consultant confirmed that the section from 4th to just beyond 7th Street had a factor of safety of less than 1.0, where 1.8 is the industry standard and less than 1.0 is considered to be in failure mode. Based on this finding, MSD declared the repair an emergency and brought on a design engineer and a construction firm, both with significant experience in repair of large-diameter pipes.

The team examined several options for rehabilitation, including circular and non-circular sliplining and panel lining. The recommended rehabilitation method developed by the team is a panel liner, which includes the reconstruction of the pipe wall using rebar and grout, constructed with a PVC panel form that will remain in place as a liner to protect the concrete from future hydrogen sulfide attack. The panel liner method was selected for its maintenance of long-term flow capacity, minimal disruption to vehicular and pedestrian traffic, minimal disruption of downtown business, minimal utility relocations, short construction schedule, minimal odors from excavations, and least regulatory and environmental impact. This method does require that the pipe be dry for worker safety, as workers are required to enter the pipe to install the new pipe liner.

MSD is building a temporary pump station, located at 4th Street & River Road, to divert flow around the degraded section of pipe. MSD will divert flow through an existing decommissioned floodgate through the flood influent line for the 4th Street PS to the 4th Street Sewer, which serves as the outfall pipe for CSO022 and CSO023. Flow will be intercepted by a temporary overflow structure constructed in the outfall pipe and diverted to the temporary pump station well, where it will be pumped 3,800 feet through four 18" temporary force mains back to the ORI at the intersection of 9th and Main Streets. Construction of the temporary pump station is anticipated to be completed in late July, with system testing in early August. Once the temporary pump station construction is completed and the system is tested, rehabilitation construction will commence in the degraded section of the ORI.

MSD based the design of the temporary pump station on average daily flow conditions with flow diverted at two locations upstream of the ORI. These upstream system diversions were put in place in June to minimize

surcharge conditions in the ORI until the pipe can be repaired. These diversions will also serve to minimize wet weather flow to the interceptor when construction begins, which will dampen the anticipated increase in overflow volume that is anticipated occur at CSOs 020, 022, 023, 058, and 062. The two diversions are upstream of SPS, which normally lifts flow to the ORI and controls wet weather events through CSO020 and CSO062, and CSO058 is located on the ORI at Preston Street. MSD has installed a weir plate in a sanitary manhole near the Upper Middle Fork Pump Station (UMFPS) to divert flow from the MFI to the BGI. Additionally, gates in the BGI and Beargrass Interceptor Relief (BGIR) at Nightingale PS (NPS) have been closed, sending all flow through NPS to the Manning Road / Cardinal Drive Sewer west to Morris Forman WQTC. The diversions reduce the average daily flow at 4th Street PS from 36 to 26 MGD. The temporary pump station has been designed to pump 30 MGD with additional pump capacity for peak conditions, up to 40 MGD.

The overflow weir, located in the temporary overflow structure in the 4th Street Sewer, has been designed to pass the 2-year design storm as a CSO discharge without localized flooding, based on modeled flow conditions, with the bending weir at CSO058 temporarily removed during project construction. MSD has developed a plan with the contractor for operational procedures during dry weather, wet weather, and riverine flooding. During rain events less than the design storm, workers will evacuate the ORI until the rain event ends. During rain events greater than the design storm, wastewater will be reintroduced to the ORI to prevent local flooding and work will resume when the flows subside. In the event of a river flood, wastewater will be reintroduced to the ORI, the temporary pump station will be deactivated and pumps moved to a safe elevation, and MSD flood pumping procedures will be enacted until the river recedes and the temporary pump station can be reinstated.

As a part of this rehabilitation effort, MSD will also construct CSO connections from CSOs 054, 055, and 056 in 5th, 6th, and 7th Streets to the ORI. The low flow lines of each of these CSOs currently direct flow to the ORI, and additional connections will be made to send additional wet weather flow to the ORI and reduce CSO volumes in accordance with the IOAP. These connections were originally a part of the IOAP Downtown CSO Interceptor project, which was bid in April 2018, but they were removed from the project and added to the emergency ORI repair project to prevent construction conflicts and abate safety concerns around tying into the degraded section of the ORI. Construction on the CSO connections is anticipated to begin in late July, and is anticipated to be substantially complete in November.

Once the temporary pump station is operational and ORI flows are diverted, another existing decommissioned floodgate will be used to seal off the section of the ORI to be repaired to protect the workers from wastewater flow and to minimize exposure to hydrogen sulfide gas. The gate must be replaced to operate, and a temporary bulkhead must be constructed to protect workers while the gate replacement is performed. The temporary bulkhead will also serve as a secondary bulkhead to the floodgate in the event of failure of the new floodgate. This work is anticipated to be done in early August.

6.7.3. DRY WEATHER DISCHARGE

On June 7, 2018, the contractor entered the ORI at the intersection of 4th and Main Street to perform measurements of the line necessary to design the temporary bulkhead. Operational changes were made upstream to divert and store flow to reduce the flow rate in addition to the UMFPS and NPS diversions. These additional modifications included diversion of flows to the Muddy Fork Basin to reduce flows to the ORFM as well as inline storage and diversion of flows to the Logan & Breckinridge Basin to reduce flow in the BGI downstream of NPS. Flow monitoring and hydraulic modeling indicated that, with the upstream reductions in place, and with the shutdown occurring at nighttime, the system upstream of SPS could store flow without an

overflow for approximately 4 to 5 hours during dry weather conditions. Once the pipe storage was full, all flow that reached SPS was to be diverted through CSO020 to the Ohio River to protect the contractor during this access period.

MSD was unable to implement a full diversion of flows to the Logan and Breckinridge Basin. The contractor could not safely install a plug in the BGI due to the offset configuration of the CSO manhole to the BGI. Four CSO locations were identified where significant portions of local flow could be redirected to the basin using sandbags; on investigation, MSD determined that only one CSO location, CSO146, could be safely sandbagged without causing an additional safety risk to workers. This development decreased the volume that could be stored upstream of SPS. When the contractor performed the entry, with all identified precautionary measures in place, CSO020 began to overflow within 2 hours. The total volume that was estimated to leave the system as a dry weather overflow was 0.5 MG.

It is anticipated that at least two more activities associated with the project will bring a potential to discharge, including installation of the temporary bulkhead in the ORI in early August just before rehabilitation is anticipated to begin, and removal of the temporary bulkhead in the ORI at the end of construction, which is anticipated to be substantially complete in November. The additional measures at Muddy Fork Basin and CSO146 will again be in place, and all construction staging will be in place prior to workers entering the ORI in order to perform the work and restore normal operating conditions as quickly as possible.

APPENDICES

Appendix A	Discharge Work Orders
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Appendix A-2	Discharge Work Orders – Bypass
Appendix A-3	Discharge Work Orders – Unauthorized Discharges
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Appendix C	Acronyms
Appendix D	SCAP Balance
Appendix E	IOAP Project Crosswalk
Appendix F	CSO Flow Monitoring Quality Improvement
Appendix G	CSO108 Semi-Annual Report

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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
MORRIS FORMAN	KY0022411	1031 LEXINGTON RD	6/2/2018 22:19	6/3/2018 10:22	28,929	SEWER MANHOLE	CSO120	STREAM	SOUTH FORK BEARGRASS CREEK	OBSTRUCTION IN THE LOW FLOW LINE (BRICK AND OTHER DEBRIS).	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2926941	MSD CREWS CLEANED AND SANITIZED THE AREA.	OBSTRUCTION REMOVED.
MORRIS FORMAN	KY0022411	147 BUCHANAN ST	6/7/2018 1:32	6/7/2018 4:00	578,054	SEWER MANHOLE	CSO020	STREAM	OHIO RIVER	STARKEY PS SHUT DOWN TO TAKE MEASUREMENTS FOR REHABILITATION OF THE OHIO RIVER INTERCEPTOR.	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2931056	NOT POSSIBLE. DISCHARGE PIPE SUBMERGED.	STARKEY PS RESTARTED ONCE WORKERS SAFELY OUT OF PIPE.

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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

No Bypasses Occurred
During the Reporting
Period

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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
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	4/2/2018 0:18	4/2/2018 15:52	1,318,026	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2885779	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	4/2/2018 5:30	4/3/2018 5:15	36,000	SEWER MANHOLE	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2885886	WO# 2887302.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1011 ALTA CIR	4/2/2018 5:45	4/3/2018 5:30	36,000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2885891	WO# 2887310.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1201 OLD CANNONS LN	4/2/2018 6:15	4/3/2018 5:45	315,000	SEWER MANHOLE	IS021A-SI	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2885906	WO# 2887323.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	202 OXMOOR LN	4/2/2018 6:30	4/2/2018 21:50	45,000	SEWER MANHOLE	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2885902	WORK ORDER # 2885473.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	4/4/2018 0:18	4/4/2018 1:06	7,949	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2891032	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	1201 OLD CANNONS LN	4/4/2018 5:25	4/4/2018 21:22	1,000	SEWER MANHOLE	IS021A-SI	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2891034	NO CLEAN UP PERFORMED. PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM.	LOCATION INCLUDED IN IOAP.
HITE CREEK	KY0022420	6100 MAYFAIR AVE	4/4/2018 9:00	4/12/2018 8:30	9,999	SEWER LIFT STATION	MSD1206-PS	GROUND	OHIO RIVER	LACK OF SYSTEM CAPACITY DUE TO RIVER FLOODING.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2892689	NO CLEANUP REQUIRED.	STATION WILL BE RETURNED TO SERVICE WHEN RIVER RECEDES.
DEREK R. GUTHRIE	KY0078956	6740 CARRIBEAN LN	4/4/2018 10:20	4/4/2018 11:43	150	SEWER MANHOLE	33789	GROUND	NORTHERN DITCH	GREASE AND WIPES IN THE MAIN SEWER.	GREASE BLOCKAGE	DISDW DRY WEATHER DISCHARGE	2891126	MSD PERSONNEL WASHED DOWN AREA AND ADVISED CUSTOMER TO AVOID CONTACT WITH SEWAGE.	ROOT CUT AND FLUSHED MAIN SEWER AND AREA OF DISCHARGE.
MORRIS FORMAN	KY0022411	420 W RIVER RD	4/4/2018 14:00	4/12/2018 8:30	9,999	SEWER LIFT STATION	MSD1017-PS	STREAM	OHIO RIVER	LACK OF SYSTEM CAPACITY DUE TO RIVER FLOODING.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2892702	NO CLEANUP REQUIRED.	STATION WILL BE RETURNED TO SERVICE WHEN RIVER RECEDES.
MORRIS FORMAN	KY0022411	23 BROWNSBORO HILL RD	4/12/2018 10:57	4/12/2018 18:00	1,680	SEWER MANHOLE	48357-X	STREAM	MUDDY FORK BEARGRASS CREEK	OBSTRUCTION IN THE MAIN SEWER.	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2895128	WORK ORDER # 2895129.	FLUSHED AND ROOT CUT MAIN SEWER.
MORRIS FORMAN	KY0022411	3402 CHARLANE PKY	4/15/2018 13:05	4/15/2018 18:30	7,500	SEWER MANHOLE	28453	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2895648	DISCLN WO# 2895711.	LOCATION INCLUDED IN IOAP.
MORRIS FORMAN	KY0022411	614 FATIMA LN	4/23/2018 15:34	4/23/2018 17:30	3,600	SEWER MANHOLE	48362	DITCH	MUDDY FORK BEARGRASS CREEK	BLOCKAGE OF PAPER AND RAGS IN THE MAIN SEWER AT A REPAIR BY CONTRACTOR.	OBSTRUCTION-NOT GREASE / ROOTS	DISREV RAIN EVENT DISCHARGE	2901064	MSD WILL CLEAN AREA.	REFERRED TO ENGINEERING.
MORRIS FORMAN	KY0022411	1726 FRASER DR	5/5/2018 19:45	5/5/2018 21:15	18,000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2912756	NO DEBRIS OR SOLIDS/FLOATABLE, UNABLE TO USE CLEANER IN THE WATERWAYS.	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	5503 BRANSTON DR	5/16/2018 10:15	5/16/2018 10:16	100,000	SEWER VALVE	79766-V	GROUND	MILL CREEK CUTOFF	ARV NIPPLE BROKE OFF AT PIPE	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2916807	CONTRACTOR CLEANED AND SANITIZED AREA	CONTACTOR AND MSD STAFF REPLACED NIPPLE WITH STAINLESS STEEL
FLOYDS FORK	KY0102784	14307 WAKEFIELD PL	5/16/2018 17:05	5/22/2018 18:19	900	SEWER MAIN	80351C-AG	CATCH BASIN	CHENOWETH RUN	STRUCTURAL FAILURE -FORCE MAIN BREAK	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2919050	CLEANED AND SANITIZED THE IMPACTED AREA	CHEROKEE CONST. REPAIRING THE FORCE MAIN. HAULING PUMP STATION WELL UNTIL RETURN TO SERVICE
MORRIS FORMAN	KY0022411	803 GREENSPUR LN	5/22/2018 16:20	5/22/2018 19:45	400	SEWER MAIN	27603	GROUND	MUDDY FORK BEARGRASS CREEK	ROOTS IN MAIN SEWER	ROOTS	DISDW DRY WEATHER DISCHARGE	2921109	DISCHARGE IS IN A CREEK . CAN NOT CLEAN AREA NO SOLIDS	ROOT CUT MAIN SEWER STOPPED DISCHARGE
MORRIS FORMAN	KY0022411	23 BROWNSBORO HILL RD	6/7/2018 16:15	6/7/2018 18:00	100	SEWER MANHOLE	48357	GROUND	MUDDY FORK BEARGRASS CREEK	OBSTRUCTION IN THE MAIN	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2931382	MSD WILL CLEAN AREA	FLUSHED MAIN SEWER FROM MH# 66536 700 FT
HITE CREEK	KY0022420	6100 CONCORD AVE	6/16/2018 10:00	6/16/2018 15:58	1,790	SEWER MANHOLE	90986	GROUND	UNNAMED	BLOCKAGE INCLUDING ROOTS AND GREASE.	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2935385	MSD CREWS TO CLEAN AND SANITIZE THE AREA.	MSD CONTRACTOR CLEANED THE LINE.
MORRIS FORMAN	KY0022411	705 STIVERS RD	6/26/2018 10:55	6/26/2018 11:00	25	SEWER MAIN	MSD0070-PS	DITCH	MIDDLE FORK BEARGRASS CREEK	STRUCTURAL FAILURE, FORCE MAIN BREAK	STRUCTURAL FAILURE	DISREV RAIN EVENT DISCHARGE	2938147	DISINFECTED IMPACTED AREA WITH LIME	TURNED OFF PUMPS, HAULED STATION WHILE CONTRACTOR MAKES REPAIR
MORRIS FORMAN	KY0022411	1418 TREVILIAN WAY	6/26/2018 13:55	6/27/2018 16:33	3,125	SEWER MANHOLE	51594	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2938301	DISCLN WO#29838795	LOCATION INCLUDED IN THE 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	1726 FRASER DR	6/26/2018 14:00	6/26/2018 15:45	36,995	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY HEAVY RAIN	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2938624	NO CLEAN UP REQUIRED.MH DISCHARGED DIRECTLY INTO THE CREEK.	LOCATION INCLUDED IN IOAP
DEREK R. GUTHRIE	KY0078956	4005 KIRBY LN	6/26/2018 14:59	6/26/2018 15:50	5,100	SEWER MANHOLE	61266	DITCH	FERN CREEK	LG&E POWER FAILURE	POWER OUTAGE (LG&E)	DISREV RAIN EVENT DISCHARGE	2938307	NONE NEEDED/CONSTRUCTED OVERFLOW TO CREEK	HOOKEED STATION UP TO PORTABLE GENERATOR
DEREK R. GUTHRIE	KY0078956	3701 MODESTO RD	6/26/2018 15:00	6/26/2018 16:18	780	SEWER MANHOLE	61324	GROUND	FERN CREEK	POWER OUTAGE DUE TO STORM	POWER OUTAGE (LG&E)	DISREV RAIN EVENT DISCHARGE	2938290	MSD CLEAN AND SANITIZE AREA	HOOKEED UP GENERATOR TO STATION
MORRIS FORMAN	KY0022411	1201 OLD CANNONS LN	6/26/2018 15:15	12:00:00 AM	0	SEWER MANHOLE	IS021A-SI	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY HEAVY RAIN	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2938313	NO CLEANUP REQUIRED, DISCHARGE WENT DIRECTLY INTO CREEK	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	201 BULLITT LN	6/26/2018 15:25	6/27/2018 6:10	1,500	SEWER MANHOLE	47582	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY HEAVY RAIN	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2938306	DISCLN WO#2938902	LOCATION INCLUDED IN THE IOAP
MORRIS FORMAN	KY0022411	202 OXMOOR LN	6/26/2018 15:25	6/27/2018 6:25	7,500	SEWER MANHOLE	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY HEAVY RAIN	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2938304	DISCLN WO#2938901	LOCATION INCLUDED IN THE IOAP

Appendix B CSO Flow Monitoring Data

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CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO015	4/1/2018 23:00	4/2/2018 17:15	1095	0.67	70,718,010	2.37	0.37	6	Atlas		47,381,067	1
	4/14/2018 10:00	4/14/2018 15:15	315	1.38	993	0.56	0.48	24	Atlas		1,371	1
	4/15/2018 1:45	4/15/2018 13:45	720	1.38	7,720,699	1.42	0.48	24	Atlas		10,654,565	1
	5/5/2018 15:00	5/6/2018 16:15	1515	0.95	36,812,054	1.01	0.35	24	Atlas		34,971,451	1
	5/17/2018 23:00	5/19/2018 22:45	2865	0.28	226,757	0.36	0.22	1	Atlas		63,492	1
	5/20/2018 23:00	6/7/2018 14:30	25410	0.01	2,893,210,500	3.59	0.01	1	Atlas		28,932,105	1
CSO015											122,004,051	6
CSO016	4/1/2018 20:30	4/2/2018 3:15	405	0.66	18,324,721	2.34	0.36	6	Atlas		12,094,316	1
	4/3/2018 17:15	4/4/2018	405	0.29	16,705,876	2.57	0.16	6	Atlas		4,844,704	1
	4/14/2018 10:15	4/14/2018 12:00	105	1.19	571,683	0.43	0.40	24	Atlas		680,303	1
	4/15/2018 1:15	4/15/2018 12:15	660	1.19	7,726,204	1.24	0.40	24	Atlas		9,194,183	1
	4/23/2018 5:45	4/23/2018 9:30	225	0.53	4,827,611	0.59	0.27	3	Atlas		2,558,634	1
	5/5/2018 12:30	5/5/2018 22:30	600	1.18	17,508,881	1.19	0.45	12	Atlas		20,660,479	1
	5/27/2018 3:45	5/27/2018 8:00	255	1.3	6,185,246	1.39	1.13	1	Atlas		8,040,820	1
	5/31/2018 15:15	6/1/2018 7:30	975	1.7	9,334,432	3.44	0.90	3	Atlas		15,868,535	1
	6/10/2018 15:30	6/10/2018 17:15	105	1.01	676,767	0.35	0.38	24	Atlas		683,535	1
	6/11/2018 13:30	6/11/2018 16:45	195	1.01	4,632,426	1.02	0.38	24	Atlas		4,678,750	1
	6/12/2018 13:30	6/12/2018 13:45	15	0.16	53,213	1.18	0.07	3	Atlas		8,514	1
	6/22/2018 15:15	6/22/2018 16:15	60	0.32	627,475	1.39	0.15	3	Atlas		200,792	1
	6/25/2018 11:00	6/25/2018 22:45	705	0.81	9,442,686	2.24	0.33	12	Atlas		7,648,576	1
	6/26/2018 23:00	6/27/2018 2:00	180	0.77	4,689,565	2.96	0.33	12	Atlas		3,610,965	1
CSO016											90,773,106	14
CSO019	4/1/2018 20:30	4/2/2018 12:15	945	0.81	6,716,017	2.44	0.44	6	Atlas		5,439,974	1
	4/23/2018 5:45	4/23/2018 17:00	675	0.58	2,904,124	0.9	0.27	3	Atlas		1,684,392	1
	4/1/2018	4/1/2018 1:30	90	Discharge	0	1.62	#N/A	#N/A	#N/A	Data Under Review	13,306	1
	4/14/2018 9:45	4/14/2018 11:00	75	1.13	1,161,319	0.35	0.38	24	Atlas		1,312,290	1
	4/15/2018	4/15/2018 18:00	1080	1.13	5,509,431	1.16	0.38	24	Atlas		6,225,657	1
	5/4/2018 7:45	5/4/2018 8:15	30	0.01	681,500	0.1	0.01	1	Atlas		6,815	1
	5/5/2018 12:45	5/6/2018 2:15	810	1.24	10,693,365	1.32	0.49	12	Atlas		13,259,773	1
	5/10/2018 3:00	5/10/2018 3:45	45	0.03	5,499,033	1.38	0.03	1	Atlas		164,971	1
	5/16/2018 18:30	5/16/2018 18:30	0	0.01	57,800	0.04	0.01	1	Atlas		578	1
	5/17/2018 16:45	5/17/2018 17:00	15	0.05	570,520	0.05	0.03	1	Atlas		28,526	1
	5/22/2018 7:45	5/22/2018 9:45	120	0.42	2,613,995	0.52	0.32	1	Atlas		1,097,878	1
	5/27/2018 3:30	5/27/2018 6:00	150	1.38	5,429,909	1.39	0.79	1	Atlas		7,493,274	1
	5/30/2018 14:45	5/30/2018 14:45	0	0.1	436,390	1.61	0.07	1	Atlas		43,639	1
	5/31/2018 14:15	5/31/2018 15:45	90	1.31	1,094,258	1.78	0.70	3	Atlas		1,433,478	1
	6/1/2018 0:15	6/1/2018 11:45	690	1.31	9,928,762	2.92	0.70	3	Atlas		13,006,678	1
	6/10/2018 15:00	6/10/2018 16:15	75	0.63	1,859,213	0.22	0.23	24	Atlas		1,171,304	1
	6/11/2018 6:45	6/11/2018 15:15	510	0.63	2,416,757	0.64	0.23	24	Atlas		1,522,557	1
	6/12/2018 12:30	6/12/2018 13:30	60	0.2	2,232,710	0.88	0.16	1	Atlas		446,542	1
	6/20/2018 5:45	6/20/2018 19:15	810	Discharge	0	1.02	#N/A	#N/A	#N/A	Data Under Review	5,153,865	1
	6/21/2018 8:45	6/21/2018 23:15	870	0.36	9,521,122	1.36	0.18	1	Atlas		3,427,604	1
	6/22/2018 10:15	6/23/2018	825	0.62	3,916,179	1.98	0.31	3	Atlas		2,428,031	1
	6/25/2018 0:30	6/25/2018 20:00	1170	0.77	3,686,094	2.76	0.30	12	Atlas		2,838,292	1
	6/26/2018 12:15	6/27/2018 11:00	1365	Discharge	0	3.39	#N/A	#N/A	#N/A	Data Under Review	5,858,115	1
	4/3/2018 19:45	4/4/2018 13:15	1050	0.71	1,357,077	3.07	#N/A	#N/A	#N/A		963,525	1
CSO019											75,021,064	24
CSO020	4/14/2018 9:45	4/14/2018 11:15	90	0.91	29,592	0.28	0.30	24	Atlas		26,929	1
	4/14/2018 23:30	4/15/2018 12:30	780	0.91	372,456	0.95	0.30	24	Atlas		338,935	1
	5/5/2018 14:00	5/5/2018 21:15	435	1.47	4,736,611	1.41	0.62	6	Atlas		6,962,818	1
	6/1/2018 1:00	6/1/2018 5:00	240	1.45	2,333,523	2.11	0.84	3	Atlas		3,383,609	1
	6/7/2018 0:45	6/7/2018 2:45	120	Discharge	0	1.62	#N/A	#N/A	#N/A		579,990	1
CSO020											11,292,281	5
CSO022	4/3/2018 16:15	4/3/2018 16:45	30	0.39	374,049	2.1	0.21	6	Atlas		145,879	1
	5/5/2018 14:15	5/5/2018 18:45	270	1.55	2,701,821	1.49	0.65	6	Atlas		4,187,823	1
	5/27/2018 4:00	5/27/2018 4:45	45	0.42	3,488,112	0.6	0.35	1	Atlas		1,465,007	1
	6/1/2018 0:15	6/1/2018 3:30	195	1.47	1,913,322	2.5	0.82	3	Atlas		2,812,583	1
	6/10/2018 14:45	6/10/2018 15:00	15	0.53	271,766	0.27	0.24	12	Atlas		144,036	1
CSO022											8,755,328	5
CSO023	4/1/2018 21:30	4/2/2018	150	0.57	6,768,830	1.99	0.31	6	Atlas		3,858,233	1
	4/3/2018 21:15	4/3/2018 21:15	0	0.39	25,808	2.34	0.21	6	Atlas		10,065	1
	5/5/2018 14:15	5/5/2018 20:00	345	1.55	19,243,566	1.49	0.65	6	Atlas		29,827,527	1
	6/1/2018 1:00	6/1/2018 4:15	195	1.47	5,954,067	2.51	0.82	3	Atlas		8,752,479	1
CSO023											42,448,304	4

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO027	5/5/2018 14:45	5/5/2018 14:45	0	1.69	14	0.95	0.67	12	Atlas		24	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.46	139	0.51	0.37	1	Atlas		64	1
CSO027											88	2
CSO028	5/5/2018 14:45	5/5/2018 14:45	0	1.69	2,789	0.95	0.67	12	Atlas		4,714	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.46	2,652	0.51	0.37	1	Atlas		1,220	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.36	745	1.73	0.65	3	Atlas		1,013	1
CSO028											6,947	3
CSO029	4/3/2018 16:30	4/3/2018 16:30	0	0.48	14,425	2.29	0.26	6	Atlas		6,924	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.46	187,904	0.51	0.37	1	Atlas		86,436	1
	5/5/2018 14:30	5/5/2018 17:30	180	1.69	102,572	1.48	0.67	12	Atlas		173,346	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.36	87,601	1.73	0.65	3	Atlas		119,137	1
CSO029											385,843	4
CSO034	4/3/2018 16:30	4/3/2018 19:15	165	0.48	19	2.32	0.26	6	Atlas		9	1
	4/1/2018 20:15	4/1/2018 23:00	165	0.61	7	2.04	0.33	6	Atlas		4	1
	4/14/2018 9:30	4/14/2018 9:45	15	0.88	51	0.22	0.29	24	Atlas		45	1
	5/5/2018 14:15	5/5/2018 14:45	30	1.69	3,356	0.95	0.67	12	Atlas		5,671	1
	5/27/2018 4:00	5/27/2018 4:15	15	0.46	7,915	0.51	0.37	1	Atlas		3,641	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.52	35	0.52	0.43	1	Atlas		18	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.36	15,963	1.73	0.65	3	Atlas		21,710	1
CSO034											31,098	7
CSO035	4/3/2018 16:30	4/3/2018 16:30	0	0.4	534,408	2.16	0.22	6	Atlas		213,763	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.34	955,426	0.4	0.27	1	Atlas		324,845	1
	5/5/2018 14:30	5/5/2018 15:30	60	1.51	320,843	1.08	0.58	12	Atlas		484,473	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.44	83,686	0.21	0.20	12	Atlas		36,822	1
	6/1/2018 1:15	6/1/2018 1:30	15	1.37	254,739	1.61	0.69	3	Atlas		348,993	1
	6/11/2018 13:15	6/11/2018 13:30	15	0.33	367,594	0.73	0.20	3	Atlas		121,306	1
	6/21/2018 9:45	6/21/2018 9:45	0	0.18	24,394	0.26	0.09	1	Atlas		4,391	1
	6/22/2018 14:15	6/22/2018 14:45	30	0.26	598,069	0.56	0.12	1	Atlas		155,498	1
	6/25/2018 10:45	6/25/2018 10:45	0	0.87	228,538	1.33	0.35	12	Atlas		198,828	1
	6/26/2018 13:00	6/26/2018 13:00	0	0.59	357,797	1.73	0.24	12	Atlas		211,100	1
CSO035											2,100,019	10
CSO036	4/3/2018 16:30	4/3/2018 21:30	300	0.4	322,820	2.35	0.22	6	Atlas		129,128	1
	4/1/2018 20:00	4/1/2018 23:15	195	0.57	28,872	1.95	0.31	6	Atlas		16,457	1
	4/14/2018 9:15	4/14/2018 10:00	45	0.97	13,298	0.27	0.31	48	Atlas		12,899	1
	4/15/2018 5:45	4/15/2018 9:00	195	0.97	14,018	0.95	0.31	48	Atlas		13,597	1
	4/23/2018 5:15	4/23/2018 7:00	105	0.6	2,907	0.61	0.28	12	Atlas		1,744	1
	5/31/2018 14:15	5/31/2018 14:15	0	1.37	206	0.67	0.69	3	Atlas		282	1
	5/5/2018 14:15	5/5/2018 18:30	255	1.51	207,860	1.38	0.58	12	Atlas		313,869	1
	5/27/2018 4:15	5/27/2018 4:45	30	0.34	688,203	0.4	0.27	1	Atlas		233,989	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.3	16,470	0.3	0.25	1	Atlas		4,941	1
	5/22/2018 6:30	5/22/2018 6:30	0	0.05	16,940	0.41	0.03	3	Atlas		847	1
	6/1/2018 0:15	6/1/2018 2:45	150	1.37	138,188	1.84	0.69	3	Atlas		189,318	1
	6/10/2018 15:00	6/10/2018 19:00	240	0.44	98,020	0.31	0.20	12	Atlas		43,129	1
	6/21/2018 9:45	6/21/2018 17:30	465	0.18	133,167	0.38	0.09	1	Atlas		23,970	1
	6/22/2018 14:15	6/22/2018 14:45	30	0.26	357,335	0.56	0.12	1	Atlas		92,907	1
	6/25/2018 10:45	6/25/2018 11:45	60	0.87	150,092	1.48	0.35	12	Atlas		130,580	1
	6/26/2018 13:00	6/26/2018 13:15	15	0.59	235,963	1.74	0.24	12	Atlas		139,218	1
	6/11/2018 11:30	6/11/2018 13:45	135	0.33	245,658	0.74	0.20	3	Atlas		81,067	1
	6/12/2018 12:00	6/12/2018 12:15	15	0.36	10,586	1.02	0.17	1	Atlas		3,811	1
CSO036											1,431,753	18
CSO038	5/5/2018 14:45	5/5/2018 14:45	0	1.69	99	0.95	0.67	12	Atlas		167	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.46	39	0.51	0.37	1	Atlas		18	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.36	63	1.73	0.65	3	Atlas		85	1
CSO038											270	3
CSO050	4/1/2018 18:30	4/1/2018 23:45	315	0.71	1,361,806	2.23	0.39	6	Atlas		966,882	1
	4/3/2018 20:00	4/3/2018 21:15	75	0.39	362,223	2.55	0.21	6	Atlas		141,267	1
	4/14/2018 8:00	4/14/2018 9:00	60	0.95	101,021	0.17	0.31	48	Atlas		95,970	1
	4/14/2018 22:00	4/15/2018 9:00	660	0.95	469,955	0.93	0.31	48	Atlas		446,457	1
	4/23/2018 4:00	4/23/2018 10:30	390	0.57	245,802	0.68	0.27	3	Atlas		140,107	1
	5/5/2018 11:00	5/5/2018 19:30	510	2.03	965,315	1.93	0.89	6	Atlas		1,959,590	1
CSO050											3,750,273	6
CSO051	4/1/2018 21:45	4/2/2018	135	0.71	23,207	2.23	0.39	6	Atlas		16,477	1
	4/15/2018 5:30	4/15/2018 5:30	0	0.95	1,118	0.7	0.31	48	Atlas		1,062	1
	5/22/2018 7:45	5/22/2018 7:45	0	0.27	33,374	0.45	0.21	1	Atlas		9,011	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO051	5/27/2018 4:00	5/27/2018 4:15	15	1.23	8,695	0.99	0.60	1	Atlas		10,695	1
	5/5/2018 12:15	5/5/2018 19:30	435	2.03	51,765	1.93	0.89	6	Atlas		105,082	1
	5/27/2018 13:30	5/27/2018 13:30	0	1.23	467	1.44	0.60	1	Atlas		575	1
	6/1/2018	6/1/2018 4:00	240	1.6	24,554	3.02	0.75	6	Atlas		39,286	1
	6/10/2018 14:45	6/10/2018 14:45	0	0.66	5,253	0.31	0.29	12	Atlas		3,467	1
	6/22/2018 14:15	6/22/2018 14:15	0	0.72	128	1.82	0.36	6	Atlas		92	1
	6/11/2018 13:00	6/11/2018 13:15	15	0.22	52,595	0.84	0.14	1	Atlas		11,571	1
	6/20/2018 12:15	6/20/2018 15:00	165	0.87	191	0.88	0.57	3	Atlas		166	1
	6/21/2018 16:30	6/21/2018 16:30	0	0.48	296	1.17	0.22	12	Atlas		142	1
	6/25/2018 10:15	6/25/2018 12:45	150	0.84	470	2.92	0.33	12	Atlas		395	1
	6/26/2018 12:30	6/26/2018 12:30	0	0.75	457	3.09	0.30	12	Atlas		343	1
	6/26/2018 21:15	6/26/2018 21:15	0	0.75	8	3.38	0.30	12	Atlas		6	1
											198,370	15
CSO051												
CSO052	4/3/2018 16:15	4/3/2018 21:45	330	0.39	63,785	2.48	0.21	6	Atlas		24,876	1
	4/1/2018 21:15	4/2/2018 0:15	180	0.62	146,777	2.07	0.34	6	Atlas		91,002	1
	4/15/2018 5:15	4/15/2018 9:30	255	0.89	5,624	0.91	0.29	24	Atlas		5,005	1
	5/27/2018 3:30	5/27/2018 4:15	45	0.93	49,285	0.85	0.50	1	Atlas		45,835	1
	5/5/2018 14:15	5/5/2018 20:00	345	1.66	81,100	1.57	0.70	6	Atlas		134,626	1
	5/10/2018 2:15	5/10/2018 2:15	0	0.08	34,663	1.75	0.06	1	Atlas		2,773	1
	5/22/2018 7:30	5/22/2018 7:30	0	0.25	12,536	0.36	0.20	1	Atlas		3,134	1
	5/27/2018 13:15	5/27/2018 13:15	0	0.93	1,835	1.13	0.50	1	Atlas		1,707	1
	5/31/2018 23:45	6/1/2018 4:30	285	1.72	100,277	2.83	0.87	3	Atlas		172,477	1
	6/10/2018 14:30	6/10/2018 14:45	15	0.94	16,784	0.24	0.35	24	Atlas		15,777	1
	6/11/2018 12:45	6/11/2018 14:15	90	0.94	8,868	0.92	0.35	24	Atlas		8,336	1
											505,548	11
CSO052												
CSO053	5/27/2018 4:00	5/27/2018 4:30	30	0.93	17,031	0.85	0.50	1	Atlas		15,839	1
	5/5/2018 14:45	5/5/2018 17:15	150	1.66	18,875	1.45	0.70	6	Atlas		31,333	1
	5/10/2018 2:30	5/10/2018 2:30	0	0.08	1,665,725	1.78	0.06	1	Atlas		133,258	1
	5/22/2018 8:00	5/22/2018 8:00	0	0.25	924	0.45	0.20	1	Atlas		231	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.72	4,641	1.2	0.87	3	Atlas		7,983	1
	6/1/2018 0:15	6/1/2018 1:15	60	1.72	15,338	2.37	0.87	3	Atlas		26,382	1
	6/21/2018 17:00	6/21/2018 17:00	0	0.39	108,551	1.08	0.23	1	Atlas		42,335	1
	6/22/2018 19:00	6/22/2018 19:00	0	0.41	6,802	1.52	0.20	6	Atlas		2,789	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.82	76,194	2.12	0.32	12	Atlas		62,479	1
	6/26/2018 12:45	6/26/2018 13:00	15	0.82	49,199	2.69	0.33	12	Atlas		40,343	1
											362,972	10
CSO053												
CSO054	4/1/2018 21:30	4/2/2018	150	0.62	100,018	2.07	0.34	6	Atlas		62,011	1
	4/3/2018 19:00	4/3/2018 21:15	135	0.39	13,123	2.47	0.21	6	Atlas		5,118	1
	5/27/2018 3:45	5/27/2018 4:00	15	0.93	35,998	0.79	0.50	1	Atlas		33,478	1
	5/22/2018 7:45	5/22/2018 7:45	0	0.25	9,736	0.45	0.20	1	Atlas		2,434	1
	5/5/2018 14:15	5/5/2018 19:45	330	1.66	205,661	1.57	0.70	6	Atlas		341,398	1
	5/10/2018 2:15	5/10/2018 2:15	0	0.08	15,950	1.75	0.06	1	Atlas		1,276	1
	6/1/2018 1:00	6/1/2018 4:00	180	1.72	81,886	2.82	0.87	3	Atlas		140,844	1
CSO054											586,559	7
CSO055	4/3/2018 16:30	4/3/2018 22:15	345	0.39	359,095	2.48	0.21	6	Atlas		140,047	1
	4/1/2018 20:15	4/2/2018 0:45	270	0.62	503,369	2.07	0.34	6	Atlas		312,089	1
	4/14/2018 9:15	4/14/2018 9:45	30	0.89	72	0.25	0.29	24	Atlas		64	1
	4/23/2018 5:30	4/23/2018 5:45	15	0.58	3	0.57	0.27	12	Atlas		2	1
	4/15/2018 9:00	4/15/2018 9:45	45	0.89	22,735	0.92	0.29	24	Atlas		20,234	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.93	27,437	0.85	0.50	1	Atlas		25,516	1
	5/5/2018 14:30	5/5/2018 20:30	360	1.66	315,451	1.58	0.70	6	Atlas		523,649	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.15	6,833	0.15	0.12	1	Atlas		1,025	1
	5/27/2018 13:30	5/27/2018 13:30	0	0.93	1,030	1.14	0.50	1	Atlas		958	1
	5/10/2018 2:30	5/10/2018 2:30	0	0.08	27,925	1.78	0.06	1	Atlas		2,234	1
	5/22/2018 8:00	5/22/2018 8:00	0	0.25	48,348	0.45	0.20	1	Atlas		12,087	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.72	367	1.2	0.87	3	Atlas		631	1
	6/10/2018 14:45	6/10/2018 15:00	15	0.94	17,157	0.27	0.35	24	Atlas		16,128	1
	6/1/2018 1:15	6/1/2018 5:00	225	1.72	180,716	2.83	0.87	3	Atlas		310,832	1
	6/11/2018 13:15	6/11/2018 15:00	105	0.94	2,435	0.94	0.35	24	Atlas		2,289	1
											1,367,785	15
CSO055												
CSO056	4/1/2018 23:00	4/1/2018 23:15	15	0.62	23,155	2.07	0.34	6	Atlas		14,356	1
	4/3/2018 16:30	4/3/2018 16:45	15	0.39	20,692	2.2	0.21	6	Atlas		8,070	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.93	63,925	0.85	0.50	1	Atlas		59,450	1
	5/5/2018 14:30	5/5/2018 19:00	270	1.66	354,393	1.57	0.70	6	Atlas		588,292	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO056	6/10/2018 15:00	6/10/2018 15:00	0	0.94	14,914	0.27	0.35	24	Atlas		14,019	1
	6/1/2018 1:15	6/1/2018 3:00	105	1.72	97,105	2.72	0.87	3	Atlas		167,021	1
	6/11/2018 13:15	6/11/2018 13:15	0	0.94	771	0.89	0.35	24	Atlas		725	1
	6/25/2018 10:45	6/25/2018 10:45	0	0.82	62,811	2.14	0.32	12	Atlas		51,505	1
	6/26/2018 13:00	6/26/2018 13:00	0	0.82	89,638	2.69	0.33	12	Atlas		73,503	1
	6/21/2018 17:00	6/21/2018 17:00	0	0.39	45,390	1.08	0.23	1	Atlas		17,702	1
	6/22/2018 14:45	6/22/2018 14:45	0	0.41	18,193	1.41	0.20	6	Atlas		7,459	1
CSO056											1,002,102	11
CSO057	4/3/2018 16:30	4/3/2018 16:30	0	0.31	3	2.1	0.17	6	Atlas		1	1
	4/1/2018 19:30	4/1/2018 23:00	210	0.57	30	1.99	0.31	6	Atlas		17	1
	5/5/2018 14:45	5/5/2018 14:45	0	1.49	134	0.8	0.59	12	Atlas		200	1
	5/10/2018 2:30	5/10/2018 2:30	0	0.2	18,900	1.74	0.17	1	Atlas		3,780	1
	5/3/2018 10:15	5/3/2018 10:15	0	0.04	375	0.03	0.03	1	Atlas		15	1
CSO057											4,013	5
CSO058	4/3/2018 16:30	4/3/2018 21:30	300	0.36	4,789	2.35	0.20	6	Atlas		1,724	1
	4/1/2018 20:00	4/1/2018 23:30	210	0.6	353	1.99	0.33	6	Atlas		212	1
	4/23/2018 5:15	4/23/2018 11:30	375	0.62	608	0.75	0.28	12	Atlas		377	1
	4/14/2018 9:00	4/14/2018 10:00	60	0.92	216	0.26	0.30	24	Atlas		199	1
	4/14/2018 22:30	4/15/2018 9:30	660	0.92	183	0.95	0.30	24	Atlas		168	1
	5/5/2018 12:30	5/5/2018 20:00	450	1.42	2,834	1.31	0.56	12	Atlas		4,024	1
	5/31/2018 14:15	5/31/2018 15:15	60	1.53	59	0.86	0.77	3	Atlas		91	1
	5/27/2018 4:00	5/27/2018 4:45	45	0.39	921	0.52	0.31	1	Atlas		359	1
	5/17/2018 15:45	5/18/2018 18:30	1605	0.15	151,887	0.21	0.12	1	Atlas		22,783	1
	5/10/2018 2:45	5/10/2018 2:45	0	0.18	689	1.66	0.16	1	Atlas		124	1
	5/19/2018 3:45	5/19/2018 10:00	375	0.01	107,100	0.23	0.01	1	Atlas		1,071	1
	5/22/2018 6:45	5/22/2018 8:15	90	0.12	13,308	0.35	0.09	1	Atlas		1,597	1
	5/30/2018 10:30	5/30/2018 10:30	0	0.06	200	0.69	0.04	1	Atlas		12	1
	6/1/2018 0:15	6/1/2018 3:15	180	1.53	524	2.16	0.77	3	Atlas		801	1
CSO058											33,542	14
CSO082	4/1/2018	4/1/2018 1:45	105	0.03	4,447,267	1.3	#N/A	#N/A	#N/A		133,418	1
	4/3/2018 16:30	4/4/2018 2:45	615	0.49	2,820,545	2.44	0.28	1	Atlas		1,382,067	1
	4/1/2018 20:15	4/2/2018 5:00	525	0.63	1,630,198	1.95	0.34	6	Atlas		1,027,025	1
	4/15/2018 8:30	4/15/2018 9:45	75	0.95	15,214	0.98	0.31	48	Atlas		14,453	1
	4/23/2018 6:45	4/23/2018 12:15	330	0.67	85,603	0.82	0.31	12	Atlas		57,354	1
	5/5/2018 14:15	5/5/2018 19:30	315	1.31	294,195	1.22	0.51	6	Atlas		385,396	1
	6/1/2018 1:00	6/1/2018 3:45	165	1.35	84,663	2.06	0.79	3	Atlas		114,295	1
	6/26/2018 13:00	6/26/2018 13:15	15	0.69	6,799	1.88	0.28	12	Atlas		4,691	1
	6/25/2018 11:15	6/25/2018 11:15	0	0.93	449	1.54	0.38	12	Atlas		418	1
CSO082											3,119,117	9
CSO083	5/5/2018 14:30	5/5/2018 14:30	0	1.24	725	0.5	0.47	12	Atlas		899	1
	6/1/2018 1:00	6/1/2018 1:15	15	1.42	22,924	1.64	0.83	3	Atlas		32,552	1
CSO083											33,451	2
CSO084	4/3/2018 16:30	4/3/2018 21:30	300	0.51	110,929	2.5	0.28	6	Atlas		56,574	1
	4/1/2018 20:15	4/1/2018 23:15	180	0.6	210,402	1.99	0.33	6	Atlas		126,241	1
	4/14/2018 9:30	4/14/2018 10:00	30	1.04	32,652	0.27	0.34	48	Atlas		33,958	1
	4/15/2018 5:45	4/15/2018 6:15	30	1.04	37,619	0.82	0.34	48	Atlas		39,124	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.3	122,887	0.35	0.22	1	Atlas		36,866	1
	5/5/2018 14:30	5/5/2018 18:45	255	1.24	961,901	1.09	0.47	12	Atlas		1,192,757	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.4	74,333	0.18	0.18	12	Atlas		29,733	1
	6/1/2018 0:30	6/1/2018 2:30	120	1.42	363,174	1.83	0.83	3	Atlas		515,707	1
	6/11/2018 11:00	6/11/2018 13:30	150	0.54	415,211	0.62	0.18	48	Atlas		224,214	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.54	1,113	0.68	0.18	48	Atlas		601	1
CSO084											2,255,775	10
CSO092	5/5/2018 14:00	5/5/2018 14:45	45	1.28	990	0.63	0.49	12	Atlas		1,267	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.88	519	1.18	0.36	12	Atlas		457	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.64	1,061	1.54	0.28	12	Atlas		679	1
CSO092											2,403	3
CSO093	5/5/2018 12:30	5/5/2018 12:30	0	1.44	1,317	0.25	0.59	6	Atlas		1,896	1
	6/11/2018 13:00	6/11/2018 13:00	0	0.23	1,004	0.59	0.13	1	Atlas		231	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.86	6,164	1.43	0.35	12	Atlas		5,301	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.6	15,952	1.8	0.24	12	Atlas		9,571	1
CSO093											16,999	4
CSO097	4/14/2018 9:30	4/14/2018 9:45	15	1.51	13	0.45	0.49	48	Atlas		20	1
	4/1/2018 20:00	4/2/2018	240	0.57	60,440	1.98	0.31	6	Atlas		34,451	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO097	4/15/2018 5:45	4/15/2018 9:45	240	1.51	4,188	1.51	0.49	48	Atlas		6,324	1
	4/3/2018 19:00	4/3/2018 21:45	165	0.55	25,675	2.51	0.30	6	Atlas		14,121	1
	4/23/2018 6:30	4/23/2018 7:00	30	0.71	228	0.65	0.31	12	Atlas		162	1
	6/1/2018 0:30	6/1/2018 2:15	105	1.23	18,231	1.53	0.61	3	Atlas		22,424	1
	6/11/2018 13:15	6/11/2018 13:30	15	0.92	143	0.86	0.30	48	Atlas		132	1
CSO097											77,634	7
CSO104	5/5/2018 15:00	5/7/2018 2:00	2100	1.4	207,291	1.55	0.56	6	Atlas		290,208	1
	5/27/2018 4:15	5/27/2018 5:30	75	1.15	416,840	1.31	0.86	1	Atlas		479,366	1
	6/1/2018	6/1/2018 2:45	165	1.91	30,187	3.33	0.93	3	Atlas		57,658	1
	6/26/2018 12:30	6/26/2018 13:30	60	0.69	112,800	3.26	0.29	12	Atlas		77,832	1
	6/21/2018 9:15	6/21/2018 9:30	15	0.67	54,703	0.94	0.30	12	Atlas		36,651	1
CSO104											941,715	5
CSO105	4/15/2018 1:15	4/15/2018 11:15	600	1.23	3,199,456	1.26	0.42	24	Atlas		3,935,331	1
	4/23/2018 5:45	4/23/2018 8:15	150	0.65	1,304,746	0.76	0.32	3	Atlas		848,085	1
	4/14/2018 9:45	4/14/2018 11:45	120	1.23	887,544	0.48	0.42	24	Atlas		1,091,679	1
	4/3/2018 21:15	4/3/2018 23:15	120	0.35	2,164,877	2.7	0.19	6	Atlas		757,707	1
	4/1/2018 20:45	4/2/2018 1:15	270	0.8	7,118,946	2.48	0.44	6	Atlas		5,695,157	1
	5/5/2018 12:30	5/5/2018 20:45	495	1.4	8,791,826	1.44	0.56	6	Atlas		12,308,557	1
	5/10/2018 2:15	5/10/2018 4:15	120	0.05	14,325,660	1.6	0.04	1	Atlas		716,283	1
CSO105											25,352,799	7
CSO108	5/5/2018 14:15	5/5/2018 21:00	405	3.22	103,039	3.1	5.77	1	Atlas		331,785	1
	6/1/2018 0:45	6/1/2018 1:45	60	1.42	132,905	1.51	0.63	3	Atlas		188,725	1
CSO108											520,510	2
CSO109	5/5/2018 14:15	5/5/2018 18:30	255	3.19	128,751	3.02	6.15	1	Atlas		410,717	1
	6/1/2018 0:30	6/1/2018 1:30	60	1.34	27,669	1.46	0.64	3	Atlas		37,077	1
	6/25/2018 10:45	6/25/2018 10:45	0	1.07	35,678	1.69	0.44	12	Atlas		38,175	1
	6/26/2018 12:45	6/26/2018 12:45	0	1.77	65,883	3.04	1.13	1	Atlas		116,613	1
CSO109											602,582	4
CSO110	4/14/2018 10:00	4/14/2018 10:15	15	1.29	66,100	0.32	0.42	48	Atlas		85,269	1
	4/1/2018 20:30	4/2/2018 0:30	240	0.55	961,536	1.89	0.30	6	Atlas		528,845	1
	4/3/2018 16:45	4/3/2018 22:15	330	0.51	550,275	2.39	0.28	6	Atlas		280,640	1
	4/15/2018 6:00	4/15/2018 10:15	255	1.29	186,496	1.31	0.42	48	Atlas		240,580	1
	4/23/2018 6:00	4/23/2018 7:30	90	0.68	80,497	0.64	0.30	12	Atlas		54,738	1
	5/5/2018 14:30	5/5/2018 20:00	330	1.58	1,180,251	1.44	0.61	12	Atlas		1,864,797	1
	5/17/2018 16:00	5/17/2018 16:15	15	0.31	46,729	0.35	0.25	1	Atlas		14,486	1
	6/25/2018 11:00	6/25/2018 12:15	75	0.91	218,997	1.43	0.37	12	Atlas		199,287	1
	6/26/2018 13:00	6/26/2018 21:45	525	0.75	721,337	2.07	0.33	12	Atlas		541,003	1
	6/1/2018 0:45	6/1/2018 3:30	165	1.21	652,196	1.8	0.60	3	Atlas		789,157	1
	6/10/2018 15:15	6/10/2018 15:15	0	0.44	13,955	0.21	0.20	12	Atlas		6,140	1
	6/11/2018 11:45	6/11/2018 14:15	150	0.48	446,279	0.89	0.28	3	Atlas		214,214	1
CSO110											4,819,156	12
CSO111	4/3/2018 16:30	4/3/2018 16:45	15	0.51	6,916	2.1	0.28	6	Atlas		3,527	1
	4/1/2018 20:15	4/1/2018 23:45	210	0.55	284,225	1.89	0.30	6	Atlas		156,324	1
	4/14/2018 9:30	4/14/2018 10:00	30	1.29	15,928	0.32	0.42	48	Atlas		20,547	1
	4/15/2018 5:45	4/15/2018 9:15	210	1.29	21,482	1.27	0.42	48	Atlas		27,712	1
	5/31/2018 14:15	5/31/2018 14:15	0	1.21	4,773	0.7	0.60	3	Atlas		5,775	1
	5/5/2018 14:15	5/5/2018 19:00	285	1.58	264,527	1.44	0.61	12	Atlas		417,952	1
	5/17/2018 15:45	5/17/2018 16:00	15	0.31	106,768	0.33	0.25	1	Atlas		33,098	1
	5/13/2018 22:45	5/14/2018 1:00	135	Discharge	0	0.01	#N/A	#N/A	#N/A		48,180	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.44	67,123	0.21	0.20	12	Atlas		29,534	1
	6/1/2018 0:30	6/1/2018 3:00	150	1.21	143,211	1.73	0.60	3	Atlas		173,285	1
	6/11/2018 11:30	6/11/2018 13:45	135	0.48	127,904	0.87	0.28	3	Atlas		61,394	1
	6/22/2018 13:30	6/22/2018 13:30	0	0.32	7,228	0.49	#N/A	#N/A	#N/A		2,313	1
	6/25/2018 9:30	6/25/2018 10:45	75	0.91	84,799	1.27	0.17	1	Atlas		77,167	1
	6/26/2018 11:45	6/26/2018 20:30	525	Discharge	0	1.91	0.37	12	Atlas	Data Under Review	149,448	1
CSO111											1,206,256	14
CSO118	4/3/2018 16:15	4/4/2018 17:15	1500	0.51	2,994,900	2.5	0.33	6	Atlas		1,527,399	1
	4/1/2018 20:00	4/2/2018 0:30	270	0.6	3,911,302	1.99	#N/A	#N/A	#N/A		2,346,781	1
	4/14/2018 8:45	4/14/2018 10:00	75	1.04	412,684	0.27	0.28	6	Atlas		429,191	1
	4/14/2018 21:15	4/15/2018 9:45	750	1.04	869,125	1.05	0.34	48	Atlas		903,890	1
	4/23/2018 5:00	4/23/2018 11:30	390	0.65	744,391	0.78	0.34	48	Atlas		483,854	1
	5/31/2018 14:15	5/31/2018 14:15	0	0.12	2,008	0.53	0.03	1	Atlas		241	1
	5/5/2018 14:00	5/5/2018 19:00	300	1.24	4,174,334	1.09	0.30	12	Atlas		5,176,174	1
	5/27/2018 4:00	5/27/2018 4:45	45	0.3	4,202,107	0.36	0.22	1	Atlas		1,260,632	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO118	5/17/2018 15:45	5/17/2018 15:45	0	0.26	1,808	0.26	0.47	12	Atlas		470	1
	5/30/2018 10:15	5/30/2018 10:30	15	0.05	1,780	0.48	0.22	1	Atlas		89	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.4	1,094,838	0.18	0.83	3	Atlas		437,935	1
	6/1/2018 0:30	6/1/2018 3:45	195	1.42	2,484,856	2.02	0.08	3	Atlas		3,528,495	1
	6/25/2018 10:45	6/25/2018 12:15	90	0.92	2,137,247	1.47	0.14	1	Atlas		1,966,267	1
	6/26/2018 13:00	6/26/2018 22:30	570	0.61	2,154,187	2.03	0.38	12	Atlas		1,314,054	1
	6/11/2018 11:15	6/11/2018 14:00	165	0.54	1,869,009	0.63	0.18	12	Atlas		1,009,265	1
	6/12/2018	6/12/2018	0	0.54	289	0.68	0.18	48	Atlas		156	1
	6/12/2018 12:15	6/12/2018 12:30	15	0.54	3,411	0.86	0.18	48	Atlas		1,842	1
	6/16/2018 19:30	6/16/2018 19:30	0	0.23	4,065	1.21	0.18	48	Atlas		935	1
	6/22/2018 13:00	6/22/2018 15:00	120	0.27	1,802,381	0.73	0.20	1	Atlas		486,643	1
	6/27/2018 7:15	6/27/2018 7:15	0	0.61	1,223	2.1	0.25	12	Atlas		746	1
											20,875,059	20
CSO118												
CSO119	4/1/2018 20:00	4/1/2018 23:30	210	0.6	907,012	1.99	0.25	12	Atlas		544,207	1
	4/23/2018 5:15	4/23/2018 6:45	90	0.65	97,742	0.65	0.33	6	Atlas		63,532	1
	5/5/2018 14:00	5/5/2018 18:45	285	1.24	675,280	1.09	0.30	12	Atlas		837,347	1
	5/27/2018 4:00	5/27/2018 4:30	30	0.3	345,740	0.35	0.47	12	Atlas		103,722	1
	6/10/2018 14:45	6/10/2018 15:00	15	0.4	153,400	0.17	0.83	3	Atlas		61,360	1
	6/1/2018 0:30	6/1/2018 3:00	150	1.42	335,014	1.94	0.22	1	Atlas		475,720	1
	6/11/2018 11:00	6/11/2018 13:45	165	0.54	342,824	0.62	0.18	12	Atlas		185,125	1
											2,271,013	7
CSO120	4/1/2018 20:00	4/1/2018 23:15	195	0.63	290,673	1.95	0.18	48	Atlas		183,124	1
	4/15/2018 5:45	4/15/2018 9:00	195	0.95	35,728	0.94	0.31	48	Atlas		33,942	1
	4/14/2018 9:00	4/14/2018 9:45	45	0.95	30,620	0.26	0.02	12	Atlas		29,089	1
	4/23/2018 5:30	4/23/2018 5:30	0	0.67	2,058	0.56	0.31	48	Atlas		1,379	1
	4/3/2018 21:30	4/3/2018 21:30	0	0.49	86,927	2.41	0.34	6	Atlas		42,594	1
	4/7/2018 4:00	4/8/2018 0:30	1230	0.04	4,002,850	1.44	0.28	1	Atlas		160,114	1
	5/5/2018 15:30	5/5/2018 18:45	195	1.31	74,600	1.21	0.31	12	Atlas		97,726	1
	5/17/2018 15:30	5/17/2018 15:30	0	0.14	79,550	0.14	0.51	6	Atlas		11,137	1
	5/27/2018 4:30	5/27/2018 4:30	0	0.33	56,700	0.43	0.11	1	Atlas		18,711	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.4	1,855	0.19	#N/A	#N/A	#N/A		742	1
	6/11/2018 13:15	6/11/2018 13:30	15	0.24	307,725	0.6	0.18	12	Atlas		73,854	1
	6/25/2018 10:30	6/25/2018 11:30	60	0.93	113,171	1.58	0.14	1	Atlas		105,249	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.69	102,680	1.85	0.38	12	Atlas		70,849	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.29	158,903	0.65	0.15	1	Atlas		46,082	1
	6/1/2018 1:45	6/1/2018 5:15	210	1.35	119,444	2.07	0.24	1	Atlas		161,249	1
	6/1/2018 15:45	6/1/2018 15:45	0	Discharge	0	2.07	0.79	3	Atlas	Data Under Review	6,908	1
	6/2/2018 20:00	6/3/2018 6:45	645	Discharge	0	2.09	#N/A	#N/A	#N/A		30,792	1
											1,073,541	17
CSO121	4/3/2018 16:30	4/3/2018 21:45	315	0.49	445,839	2.44	0.34	6	Atlas		218,461	1
	4/1/2018 20:15	4/1/2018 23:30	195	0.63	401,500	1.95	0.28	12	Atlas		252,945	1
	4/15/2018 5:45	4/15/2018 9:00	195	0.95	36,588	0.94	0.31	48	Atlas		34,759	1
	4/23/2018 5:30	4/23/2018 7:00	90	0.67	5,161	0.67	0.31	48	Atlas		3,458	1
	4/14/2018 8:45	4/14/2018 9:45	60	0.95	51,325	0.26	0.28	1	Atlas		48,759	1
	5/5/2018 14:15	5/5/2018 18:45	270	1.31	556,242	1.21	0.31	12	Atlas		728,677	1
	5/27/2018 4:30	5/27/2018 4:30	0	0.33	18,112	0.43	0.51	6	Atlas		5,977	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.4	44,635	0.19	0.79	3	Atlas		17,854	1
	6/1/2018 0:30	6/1/2018 3:00	150	1.35	224,376	2	0.24	1	Atlas		302,908	1
	6/11/2018 11:30	6/11/2018 13:45	135	0.24	279,517	0.6	0.18	12	Atlas		67,084	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.29	9,779	0.65	0.15	1	Atlas		2,836	1
	6/12/2018 12:15	6/12/2018 18:15	360	0.29	87,479	0.86	0.14	1	Atlas		25,369	1
	6/20/2018 13:15	6/20/2018 13:15	0	0.29	38,238	0.21	0.14	1	Atlas		11,089	1
	6/21/2018 8:00	6/21/2018 15:30	450	0.18	160,333	0.41	0.19	3	Atlas		28,860	1
	6/22/2018 12:15	6/22/2018 13:00	45	0.23	523,243	0.61	0.11	1	Atlas		120,346	1
	6/24/2018 23:00	6/25/2018 10:00	660	0.93	268,315	1.22	0.11	3	Atlas		249,533	1
	6/26/2018 11:00	6/26/2018 11:30	30	Discharge	0	1.64	0.38	12	Atlas	Data Under Review	19,715	1
	6/26/2018 19:45	6/26/2018 19:45	0	0.69	54,441	1.96	#N/A	#N/A	#N/A		37,564	1
											2,176,194	18
CSO121												
CSO125	4/23/2018 5:45	4/23/2018 6:00	15	0.69	14,490	0.6	0.45	48	Atlas		9,998	1
	4/14/2018 23:30	4/15/2018 10:15	645	1.39	54,214	1.42	0.45	48	Atlas		75,358	1
	4/3/2018 16:30	4/3/2018 22:30	360	0.53	504,302	2.51	0.38	6	Atlas		267,280	1
	4/1/2018 20:15	4/2/2018 0:15	240	0.69	398,480	2.05	0.28	12	Atlas		274,951	1
	4/14/2018 9:30	4/14/2018 10:15	45	1.39	80,717	0.35	0.23	6	Atlas		112,196	1
	5/5/2018 14:15	5/5/2018 19:00	285	2.1	169,356	2	0.32	12	Atlas		355,648	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO125	6/1/2018 1:15	6/1/2018 1:15	0	1.08	236	1.06	0.95	6	Atlas		255	1
	6/22/2018 14:15	6/22/2018 15:15	60	0.43	69,640	0.81	0.18	1	Atlas		29,945	1
	6/25/2018 10:45	6/25/2018 12:15	90	0.87	65,552	1.69	0.01	1	Atlas		57,030	1
	6/10/2018 15:15	6/10/2018 15:15	0	0.4	1,050	0.17	0.55	3	Atlas		420	1
	6/11/2018 11:15	6/11/2018 13:15	120	0.33	57,597	0.65	0.18	12	Atlas		19,007	1
	6/24/2018 5:00	6/24/2018 5:00	0	0.01	388,800	0.84	0.21	6	Atlas		3,888	1
	6/26/2018 18:45	6/26/2018 19:30	45	0.82	30,491	2.2	0.35	12	Atlas		25,003	1
CSO125											1,230,979	13
CSO126	4/1/2018	4/1/2018	0	0.04	3,000	1.33	0.34	12	Atlas		120	1
	4/3/2018 16:30	4/3/2018 23:15	405	0.53	140,162	2.51	0.38	6	Atlas		74,286	1
	4/1/2018 20:45	4/2/2018 2:00	315	0.69	195,451	2.05	#N/A	#N/A	#N/A		134,861	1
	5/5/2018 14:15	5/5/2018 19:45	330	2.1	44,790	2.01	0.23	6	Atlas		94,060	1
	6/1/2018 1:15	6/1/2018 3:00	105	1.08	26,868	1.36	0.95	6	Atlas		29,017	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.87	28,886	1.51	0.21	6	Atlas		25,131	1
	6/22/2018 14:30	6/22/2018 14:30	0	0.43	22,144	0.81	0.55	3	Atlas		9,522	1
	6/26/2018 13:15	6/26/2018 23:00	585	0.82	25,744	2.46	0.35	12	Atlas		21,110	1
CSO126											388,107	8
CSO127	4/3/2018 16:15	4/3/2018 22:30	375	0.55	351,064	2.59	0.36	6	Atlas		193,085	1
	4/1/2018 20:15	4/2/2018 0:15	240	0.66	292,147	2.12	0.34	12	Atlas		192,817	1
	4/23/2018 5:15	4/23/2018 11:30	375	0.72	164,860	0.87	0.47	48	Atlas		118,699	1
	4/14/2018 9:00	4/14/2018 10:15	75	1.46	34,117	0.38	0.23	6	Atlas		49,811	1
	4/14/2018 22:45	4/15/2018 10:15	690	1.46	241,147	1.49	0.47	48	Atlas		352,075	1
	5/17/2018 15:45	5/17/2018 16:00	15	0.19	337,379	0.21	0.89	6	Atlas		64,102	1
	5/5/2018 13:45	5/5/2018 19:15	330	2.06	174,512	1.96	0.32	12	Atlas		359,494	1
CSO127											1,330,083	7
CSO130	5/5/2018 14:30	5/5/2018 14:30	0	1.58	10,122	0.93	0.16	1	Atlas		15,993	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.53	39,101	1.63	0.68	6	Atlas		59,825	1
	6/25/2018 10:45	6/25/2018 11:00	15	0.85	14,554	1.92	0.81	12	Atlas		12,371	1
	6/26/2018 13:00	6/26/2018 13:15	15	0.65	940	2.29	0.35	12	Atlas		611	1
CSO130											88,800	4
CSO132	4/1/2018	4/1/2018 0:45	45	0.04	899,700	1.26	0.25	12	Atlas		35,988	1
	4/1/2018 20:00	4/2/2018 4:15	495	0.68	2,152,479	1.97	#N/A	#N/A	#N/A		1,463,686	1
	4/14/2018 9:15	4/14/2018 10:15	60	1.07	159,113	0.25	0.05	1	Atlas		170,251	1
	4/23/2018 5:15	4/23/2018 11:30	375	0.67	110,266	0.8	0.35	24	Atlas		73,878	1
	4/14/2018 22:45	4/15/2018 10:30	705	1.07	543,140	1.1	0.35	24	Atlas		581,160	1
	4/3/2018 2:00	4/4/2018 2:45	1485	0.07	18,790,086	2.29	0.37	6	Atlas		1,315,306	1
	5/5/2018 13:45	5/5/2018 19:15	330	1.49	358,442	1.4	0.31	12	Atlas		534,079	1
	6/25/2018 10:15	6/25/2018 12:15	120	0.88	345,130	1.85	0.21	1	Atlas		303,714	1
	6/26/2018 12:30	6/26/2018 22:30	600	Discharge	0	2.42	0.36	12	Atlas	Data Under Review	332,369	1
	6/10/2018 14:30	6/10/2018 15:15	45	0.41	317,361	0.2	0.63	6	Atlas		130,118	1
	6/11/2018 11:15	6/11/2018 13:45	150	0.25	1,078,664	0.63	0.19	12	Atlas		269,666	1
	6/20/2018 12:45	6/20/2018 13:00	15	0.37	45,284	0.27	0.17	1	Atlas		16,755	1
	6/22/2018 13:45	6/22/2018 15:00	75	0.4	271,400	0.99	0.24	3	Atlas		108,560	1
CSO132											5,335,530	13
CSO140	4/1/2018 20:45	4/2/2018 9:15	750	0.65	101,297	1.94	#N/A	#N/A	#N/A		65,843	1
	4/3/2018 19:30	4/4/2018 4:00	510	0.45	193,531	2.36	0.36	6	Atlas		87,089	1
	4/15/2018 14:00	4/15/2018 16:45	165	1.09	26	1.13	0.25	6	Atlas		28	1
	5/5/2018 14:45	5/6/2018 2:45	720	1.44	27,374	1.47	0.37	24	Atlas		39,419	1
CSO140											192,379	4
CSO141	4/1/2018	5/30/2018 7:15	85395	0.03	639,681,067	6.83	0.59	6	Atlas		19,190,432	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.4	903	0.19	0.79	3	Atlas		361	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.35	18,103	1.71	#N/A	#N/A	#N/A		24,439	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.69	11,036	1.85	0.14	1	Atlas		7,615	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.29	352	0.65	0.18	12	Atlas		102	1
CSO141											19,222,949	5
CSO142	4/3/2018 19:15	4/3/2018 19:15	0	0.48	5,679	2.32	0.28	12	Atlas	Retained by the Sneads Branch	2,726	1
	5/5/2018 14:15	5/5/2018 15:15	60	1.31	32,310	0.83	0.26	6	Atlas	Retained by the Sneads Branch	42,326	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.47	6,630	0.21	0.84	1	Atlas	Retained by the Sneads Branch	3,116	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.57	17,101	1.74	0.50	12	Atlas	Retained by the Sneads Branch	26,848	1
	6/11/2018 11:15	6/11/2018 13:15	120	0.41	41,880	0.8	0.22	12	Atlas	Retained by the Sneads Branch	17,171	1
CSO142											92,187	5
CSO144	6/1/2018 1:15	6/1/2018 1:15	0	1.16	59,067	1.2	0.24	3	Atlas		68,518	1
CSO144											68,518	1
CSO148	4/1/2018 20:00	4/1/2018 23:00	180	0.57	22,728	1.98	0.60	3	Atlas		12,955	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO148	4/15/2018 5:45	4/15/2018 5:45	0	1.51	2,721	1.14	0.49	48	Atlas		4,108	1
	4/14/2018 9:00	4/14/2018 9:45	45	1.51	7,418	0.45	0.30	6	Atlas		11,201	1
	4/3/2018 19:15	4/3/2018 19:15	0	0.55	16,153	2.36	0.31	6	Atlas		8,884	1
	5/5/2018 14:00	5/5/2018 18:30	270	2.1	61,394	1.94	0.49	48	Atlas		128,927	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.23	4,500	0.62	0.18	1	Atlas		5,535	1
	5/27/2018 4:30	5/27/2018 4:30	0	0.26	13,162	0.24	0.89	6	Atlas		3,422	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.44	8,541	0.21	0.61	3	Atlas		3,758	1
	6/1/2018 0:30	6/1/2018 2:00	90	1.23	54,295	1.49	0.61	3	Atlas		66,783	1
	6/25/2018 10:15	6/25/2018 10:30	15	0.93	17,831	1.18	0.11	6	Atlas		16,583	1
	6/26/2018 12:30	6/26/2018 12:45	15	0.9	163,344	1.87	0.38	12	Atlas		147,010	1
	6/26/2018 21:15	6/26/2018 21:15	0	0.9	9,641	2.11	0.45	1	Atlas		8,677	1
	6/11/2018 11:00	6/11/2018 13:15	135	0.92	42,872	0.84	0.20	12	Atlas		39,442	1
	6/22/2018 13:45	6/22/2018 13:45	0	0.21	1,438	0.71	0.30	48	Atlas		302	1
											457,587	14
CSO148											563,884	1
CSO149	4/14/2018 23:30	4/15/2018 10:00	630	1	563,884	1.03	0.32	48	Atlas		1,229,601	1
	4/1/2018 20:15	4/1/2018 23:45	210	0.56	2,195,716	1.98	0.45	1	Atlas		88,239	1
	4/14/2018 9:30	4/14/2018 10:15	45	1	88,239	0.24	0.26	6	Atlas		234,561	1
	4/23/2018 5:30	4/23/2018 11:30	360	0.64	366,502	0.77	0.32	48	Atlas		272,927	1
	4/3/2018 16:45	4/3/2018 22:00	315	0.48	568,598	2.47	0.31	6	Atlas		479,146	1
	5/5/2018 12:30	5/5/2018 19:15	405	1.31	365,760	1.2	0.29	12	Atlas		257,406	1
	5/27/2018 4:30	5/27/2018 5:00	30	0.26	990,023	0.27	0.30	1	Atlas		19,844	1
	5/17/2018 16:30	5/17/2018 16:30	0	0.37	53,632	0.39	0.50	12	Atlas		49,265	1
	5/31/2018 14:30	5/31/2018 14:30	0	1.57	31,379	0.59	0.19	1	Atlas		151,650	1
	6/22/2018 14:15	6/22/2018 15:15	60	0.28	541,607	0.62	0.17	1	Atlas		601,508	1
	6/25/2018 10:45	6/25/2018 12:30	105	0.91	660,998	1.52	0.17	1	Atlas		737,086	1
	6/26/2018 13:00	6/26/2018 22:45	585	0.71	1,038,149	2.16	0.38	12	Atlas		1,761,295	1
	6/1/2018 0:45	6/1/2018 3:45	180	1.57	1,121,844	2.05	0.84	1	Atlas		178,244	1
	6/10/2018 15:15	6/10/2018 15:45	30	0.47	379,243	0.23	0.84	1	Atlas		609,948	1
	6/11/2018 11:15	6/11/2018 14:15	180	0.41	1,487,678	0.85	0.22	12	Atlas		125,839	1
	6/12/2018 12:15	6/12/2018 12:45	30	0.36	349,553	1.13	0.17	1	Atlas		580	1
	6/12/2018 0:15	6/12/2018 0:15	0	0.36	1,611	0.92	0.24	3	Atlas		7,361,023	17
CSO149											20,049	1
CSO150	4/3/2018 21:15	4/3/2018 22:00	45	0.39	51,408	2.44	0.34	6	Atlas		82,271	1
	4/1/2018 21:15	4/2/2018 0:30	195	0.62	132,695	2.07	0.30	12	Atlas		10,680	1
	4/15/2018 9:00	4/15/2018 9:30	30	0.89	12,000	0.91	0.21	6	Atlas		1,693	1
	5/22/2018 7:45	5/22/2018 7:45	0	0.25	6,772	0.45	0.70	6	Atlas		1,011	1
	5/27/2018 4:00	5/27/2018 4:00	0	0.93	1,087	0.79	0.20	1	Atlas		214,117	1
	5/5/2018 14:30	5/5/2018 20:15	345	1.66	128,986	1.57	0.29	24	Atlas		106,499	1
	6/1/2018 1:00	6/1/2018 4:45	225	1.72	61,918	2.83	0.50	1	Atlas		1,642	1
	6/22/2018 13:45	6/22/2018 13:45	0	0.41	4,005	1.32	0.23	1	Atlas		2,626	1
	6/11/2018 14:15	6/11/2018 14:45	30	0.94	2,794	0.94	0.87	3	Atlas		4,649	1
	6/21/2018 16:00	6/21/2018 16:00	0	0.39	11,921	0.85	0.35	24	Atlas		89,422	1
	6/25/2018 9:45	6/25/2018 13:15	210	0.82	109,051	2.35	0.20	6	Atlas		63,695	1
	6/26/2018 12:00	6/26/2018 14:45	165	Discharge	0	2.77	0.32	12	Atlas	Data Under Review	598,354	12
											41,273	1
											233,367	1
CSO150											1,114,194	1
CSO151	4/1/2018	4/1/2018 5:45	345	0.05	825,460	1.39	#N/A	#N/A	#N/A		310,969	1
	4/14/2018 9:30	4/14/2018 10:45	75	1.36	171,593	0.39	0.17	6	Atlas		534,776	1
	4/1/2018 20:00	4/2/2018 20:15	1455	0.6	1,856,990	1.99	#N/A	#N/A	#N/A		904,482	1
	4/23/2018 5:30	4/23/2018 12:45	435	0.67	464,133	0.84	0.44	48	Atlas		1,982,435	1
	4/3/2018 16:45	4/4/2018 0:30	465	0.32	1,671,175	2.3	0.33	6	Atlas		81,205	1
	4/14/2018 22:45	4/15/2018 12:15	810	1.36	665,060	1.39	0.44	48	Atlas		114,497	1
	5/5/2018 14:15	5/5/2018 22:30	495	1.57	1,262,697	1.53	0.31	12	Atlas		33,999	1
	5/17/2018 16:00	5/17/2018 16:45	45	0.28	290,018	0.31	0.61	12	Atlas		5,145	1
	5/31/2018 14:30	5/31/2018 15:45	75	1.4	81,784	0.59	0.05	3	Atlas		11,200	1
	5/27/2018 4:45	5/27/2018 5:15	30	0.22	154,541	0.22	0.23	1	Atlas		578,156	1
	5/30/2018 13:15	5/30/2018 13:30	15	0.09	57,167	0.45	0.15	1	Atlas		1,177,749	1
	6/21/2018 8:45	6/21/2018 15:45	420	0.09	124,444	0.47	#N/A	#N/A	#N/A		203,755	1
	6/11/2018 11:30	6/11/2018 15:30	240	0.47	1,230,119	0.82	0.19	12	Atlas		29,072	1
	6/1/2018 0:45	6/1/2018 4:30	225	1.4	841,249	1.86	0.74	3	Atlas		4,088	1
	6/10/2018 15:15	6/10/2018 21:45	390	0.42	485,131	0.41	0.74	3	Atlas		39,185	1
	6/16/2018 18:00	6/16/2018 18:15	15	Discharge	0	1.18	#N/A	#N/A	#N/A		197,574	1
	6/12/2018 0:15	6/12/2018 0:15	0	0.47	8,698	0.88	0.23	3	Atlas			
	6/12/2018 11:00	6/12/2018 11:30	30	Discharge	0	0.91	0.23	3	Atlas	Data Under Review		
	6/22/2018 12:45	6/22/2018 14:00	75	0.14	1,411,243	0.6	0.04	12	Atlas			

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO151	6/25/2018	6/25/2018 11:45	705	0.85	824,940	1.16	0.07	6	Atlas		701,199	1
	6/26/2018 11:30	6/26/2018 21:45	615	0.03	52,634,100	1.69	0.35	12	Atlas		1,579,023	1
CSO151											9,877,343	21
CSO152	4/1/2018	4/1/2018	0	0.04	2,250	1.36	0.03	1	Atlas		90	1
	4/3/2018 16:30	4/3/2018 22:30	360	0.41	1,049,212	2.35	0.31	6	Atlas		430,177	1
	4/1/2018 20:00	4/2/2018 0:15	255	0.56	1,329,932	1.95	#N/A	#N/A	#N/A		744,762	1
	4/14/2018 9:15	4/14/2018 10:30	75	1.16	199,079	0.31	0.22	6	Atlas		230,932	1
	4/23/2018 5:30	4/23/2018 12:15	405	0.68	505,124	0.8	0.38	48	Atlas		343,484	1
	4/14/2018 22:45	4/15/2018 10:30	705	1.16	448,653	1.18	0.38	48	Atlas		520,437	1
	5/17/2018 16:00	5/17/2018 16:45	45	0.32	291,922	0.34	0.49	12	Atlas		93,415	1
	5/31/2018 14:30	5/31/2018 15:30	60	1.56	10,985	0.61	0.19	1	Atlas		17,137	1
	5/27/2018 4:45	5/27/2018 5:15	30	0.25	507,100	0.26	0.26	1	Atlas		126,775	1
	5/5/2018 15:45	5/5/2018 19:00	195	1.28	62,113	1.15	0.30	12	Atlas		79,504	1
	6/21/2018 9:45	6/21/2018 9:45	0	0.13	23,892	0.43	0.23	1	Atlas		3,106	1
	6/25/2018 10:45	6/25/2018 12:30	105	0.88	479,539	1.34	0.11	1	Atlas		421,994	1
	6/12/2018 12:00	6/12/2018 12:30	30	0.34	136,806	1.03	0.16	1	Atlas		46,514	1
	6/26/2018 12:30	6/26/2018 22:45	615	0.64	1,038,350	1.94	0.36	12	Atlas		664,544	1
	6/1/2018 0:45	6/1/2018 4:15	210	1.56	618,529	2.05	0.88	1	Atlas		964,905	1
	6/10/2018 15:15	6/10/2018 16:00	45	0.43	315,981	0.21	0.88	1	Atlas		135,872	1
	6/12/2018 0:15	6/12/2018 0:15	0	0.34	20,459	0.83	0.20	3	Atlas		6,956	1
	6/11/2018 12:15	6/11/2018 14:45	150	0.35	286,329	0.77	0.20	12	Atlas		100,215	1
	6/16/2018 19:00	6/16/2018 19:15	15	0.26	247,135	1.41	0.16	1	Atlas		64,255	1
	6/22/2018 14:00	6/22/2018 15:00	60	0.21	461,095	0.67	0.06	12	Atlas		96,830	1
CSO152											5,091,904	20
CSO153	4/1/2018	4/1/2018 1:15	75	0.03	1,914,333	1.3	0.28	12	Atlas		57,430	1
	4/1/2018 20:00	4/1/2018 23:45	225	0.63	749,014	1.95	#N/A	#N/A	#N/A		471,879	1
	4/23/2018 5:15	4/23/2018 12:15	420	0.67	170,930	0.82	0.31	48	Atlas		114,523	1
	4/14/2018 9:00	4/14/2018 10:00	60	0.95	32,427	0.26	0.34	6	Atlas		30,806	1
	4/14/2018 23:15	4/15/2018 10:00	645	0.95	199,652	0.99	0.31	48	Atlas		189,669	1
	5/5/2018 14:15	5/5/2018 19:00	285	1.31	574,357	1.21	0.31	12	Atlas		752,408	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.33	252,776	0.43	0.51	6	Atlas		83,416	1
	6/10/2018 14:45	6/10/2018 21:15	390	0.4	127,195	0.39	0.79	3	Atlas		50,878	1
	6/1/2018 0:30	6/1/2018 3:15	165	1.35	246,532	2.02	0.24	1	Atlas		332,818	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.29	13,759	0.65	0.15	1	Atlas		3,990	1
	6/11/2018 11:15	6/11/2018 13:45	150	0.24	685,354	0.6	0.18	12	Atlas		164,485	1
	6/26/2018 14:00	6/26/2018 14:45	45	0.69	218,372	1.96	0.14	1	Atlas		150,677	1
CSO153											2,402,979	12
CSO154	4/1/2018	4/1/2018 1:00	60	0.04	6,316,575	1.26	0.28	12	Atlas		252,663	1
	4/1/2018 20:45	4/2/2018 4:00	435	0.68	1,256,353	1.97	#N/A	#N/A	#N/A		854,320	1
	4/3/2018 21:30	4/3/2018 23:45	135	0.3	900,723	2.24	0.37	6	Atlas		270,217	1
	5/5/2018 17:15	5/5/2018 18:45	90	1.49	51,109	1.4	0.16	6	Atlas		76,153	1
	6/1/2018 1:15	6/1/2018 2:15	60	1.18	123,886	1.51	0.63	6	Atlas		146,186	1
	6/11/2018 13:15	6/11/2018 13:15	0	0.25	10,852	0.62	0.69	3	Atlas		2,713	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.88	2,422	1.68	0.17	1	Atlas		2,131	1
	6/26/2018 13:15	6/26/2018 13:15	0	0.62	2,571	2.11	0.36	12	Atlas		1,594	1
	6/26/2018 21:30	6/26/2018 22:15	45	0.62	40,503	2.42	0.25	12	Atlas		25,112	1
CSO154											1,631,089	9
CSO155	4/1/2018 23:00	4/1/2018 23:00	0	0.71	2,693	2.23	0.25	12	Atlas		1,912	1
	4/15/2018 5:30	4/15/2018 5:30	0	0.95	3,060	0.7	0.39	6	Atlas		2,907	1
	5/27/2018 3:45	5/27/2018 4:30	45	1.23	25,259	0.99	0.21	1	Atlas		31,069	1
	5/22/2018 7:45	5/22/2018 7:45	0	0.27	51,037	0.45	0.04	1	Atlas		13,780	1
	5/5/2018 14:30	5/5/2018 17:15	165	2.03	55,210	1.8	0.31	48	Atlas		112,076	1
	5/27/2018 13:30	5/27/2018 13:30	0	1.23	2,118	1.44	0.60	1	Atlas		2,605	1
	6/1/2018	6/1/2018 1:30	90	1.6	26,664	2.56	0.60	1	Atlas		42,663	1
	5/10/2018 2:30	5/10/2018 2:30	0	0.05	65,500	2.11	0.89	6	Atlas		3,275	1
	6/10/2018 14:45	6/10/2018 14:45	0	0.66	10,374	0.31	0.75	6	Atlas		6,847	1
	6/11/2018 13:00	6/11/2018 13:15	15	0.22	51,727	0.84	0.29	12	Atlas		11,380	1
	6/25/2018 8:15	6/25/2018 8:15	0	0.84	29,218	2.5	0.14	1	Atlas		24,543	1
	6/26/2018 10:30	6/26/2018 10:45	15	Discharge	0	2.92	#N/A	#N/A	#N/A		10,113	1
CSO155											263,170	12
CSO160	5/5/2018 14:30	5/5/2018 14:45	15	1.49	20,507	0.8	0.33	12	Atlas		30,555	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.48	18,108	1.77	#N/A	#N/A	#N/A		26,800	1
CSO160											57,355	2
CSO161	4/3/2018 16:15	4/3/2018 19:00	165	0.31	10,890	2.13	0.59	12	Atlas		3,376	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO161	5/5/2018 14:15	5/5/2018 14:30	15	1.49	4,761	0.67	0.72	3	Atlas	Data Under Review	7,094	1
	5/27/2018 4:00	5/27/2018 4:00	0	0.42	588	0.46	0.17	6	Atlas		247	1
	6/26/2018 12:15	6/26/2018 12:15	0	Discharge	0	1.95	0.16	1	Atlas		1,814	1
	6/1/2018 1:00	6/1/2018 1:00	0	1.48	7,854	1.7	0.59	12	Atlas		11,624	1
	6/22/2018 14:00	6/22/2018 14:00	0	0.25	4,144	0.91	0.72	3	Atlas		1,036	1
	6/21/2018 16:15	6/21/2018 16:15	0	0.27	7,789	0.59	0.35	1	Atlas		2,103	1
CSO161											27,294	7
CSO166	4/1/2018 20:30	4/2/2018 2:45	375	0.66	1,610,792	2.12	#N/A	#N/A	#N/A		1,063,123	1
	4/1/2018	4/1/2018 0:30	30	0.05	213,060	1.43	0.11	6	Atlas		10,653	1
	4/14/2018 9:45	4/14/2018 10:30	45	1.46	80,733	0.4	0.36	6	Atlas		117,870	1
	4/14/2018 23:30	4/15/2018 11:00	690	1.46	119,855	1.49	0.23	6	Atlas		174,988	1
	4/3/2018 17:00	4/3/2018 23:45	405	0.55	778,209	2.6	#N/A	#N/A	#N/A		428,015	1
	5/5/2018 14:30	5/5/2018 20:00	330	2.06	496,353	1.96	0.47	48	Atlas		1,022,487	1
	5/17/2018 15:15	5/17/2018 15:15	0	0.19	15,547	0.09	0.47	48	Atlas		2,954	1
	5/18/2018 16:15	5/18/2018 16:15	0	0.1	202,480	0.28	0.89	6	Atlas		20,248	1
	6/1/2018 0:30	6/1/2018 4:00	210	1.07	1,892,005	1.44	0.16	1	Atlas		2,024,445	1
	6/11/2018 11:30	6/11/2018 14:15	165	0.6	825,543	0.83	0.53	3	Atlas		495,326	1
	6/10/2018 15:15	6/10/2018 15:45	30	0.39	398,531	0.16	0.04	1	Atlas		155,427	1
	6/25/2018 8:15	6/25/2018 10:00	105	0.97	225,167	1.14	0.28	3	Atlas		218,412	1
	6/22/2018 11:30	6/22/2018 12:45	75	0.4	341,905	0.39	0.18	12	Atlas		136,762	1
	6/26/2018 10:15	6/26/2018 20:00	585	0.02	206,102,200	2.12	#N/A	#N/A	#N/A		4,122,044	1
CSO166											9,992,754	14
CSO167	4/23/2018 5:45	4/23/2018 11:30	345	0.67	18,448	0.8	0.16	6	Atlas		12,360	1
	4/1/2018		0	0.04	2,575	1.26	0.21	1	Atlas		103	1
	4/14/2018 23:30	4/15/2018 10:00	630	1.07	118,664	1.09	0.37	6	Atlas		126,970	1
	4/3/2018 16:30	4/3/2018 22:45	375	0.3	417,337	2.28	0.02	1	Atlas		125,201	1
	4/1/2018 20:00	4/2/2018 0:45	285	0.68	286,915	1.97	0.40	12	Atlas		195,102	1
	4/14/2018 9:15	4/14/2018 10:15	60	1.07	40,140	0.25	#N/A	#N/A	#N/A		42,950	1
	5/31/2018 14:15	5/31/2018 14:30	15	0.13	69,946	0.52	0.31	12	Atlas		9,093	1
	5/5/2018 14:15	5/5/2018 19:15	300	1.49	303,748	1.4	0.35	24	Atlas		452,584	1
	5/27/2018 4:15	5/27/2018 4:45	30	0.31	23,774	0.49	0.35	24	Atlas		7,370	1
	6/10/2018 15:00	6/10/2018 15:30	30	0.41	49,276	0.21	0.21	3	Atlas		20,203	1
	6/11/2018 13:15	6/11/2018 14:00	45	0.25	422,788	0.63	0.09	3	Atlas		105,697	1
	6/1/2018 0:45	6/1/2018 3:45	180	1.18	245,427	1.72	0.63	6	Atlas		289,604	1
	6/22/2018 12:15	6/22/2018 13:15	60	0.4	112,038	0.75	0.69	3	Atlas		44,815	1
	6/26/2018 11:00	6/26/2018 20:15	555	Discharge	0	2.19	0.17	1	Atlas		121,348	1
	6/25/2018 8:45	6/25/2018 10:30	105	0.88	139,227	1.68	0.19	12	Atlas		122,520	1
CSO167											1,675,920	15
CSO174	5/5/2018 14:30	5/5/2018 15:15	45	1.31	1,055,732	0.83	#N/A	#N/A	#N/A	Retained by the Sneads Branch	1,383,009	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.37	464,551	0.37	0.21	1	Atlas		171,884	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.57	92,623	1.74	#N/A	#N/A	#N/A	Retained by the Sneads Branch	145,418	1
	6/26/2018 12:30	6/26/2018 12:45	15	0.71	1,570,682	1.7	0.36	12	Atlas	Retained by the Sneads Branch	1,115,184	1
CSO174											2,815,495	4
CSO178	4/1/2018 20:30	4/1/2018 23:30	180	0.61	346,402	2.04	#N/A	#N/A	#N/A		211,305	1
	4/3/2018 16:30	4/3/2018 16:30	0	0.48	441,317	2.29	0.50	12	Atlas		211,832	1
	5/5/2018 15:00	5/5/2018 15:30	30	1.69	412,235	1.24	0.30	1	Atlas		696,677	1
	5/27/2018 4:15	5/27/2018 4:45	30	0.46	1,448,378	0.52	0.84	1	Atlas		666,254	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.61	317,028	0.36	0.33	6	Atlas		193,387	1
	6/11/2018 11:30	6/11/2018 13:30	120	0.28	956,875	0.85	0.26	6	Atlas		267,925	1
	6/1/2018 0:45	6/1/2018 1:45	60	1.36	609,724	1.76	0.30	12	Atlas		829,225	1
CSO178											3,076,605	7
CSO179	6/1/2018 1:15	6/1/2018 1:15	0	1.57	1,426	1.74	0.67	12	Atlas		2,239	1
CSO179											2,239	1
CSO180	4/3/2018 16:15	4/3/2018 21:00	285	0.48	47,469	2.45	0.65	3	Atlas	Retained by the Sneads Branch	22,785	1
	4/14/2018 9:30	4/14/2018 9:30	0	1	292	0.23	0.30	1	Atlas	Retained by the Sneads Branch	292	1
	4/1/2018 20:00	4/1/2018 23:00	180	0.56	9,229	1.98	0.37	1	Atlas	Retained by the Sneads Branch	5,168	1
	4/15/2018 5:30	4/15/2018 5:30	0	1	14,051	0.74	0.16	3	Atlas	Retained by the Sneads Branch	14,051	1
	5/5/2018 14:15	5/5/2018 18:15	240	1.31	111,850	1.16	0.84	1	Atlas		146,523	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.26	54,962	0.24	0.26	6	Atlas	Retained by the Sneads Branch	14,290	1
	5/17/2018 15:30	5/17/2018 15:45	15	0.37	75,341	0.37	0.31	6	Atlas		27,876	1
	6/1/2018 1:00	6/1/2018 2:00	60	1.57	38,220	1.81	0.32	48	Atlas	Retained by the Sneads Branch	60,005	1
	6/10/2018 14:45	6/10/2018 15:00	15	0.47	38,315	0.21	0.32	48	Atlas	Retained by the Sneads Branch	18,008	1
	6/11/2018 11:00	6/11/2018 13:15	135	0.41	93,390	0.8	0.50	12	Atlas	Retained by the Sneads Branch	38,290	1
	6/26/2018 12:00	6/26/2018 12:30	30	Discharge	0	1.59	0.84	1	Atlas	Data Under Review	70,523	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO180	6/22/2018 14:00	6/22/2018 14:00	0	0.28	40,125	0.49	0.30	1	Atlas	Retained by the Sneads Branch	11,235	1
	6/25/2018 10:00	6/25/2018 10:00	0	0.91	45,545	1.14	0.19	1	Atlas		41,446	1
CSO180											470,492	13
CSO181	4/3/2018 16:30	4/3/2018 16:30	0	0.4	472,555	2.16	0.22	12	Atlas		189,022	1
	5/5/2018 14:45	5/5/2018 15:00	15	1.51	5,176,293	1	0.24	3	Atlas		7,816,203	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.34	48,918,388	0.4	#N/A	#N/A	#N/A		16,632,252	1
	6/1/2018 1:15	6/1/2018 1:30	15	1.37	41,276,346	1.61	0.17	1	Atlas		56,548,594	1
	6/25/2018 10:45	6/25/2018 10:45	0	0.87	102,201,978	1.33	0.38	12	Atlas		88,915,721	1
	6/26/2018 13:00	6/26/2018 13:00	0	0.59	70,150,247	1.73	#N/A	#N/A	#N/A		41,388,646	1
CSO181											211,490,438	6
CSO182	4/3/2018 16:15	4/3/2018 22:30	375	0.54	42,544	2.4	0.27	1	Atlas	Retained by the Sneads Branch	22,974	1
	4/14/2018 9:00	4/14/2018 10:15	75	1.12	18,343	0.27	0.69	3	Atlas	Retained by the Sneads Branch	20,544	1
	4/14/2018 22:30	4/15/2018 10:30	720	1.12	85,222	1.14	0.35	12	Atlas	Retained by the Sneads Branch	95,449	1
	4/23/2018 5:00	4/23/2018 11:45	405	0.63	64,416	0.76	0.24	12	Atlas	Retained by the Sneads Branch	40,582	1
	4/1/2018 4:00	4/1/2018 4:00	0	0.05	180	1.34	0.22	6	Atlas	Retained by the Sneads Branch	9	1
	4/1/2018 19:45	4/2/2018 1:00	315	0.54	95,580	1.88	0.58	12	Atlas	Retained by the Sneads Branch	51,613	1
	5/5/2018 12:15	5/5/2018 20:00	465	1.31	129,931	1.17	#N/A	#N/A	#N/A		170,210	1
	5/31/2018 14:00	5/31/2018 15:15	75	1.62	69,115	0.92	0.29	12	Atlas	Retained by the Sneads Branch	111,967	1
	5/17/2018 15:30	5/17/2018 16:15	45	0.46	434,339	0.48	0.30	6	Atlas	Retained by the Sneads Branch	199,796	1
	5/27/2018 4:30	5/27/2018 5:00	30	0.43	265,177	0.43	0.30	6	Atlas	Retained by the Sneads Branch	114,026	1
	5/28/2018 21:15	5/28/2018 21:15	0	0.12	5,008	0.57	0.37	24	Atlas	Retained by the Sneads Branch	601	1
	5/30/2018 13:00	5/30/2018 13:00	0	0.09	28,478	0.74	0.37	24	Atlas	Retained by the Sneads Branch	2,563	1
	6/10/2018 15:00	6/10/2018 21:45	405	0.5	163,074	0.49	0.37	1	Atlas	Retained by the Sneads Branch	81,537	1
	6/26/2018 12:15	6/26/2018 21:30	555	0.77	44,839	2.1	0.29	3	Atlas		34,526	1
	6/1/2018 0:30	6/1/2018 4:00	210	1.62	262,196	2.35	0.49	12	Atlas	Retained by the Sneads Branch	424,757	1
	6/11/2018 23:45	6/12/2018	15	0.83	9,949	1.02	0.07	6	Atlas	Retained by the Sneads Branch	8,258	1
	6/11/2018 11:15	6/11/2018 14:15	180	0.83	171,919	0.96	0.33	1	Atlas	Retained by the Sneads Branch	142,693	1
	6/25/2018	6/25/2018 11:15	675	0.92	165,558	1.42	0.29	3	Atlas		152,313	1
	6/12/2018 10:45	6/12/2018 11:30	45	0.83	26,848	1.06	0.05	1	Atlas	Retained by the Sneads Branch	22,284	1
	6/20/2018 13:00	6/20/2018 14:30	90	Discharge	0	0.11	0.87	3	Atlas	Data Under Review	15,962	1
	6/21/2018 15:15	6/21/2018 15:30	15	0.12	118,500	0.23	0.87	3	Atlas	Retained by the Sneads Branch	14,220	1
	6/22/2018 11:15	6/22/2018 13:45	150	0.37	25,241	0.48	0.23	12	Atlas	Retained by the Sneads Branch	9,339	1
CSO182											1,736,223	22
CSO183	5/5/2018 14:45	5/5/2018 15:15	30	1.38	833	0.86	0.29	3	Atlas	Retained by the Sneads Branch	1,149	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.48	3,000	0.47	#N/A	#N/A	#N/A		1,440	1
	6/1/2018 0:30	6/1/2018 1:15	45	1.31	892	1.63	0.06	12	Atlas	Retained by the Sneads Branch	1,168	1
CSO183											3,757	3
CSO184	5/5/2018 14:45	5/5/2018 15:15	30	1.38	56,901	0.86	0.20	6	Atlas	Retained by the Sneads Branch	78,523	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.48	65,852	0.47	0.37	12	Atlas		31,609	1
	6/1/2018 0:30	6/1/2018 0:30	0	1.31	1,360	1.07	0.33	12	Atlas	Retained by the Sneads Branch	1,781	1
CSO184											111,913	3
CSO185	4/15/2018 5:45	4/15/2018 5:45	0	1.27	6,408	0.94	0.38	1	Atlas	Retained by the Sneads Branch	8,138	1
	4/1/2018 23:15	4/1/2018 23:15	0	0.51	7,143	1.79	0.52	24	Atlas	Retained by the Sneads Branch	3,643	1
	5/31/2018 14:15	5/31/2018 14:15	0	1.31	1,729	0.85	0.38	1	Atlas	Retained by the Sneads Branch	2,265	1
	5/5/2018 14:45	5/5/2018 18:15	210	1.38	265,341	1.22	0.65	3	Atlas		366,170	1
	5/17/2018 15:45	5/17/2018 16:00	15	0.48	108,835	0.48	0.52	24	Atlas		52,241	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.41	16,922	0.17	0.28	6	Atlas	Retained by the Sneads Branch	6,938	1
	6/11/2018 11:30	6/11/2018 13:30	120	0.81	7,206	0.74	0.42	24	Atlas	Retained by the Sneads Branch	5,837	1
	6/26/2018 12:30	6/26/2018 13:00	30	0.81	7,381	2	0.38	1	Atlas	Retained by the Sneads Branch	5,979	1
	6/26/2018 21:15	6/26/2018 21:15	0	0.81	174	2.25	0.65	3	Atlas	Retained by the Sneads Branch	141	1
	6/25/2018 10:30	6/25/2018 10:45	15	0.92	1,224	1.46	0.52	24	Atlas		1,126	1
	6/1/2018 0:45	6/1/2018 2:15	90	1.31	24,079	1.82	0.65	3	Atlas	Retained by the Sneads Branch	31,544	1
CSO185											484,022	11
CSO187	6/1/2018 1:00	6/1/2018 1:00	0	1.57	48	1.41	0.65	3	Atlas	Retained by the Sneads Branch	75	1
CSO187											75	1
CSO189	4/14/2018 9:30	4/14/2018 10:30	60	1.23	199,423	0.47	0.38	12	Atlas		245,290	1
	4/15/2018 5:45	4/15/2018 10:30	285	1.23	1,365,603	1.25	0.36	12	Atlas		1,679,692	1
	4/1/2018 20:45	4/2/2018 1:00	255	0.8	5,359,054	2.48	0.18	12	Atlas		4,287,243	1
	4/3/2018 21:30	4/3/2018 22:45	75	0.35	1,670,846	2.7	0.26	48	Atlas		584,796	1
	4/23/2018 6:15	4/23/2018 7:45	90	0.65	45,492	0.76	0.36	12	Atlas		29,570	1
	5/27/2018 3:45	5/27/2018 6:45	180	1.15	6,690,700	1.32	0.44	6	Atlas		7,694,305	1
	5/31/2018 14:15	5/31/2018 15:15	60	1.91	183,235	1.89	0.19	6	Atlas		349,979	1
	6/1/2018	6/1/2018 5:30	330	1.91	5,091,996	3.47	0.42	24	Atlas		9,725,713	1
	5/22/2018 8:00	5/22/2018 8:45	45	0.24	342,679	0.63	0.84	1	Atlas		82,243	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO189	6/11/2018 13:30	6/11/2018 14:45	75	0.23	1,279,557	0.68	0.32	3	Atlas		294,298	1
	6/10/2018 15:00	6/10/2018 16:00	60	0.49	1,809,961	0.3	0.42	24	Atlas		886,881	1
	6/20/2018 12:15	6/20/2018 14:15	120	0.57	4,720,763	0.25	0.86	1	Atlas		2,690,835	1
	6/26/2018 10:30	6/26/2018 20:45	615	Discharge	0	3.31	0.13	1	Atlas	Data Under Review	5,095,160	1
	6/22/2018 11:15	6/22/2018 17:15	360	0.83	434,939	2.04	0.93	3	Atlas		360,999	1
	6/12/2018 12:45	6/12/2018 13:00	15	0.14	68,379	0.86	0.19	1	Atlas		9,573	1
	6/21/2018 7:15	6/21/2018 16:00	525	0.67	4,204,263	0.94	0.93	3	Atlas		2,816,856	1
	6/25/2018 8:30	6/25/2018 11:00	150	0.85	1,622,382	2.78	0.24	1	Atlas		1,379,025	1
CSO189											38,212,458	17
CSO190	4/3/2018 16:15	4/3/2018 21:30	315	0.39	3,667	2.61	0.40	1	Atlas		1,430	1
	4/1/2018 19:30	4/1/2018 23:15	225	0.71	2,215	2.23	0.11	1	Atlas		1,573	1
	5/22/2018 7:45	5/22/2018 7:45	0	0.27	1,063	0.45	#N/A	#N/A	#N/A		287	1
	5/27/2018 3:30	5/27/2018 4:30	60	1.23	223,550	0.99	0.39	6	Atlas		274,966	1
	5/10/2018 2:15	5/10/2018 2:30	15	0.05	10,860	2.11	0.46	3	Atlas		543	1
	5/31/2018 23:45	6/1/2018 3:30	225	1.6	723,598	3.01	0.10	1	Atlas		1,157,756	1
	5/30/2018 10:15	5/30/2018 10:30	15	0.08	1,188	1.43	0.89	6	Atlas		95	1
	5/17/2018 15:30	5/17/2018 15:45	15	0.13	1,831	0.13	0.33	12	Atlas		238	1
	5/5/2018 12:00	5/5/2018 15:30	210	2.03	501,163	1.6	0.30	12	Atlas		1,017,360	1
	5/27/2018 13:00	5/27/2018 16:15	195	1.23	34,114	1.5	0.21	6	Atlas		41,960	1
	5/31/2018 13:45	5/31/2018 15:00	75	1.6	652	1.64	0.04	1	Atlas		1,043	1
	6/10/2018 14:45	6/10/2018 21:15	390	0.66	14,579	0.63	0.21	1	Atlas		9,622	1
	6/11/2018 13:00	6/11/2018 13:30	30	0.22	119,068	0.84	0.60	1	Atlas		26,195	1
	6/26/2018 12:45	6/26/2018 13:15	30	0.75	568,556	3.26	0.14	1	Atlas		426,417	1
	6/21/2018 9:15	6/21/2018 17:30	495	0.48	1,844	1.35	0.75	6	Atlas		885	1
	6/22/2018 13:00	6/22/2018 19:00	360	0.72	3,122	2.06	0.75	6	Atlas		2,248	1
	6/26/2018 21:30	6/26/2018 22:15	45	0.75	108	3.56	0.23	1	Atlas		81	1
	6/12/2018 11:45	6/12/2018 12:15	30	0.32	313	1.19	0.60	1	Atlas		100	1
	6/20/2018 12:30	6/20/2018 15:15	165	0.87	83,529	0.89	0.05	1	Atlas		72,670	1
	6/25/2018 4:15	6/25/2018 12:15	480	0.84	103,718	2.9	0.29	12	Atlas		87,123	1
CSO190											3,122,592	20
CSO193	5/5/2018 14:45	5/5/2018 15:15	30	1.69	3,543	1.22	0.57	3	Atlas		5,988	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.46	1,087	0.51	0.36	6	Atlas		500	1
	5/17/2018 16:00	5/17/2018 16:00	0	0.52	4	0.53	0.22	12	Atlas		2	1
	6/11/2018 11:15	6/11/2018 13:30	135	0.28	211	0.85	0.33	12	Atlas		59	1
CSO193											6,549	4
CSO195	4/1/2018 23:00	4/1/2018 23:00	0	0.63	3	2.06	0.30	12	Atlas		2	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.45	71,061	1.66	0.30	12	Atlas		103,038	1
	6/25/2018 10:30	6/25/2018 10:30	0	0.88	1,568	1.41	0.67	12	Atlas		1,380	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.78	354	1.8	0.43	1	Atlas		276	1
CSO195											104,696	4
CSO196	4/14/2018 9:45	4/14/2018 9:45	0	0.91	15	0.19	0.34	6	Atlas		14	1
	4/3/2018 16:30	4/3/2018 21:15	285	0.62	4,673	2.66	0.16	3	Atlas		2,897	1
	4/1/2018 20:15	4/1/2018 23:15	180	0.63	1,256	2.06	0.37	1	Atlas		791	1
	4/15/2018 5:45	4/15/2018 5:45	0	0.91	3	0.67	0.72	3	Atlas		3	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.28	17,525	0.28	0.34	6	Atlas		4,907	1
	5/5/2018 12:15	5/5/2018 18:30	375	1.44	9,868	1.38	0.35	12	Atlas		14,210	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.45	464	0.63	0.34	6	Atlas		673	1
	5/17/2018 15:30	5/17/2018 16:00	30	0.48	6,408	0.48	0.33	12	Atlas		3,076	1
	6/10/2018 15:00	6/10/2018 15:15	15	0.92	5,922	0.24	0.30	24	Atlas		5,448	1
	6/1/2018 1:15	6/1/2018 2:15	60	1.45	37,572	1.76	0.30	24	Atlas		54,479	1
	6/25/2018 10:15	6/25/2018 10:15	0	0.88	224	1.35	0.21	1	Atlas		197	1
	6/26/2018 12:45	6/26/2018 12:45	0	0.78	100	1.8	0.72	3	Atlas		78	1
	6/11/2018 11:00	6/11/2018 13:30	150	0.92	23,960	0.87	0.56	12	Atlas		22,043	1
	6/22/2018 14:30	6/22/2018 14:30	0	0.44	30	0.68	0.39	1	Atlas		13	1
CSO196											108,829	14
CSO197	4/3/2018 16:15	4/3/2018 21:30	315	0.62	82,595	2.66	0.34	24	Atlas		51,209	1
	4/14/2018 9:00	4/14/2018 10:00	60	0.91	23,859	0.19	0.34	24	Atlas		21,712	1
	4/14/2018 22:30	4/15/2018 9:30	660	0.91	47,374	0.93	0.26	1	Atlas		43,110	1
	4/1/2018 19:45	4/1/2018 23:15	210	0.63	91,875	2.06	0.72	3	Atlas		57,881	1
	4/23/2018 4:45	4/23/2018 11:15	390	0.59	36,217	0.7	0.35	12	Atlas		21,368	1
	5/27/2018 4:00	5/27/2018 4:45	45	0.28	65,900	0.29	0.34	6	Atlas		18,452	1
	6/1/2018	6/1/2018 3:30	210	1.45	45,806	1.97	0.30	24	Atlas		66,419	1
	5/31/2018 14:00	5/31/2018 15:00	60	1.45	6,032	0.71	0.30	24	Atlas		8,747	1
	5/17/2018 15:15	5/17/2018 16:15	60	0.48	70,158	0.48	0.34	6	Atlas		33,676	1

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO197	5/5/2018 12:00	5/5/2018 18:45	405	1.44	99,792	1.39	0.33	12	Atlas		143,701	1
	6/10/2018 14:45	6/10/2018 21:30	405	0.92	20,896	0.5	0.27	12	Atlas		19,224	1
	6/11/2018 11:00	6/11/2018 14:00	180	0.92	53,388	0.89	0.56	12	Atlas		49,117	1
	6/11/2018 23:45	6/11/2018 23:45	0	0.35	2,709	0.95	0.39	1	Atlas		948	1
	6/12/2018 11:45	6/12/2018 12:30	45	0.35	29,586	1.16	0.21	1	Atlas		10,355	1
CSO197											545,919	14
CSO198	4/3/2018 16:15	4/3/2018 21:15	300	0.62	17,808	2.66	0.72	3	Atlas		11,041	1
	4/1/2018 20:00	4/1/2018 23:00	180	0.63	11,186	2.06	0.72	3	Atlas		7,047	1
	4/15/2018 5:30	4/15/2018 8:45	195	0.91	2,612	0.88	0.34	24	Atlas		2,377	1
	4/14/2018 9:00	4/14/2018 9:45	45	0.91	3,360	0.19	0.34	24	Atlas		3,058	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.28	25,368	0.28	0.34	6	Atlas		7,103	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.45	675	0.63	0.34	6	Atlas		979	1
	5/17/2018 15:15	5/17/2018 16:00	45	0.48	29,473	0.48	0.17	1	Atlas		14,147	1
	5/5/2018 12:00	5/5/2018 18:30	390	1.44	22,028	1.38	0.17	1	Atlas		31,721	1
	6/1/2018 1:00	6/1/2018 2:30	90	1.45	41,646	1.79	0.30	24	Atlas		60,386	1
	6/10/2018 14:45	6/10/2018 15:00	15	0.92	4,320	0.24	0.30	24	Atlas		3,974	1
	6/11/2018 11:00	6/11/2018 13:30	150	0.92	11,313	0.87	0.56	12	Atlas		10,408	1
CSO198											152,241	11
CSO199	4/14/2018 9:45	4/14/2018 9:45	0	0.91	67	0.19	0.72	3	Atlas		61	1
	4/3/2018 16:30	4/3/2018 19:15	165	0.62	1,153	2.5	0.21	1	Atlas		715	1
	4/1/2018 20:15	4/1/2018 23:15	180	0.63	1,152	2.06	0.39	1	Atlas		726	1
	4/15/2018 5:45	4/15/2018 5:45	0	0.91	57	0.67	0.72	3	Atlas		52	1
	5/5/2018 14:45	5/5/2018 18:30	225	1.44	4,298	1.38	0.34	24	Atlas		6,189	1
	5/27/2018 4:15	5/27/2018 5:00	45	0.28	1,239	0.29	0.34	6	Atlas		347	1
	5/31/2018 14:00	5/31/2018 14:15	15	1.45	723	0.63	0.34	6	Atlas		1,048	1
	5/17/2018 15:30	5/17/2018 16:00	30	0.48	5,008	0.48	0.34	24	Atlas		2,404	1
	6/10/2018 15:00	6/10/2018 15:45	45	0.92	2,182	0.26	0.30	24	Atlas		2,007	1
	6/1/2018 1:15	6/1/2018 2:45	90	1.45	5,654	1.85	0.30	24	Atlas		8,198	1
	6/25/2018 10:15	6/25/2018 11:15	60	0.88	252	1.49	0.72	3	Atlas		222	1
	6/11/2018 11:00	6/11/2018 14:00	180	0.92	7,997	0.89	0.56	12	Atlas		7,357	1
	6/12/2018 12:15	6/12/2018 12:45	30	0.35	569	1.16	0.39	1	Atlas		199	1
	6/22/2018 13:45	6/22/2018 15:00	75	0.44	39	0.68	0.21	1	Atlas		17	1
CSO199											29,542	14
CSO200	5/5/2018 14:45	5/5/2018 15:15	30	1.44	4,817	1.06	0.72	3	Atlas		6,936	1
	5/27/2018 4:15	5/27/2018 4:15	0	0.28	1,161	0.26	0.34	24	Atlas		325	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.48	3,865	0.47	0.34	24	Atlas		1,855	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.92	349	0.24	0.26	1	Atlas		321	1
	6/1/2018 1:00	6/1/2018 1:45	45	1.45	9,455	1.69	0.17	1	Atlas		13,710	1
	6/11/2018 11:00	6/11/2018 13:15	135	0.92	1,404	0.85	0.35	12	Atlas		1,292	1
	6/25/2018 7:15	6/25/2018 7:30	15	0.88	13,694	1.23	0.56	12	Atlas		12,051	1
CSO200											36,490	7
CSO202	4/1/2018 23:00	4/1/2018 23:00	0	0.63	79	2.06	0.39	1	Atlas		50	1
	4/3/2018 16:30	4/3/2018 19:15	165	0.62	229	2.5	0.21	1	Atlas		142	1
	5/5/2018 14:45	5/5/2018 18:30	225	1.44	4,919	1.38	0.72	3	Atlas		7,083	1
	5/27/2018 4:15	5/27/2018 4:30	15	0.28	2,536	0.28	0.34	24	Atlas		710	1
	5/31/2018 14:00	5/31/2018 14:00	0	1.45	741	0.63	0.35	12	Atlas		1,075	1
	5/17/2018 15:30	5/17/2018 16:00	30	0.48	1,340	0.48	0.34	24	Atlas		643	1
	6/10/2018 15:00	6/10/2018 15:00	0	0.92	783	0.24	0.34	6	Atlas		720	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.45	3,654	1.66	#N/A	#N/A	#N/A		5,299	1
	6/11/2018 11:00	6/11/2018 13:15	135	0.92	7,740	0.85	0.34	6	Atlas		7,121	1
	6/22/2018 11:00	6/22/2018 13:45	165	0.44	111	0.4	0.56	12	Atlas		49	1
	6/25/2018 6:45	6/25/2018 10:30	225	0.88	120	1.41	0.39	1	Atlas		106	1
CSO202											22,998	11
CSO203	5/17/2018 15:45	5/17/2018 15:45	0	0.48	23	0.47	0.72	3	Atlas		11	1
	5/5/2018 15:15	5/5/2018 15:15	0	1.44	2,083	1.06	0.21	1	Atlas		3,000	1
	6/1/2018 1:15	6/1/2018 1:15	0	1.45	8,215	1.66	0.72	3	Atlas		11,912	1
CSO203											14,923	3
CSO205	4/14/2018 9:45	4/14/2018 9:45	0	1.12	8	0.25	0.26	1	Atlas	Retained by the Sneads Branch	9	1
	4/3/2018 16:30	4/3/2018 21:45	315	0.54	8,013	2.4	0.34	24	Atlas	Retained by the Sneads Branch	4,327	1
	4/1/2018 20:15	4/1/2018 23:30	195	0.54	1,019	1.88	0.34	24	Atlas	Retained by the Sneads Branch	550	1
	5/5/2018 14:45	5/5/2018 18:15	210	1.31	37	1.13	0.35	12	Atlas		49	1
	5/17/2018 15:45	5/17/2018 15:45	0	0.46	178	0.46	0.56	12	Atlas		82	1
	5/31/2018 13:45	5/31/2018 13:45	0	1.62	1	0.84	0.39	1	Atlas	Retained by the Sneads Branch	2	1
CSO205											5,019	6

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Discharge Volume per Rainfall	Antecedent Rain	Frequency	Period	Standard	Comments	Sum of Overflow Volume (Gal)	Count of Key
CSO210	4/1/2018 20:30	4/2/2018 3:15	405	0.66	20,501,920	2.34	0.72	3	Atlas		13,531,267	1
	4/23/2018 5:45	4/23/2018 9:30	225	0.53	11,498,609	0.59	0.49	12	Atlas		6,094,263	1
	4/3/2018 20:00	4/4/2018	240	0.29	22,528,972	2.53	0.30	6	Atlas		6,533,402	1
	4/14/2018 10:30	4/14/2018 12:00	90	1.19	1,542,522	0.43	0.30	6	Atlas		1,835,601	1
	4/15/2018 1:30	4/15/2018 12:15	645	1.19	12,752,692	1.24	0.37	24	Atlas		15,175,704	1
	5/5/2018 12:00	5/5/2018 22:15	615	1.18	16,371,063	1.18	0.37	1	Atlas		19,317,854	1
	5/31/2018 13:45	6/1/2018 7:30	1065	1.7	10,084,338	3.44	0.36	6	Atlas		17,143,375	1
	5/27/2018 3:15	5/27/2018 8:00	285	1.3	7,610,533	1.39	0.87	3	Atlas		9,893,693	1
	6/10/2018 14:45	6/10/2018 17:15	150	1.01	1,371,336	0.35	0.16	6	Atlas		1,385,049	1
	6/11/2018 13:00	6/11/2018 16:45	225	1.01	5,111,262	1.02	0.40	24	Atlas		5,162,375	1
CSO210											96,072,583	10
CSO211	4/3/2018 21:15	4/4/2018 0:30	195	0.29	3,172,152	2.53	0.27	3	Atlas		919,924	1
	4/23/2018 6:30	4/23/2018 7:00	30	0.53	1,712,179	0.58	1.13	1	Atlas		907,455	1
	4/1/2018 21:00	4/2/2018 0:45	225	0.66	3,649,738	2.34	0.40	24	Atlas		2,408,827	1
	4/15/2018 7:15	4/15/2018 10:45	210	1.19	1,717,058	1.24	0.45	12	Atlas		2,043,299	1
	5/27/2018 4:00	5/27/2018 6:45	165	1.3	10,567,825	1.39	0.38	24	Atlas		13,738,172	1
	5/5/2018 14:45	5/5/2018 20:45	360	1.18	13,629,131	1.14	0.90	3	Atlas		16,082,374	1
	6/1/2018 0:45	6/1/2018 6:00	315	1.7	14,108,901	3.44	0.38	24	Atlas		23,985,132	1
	6/11/2018 13:45	6/11/2018 15:15	90	1.01	1,122,187	1.02	0.36	6	Atlas		1,133,409	1
CSO211											61,218,592	8
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Grand Total											914,636,514	769

Appendix C

Acronyms

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Appendix C Acronyms

ACD	Amended Consent Decree
AAOV	Average Annual Overflow Volume
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
DAP	Discharge Abatement Plans
DRG	Derek R. Guthrie Water Quality Treatment Center
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
IFIX	Software Name
I/O	Input/ Output
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
LG&E	Louisville Gas & Electric Company
LWC	Louisville Water Company
LTCP	Long Term Control Plan
MG	Million Gallons
MGD	Million Gallons per Day
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NGPS	Nightingale Pump Station
NMC	Nine Minimum Controls
PLC	Programmable Logic Controller
PM	Preventive Maintenance
PS	Pump Station
RAS	Return Activated Sludge
RTC	Real Time Control
SED2	South East Diversion 2
SCAP	System Capacity Assurance Plan
SCS	Soil Conservation Service

Appendix C Acronyms

SOP	Standard Operating Procedure
SOR1	Southern Outfall Retention Facility 1
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWOR1	Southwestern Outfall Retention – Phase 1
SWOR2	Southwestern Outfall Retention – Phase 2
SWPS	Southwestern Pump Station
WSWG	Southwest Sluice Gate
TSS	Total Suspended Solids
TV	Television
US	United States
UM	Unplanned Maintenance
VFD	Variable Frequency Drive
WIN	Waterway Improvements Now
WQTC	Water Quality Treatment Center
WUS	Waters of the United States

Appendix D SCAP Balance

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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

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>
LE983107	Poplar Lakes Phase 3	LAT EXT	12,000	8/14/17	-26,100	625,270
LE971176	Cedar Ridge	LAT EXT	18,800	10/24/17	-40,890	584,380
LE1027406	Chenoweth Run, LLC	LAT EXT	1,600	3/13/18	-3,480	580,900
LE1005655	Carrier Court	LAT EXT	400	4/2/18	-870	580,030
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

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>
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
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
LE992628	Blankenbaker Centre II	LAT EXT	2,340	10/9/17	-5,090	197,635

HCCREEK

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

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>
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
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

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>
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
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

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>
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
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

Capacity Credit Balance Sheet per Credit Basin

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LE1049057	Advanced ENT	LAT EXT	705	5/15/18	-1,533	555,124
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
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

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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
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

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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
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

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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
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
LE960133	ShelbyHurst Office - 435 Building	LAT EXT	9,500	4/11/18	-20,663	2,295,258
LE1042560	202 Oxmoor Lane Residential	LAT EXT	76,700	4/11/18	-166,823	2,128,436
LE1032029	The Enclave at Douglas Hills Section 1	LAT EXT	27,200	4/23/18	-59,160	2,069,276
LE1055615	Bennett & Bloom Medical Office	LAT EXT	585	6/6/18	-1,272	2,068,003
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

Capacity Credit Balance Sheet per Credit Basin

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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
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

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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
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

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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
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

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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
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

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>
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
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 MANSICK	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	FEGBENBUSH 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

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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
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

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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
LE1053266	Yokomori Manufacturing Facility	LAT EXT	1,750	4/9/18	-3,806	4,017,525
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
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

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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
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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LE1039341	Silver Creek Place Apartments	LAT EXT	7,200	4/9/18	-15,660	907,925
LE1046691	Crown Packaging	LAT EXT	400	4/18/18	-870	907,055

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Appendix E IOAP Project Crosswalk

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PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
17TH ST FPS DWO ELIMINATION	IOAP	MSD0306-FP	L_OR_MF_190_S_03_A_A
27TH STREET FPS DWO ELIM	IOAP	MSD0307-FP	L_OR_MF_019_S_03_A_A
34TH ST FPS DWO ELIMINATION	IOAP	MSD0308-FP	L_OR_MF_019_S_03_A_B
4TH STREET FPS DWO ELIMINATION	IOAP	MSD0303-FP	L_OR_MF_022_M_03_A_A
ADAMS STREET SEWER SEPARATION (FORMERLY STORAGE BASIN)	IOAP	CSO172	L_OR_MF_172_S_09B_B_A_0
ANCHOR ESTATES PS ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00056-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	0057-W	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00746	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	00817	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIMINATIONS 1 - VANNAH PUMP STATION ELIMINATION	IOAP	MSD0057-LS	S_MI_MF_NB06_M_01_A_A-2
ANCHOR ESTATES PS ELIMINATIONS 2 - ANCHOR ESTATES #1 AND #2 PUMP STATION ELIMINATION	IOAP	01106	S_MI_MF_NB06_M_01_A_A - 1
ASHBURTON PS IMPROVEMENTS & DIVERSION	IOAP	MSD0165-PS	S_FF_FF_NB03_M_01_C_A
ASHBURTON PS IMPROVEMENTS & DIVERSION	IOAP	MSD0166-PS	S_FF_FF_NB03_M_01_C_A
AVANTI PS ELIMINATION	IOAP	21229	S_PO_WC_PC07_M_01_A
BARDSTOWN RD PS IMPROVEMENTS	IOAP	88545	S_CC_CC_MSD1025_S_03_B
BEARGRASS INTERCEPTOR REHABILITATION PH 2	IOAP	51594	S_SD_MF_NB06_S_13_C
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21061	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21089	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21089A	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21101	BEECHWOOD VILLAGE SEWER REPL

BEECHWOOD VILLAGE SEWER REPL	ISSDP	21153	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SEWER REPL	ISSDP	21156	BEECHWOOD VILLAGE SEWER REPL
BELLS LANE (FORMERLY PADDY'S RUN) WET WEATHER TREATMENT FACILITY	IOAP	CSO015	L_OR_MF_015_M_13_B_B_8
BELLS LANE (FORMERLY PADDY'S RUN) WET WEATHER TREATMENT FACILITY	IOAP	CSO191	L_OR_MF_015_M_13_B_B_8
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	08717	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	104223	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	104224	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	104231	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	13931	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	13943	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	13946	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	34093542	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	36763	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	44396	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	44397	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	51301	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	66349	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	99259	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	KK14815019	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENT PHASE 1 - SSES	IOAP	KK14855239	S_SF_MF_30917_M_09_A
CAVEN AVENUE PS ELIMINATION	IOAP	17724	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	IOAP	27116	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	IOAP	61667	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	IOAP	61687	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	IOAP	70212	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PS ELIMINATION	IOAP	MSD0133-PS	S_PO_WC_PC09_M_09B_C

CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO028	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO029	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO034	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO036	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO178	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO181	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO193	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO195	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO196	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO197	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO199	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO200	L_OR_MF_155_M_09B_B_B_4-1
CENTRAL RELIEF DRAIN CSO IN-LINE STORAGE, GREEN INFRASTRUCTURE, AND DISTRIBUTED STORAGE	IOAP	CSO202	L_OR_MF_155_M_09B_B_B_4-1
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
CINDERELLA PS ELIMINATION	IOAP	102339	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	IOAP	35309	S_PO_WC_PC04_M_01_C
CINDERELLA PS ELIMINATION	IOAP	60679	S_PO_WC_PC04_M_01_C

CINDERELLA PS 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
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 & GREEN INFRASTRUCTURE	IOAP	CSO058	L_OR_MF_058_S_08_A_A_0
CSO093 STRUCTURAL MODIFICATIONS & GREEN INFRASTRUCTURE	IOAP	CSO093	L_SO_MF_093_S_08_A_A_0
CSO108 DAM MODIFICATION	IOAP	CSO108	L_SO_MF_108_S_09A_B_A_4
CSO140 IN-LINE STORAGE & GREEN INFRASTRUCTURE	IOAP	CSO140	L_MI_MF_140_S_08_A_A_0
CSO160 SEWER SEPARATION	IOAP	CSO160	L_OR_MF_160_S_08_A_A_0
CSO190 GREEN INFRASTRUCTURE (FORMERLY 18TH & NORTHWESTERN PKWY STORAGE BASIN)	IOAP	CSO190	L_OR_MF_190_S_09B_B_A_8
CSO206 SEWER SEPARATION	IOAP	CSO206	L_MI_MF_206_S_08_A_A_0
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	104289	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28249	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28250	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28336	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28340	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28413	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28414	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28415	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28416	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28417	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28451	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28453	S_JT_JT_NB02_M_01_C
DELL RD/CHARLANE PKWY INTERCEPTOR IMPROVEMENTS	IOAP	28711	S_JT_JT_NB02_M_01_C
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22307	DEREK R GUTHRIE WQTC UPGRADES

DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22370	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	22385	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	32682	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	32688	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	59169	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC UPGRADES	ISSDP	MSD0277	DEREK R GUTHRIE WQTC UPGRADES
DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	IOAP	20154-W	S_OR_MF_NB03_S_07_C
DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	IOAP	20155	S_OR_MF_NB03_S_07_C
DERINGTON CT PS I&I INVESTIGATION & REHABILITATION	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
EAST ROCKFORD PS RELOCATION	IOAP	04699-W	S_MC_WC_NB02_S_03_C
EDEN CARE PS SSO INVESTIGATION	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
EDSEL PS I&I INVESTIGATION & REHABILITATION	IOAP	92098	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVESTIGATION & REHABILITATION	IOAP	92099	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVESTIGATION & REHABILITATION	IOAP	94009	S_PO_WC_PC11_M_07_C
EDSEL PS I&I INVESTIGATION & REHABILITATION	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	64096	S_JT_JT_NB01A_M_03_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	86052	S_JT_JT_NB01A_M_03_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	92061	S_JT_JT_NB01A_M_03_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	MSD0196-PS	S_JT_JT_NB01A_M_03_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	MSD0263	S_JT_JT_NB01A_M_03_C

ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	MSD0263A-PS	S_JT_JT_NB01A_M_03_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	MSD1043-PS	S_JT_JT_NB01A_M_03_C
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	116106	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	81316	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97362	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97363	S_FF_CC_81316_M_03_C_A
FAIRMOUNT RD PS IMPROVEMENTS	IOAP	97365	S_FF_CC_81316_M_03_C_A
FAIRWAY VIEW PS IMPROVEMENTS	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG RD I&I INVEST	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
FOX HARBOR IN-LINE STORAGE	IOAP	62769	S_HC_HN_NB03_S_09A_A_A
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	105936	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	117721	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	43472	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	46891	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	62418	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	62420	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	91629	S_MI_MF_NB04_M_03_B-1

GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	91630	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	MSD0040-PS	S_MI_MF_NB04_M_03_B-1
GOOSE CREEK PS IMPROVEMENTS AND WET WEATHER STORAGE 1 - DEVONDALE WET WEATHER STORAGE	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B-1
GOVERNMENT CENTER PS ELIMINATION	IOAP	94541	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIMINATION	IOAP	94542	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PS ELIMINATION	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
GUNPOWDER PS IN-LINE STORAGE	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	IOAP	55665	S_MC_MF_55665_S_07_C
HAZELWOOD PS I&I INVESTIGATION & REHABILITATION	IOAP	55667	S_MC_MF_55665_S_07_C
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	17571	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18134	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18297	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18298	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18299	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18302	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18318-W	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18370	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18434	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18471	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18483	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18505	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	18595	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	47960A	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48885	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48886	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	48888	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49224	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49236	HIKES LN INTER & HIGHGATE SPR

HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49672	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	49673	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	73111	HIKES LN INTER & HIGHGATE SPR
HIKES LANE-HIGHGATE SPRINGS PS	ISSDP	MSD0012-PS	HIKES LN INTER & HIGHGATE SPR
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	IOAP	01793	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	IOAP	47650	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	IOAP	47656	S_MI_MF_NB07_S_07_C
HURSTBOURNE I/I INVESTIGATION & REHABILITATION	IOAP	67535	S_MI_MF_NB07_S_07_C
I-64 & GRINSTEAD DR STORAGE BAS	IOAP	CSO125	L_MI_MF_127_M_09B_B_A_8
I-64 & GRINSTEAD DR STORAGE BAS	IOAP	CSO126	L_MI_MF_127_M_09B_B_A_8
I-64 & GRINSTEAD DR STORAGE BAS	IOAP	CSO127	L_MI_MF_127_M_09B_B_A_8
I-64 & GRINSTEAD DR STORAGE BAS	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
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 RD PS 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 PS SSO INVESTIGATION	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
LANTANA #1 PS I/I INVESTIGATION & REHABILITATION	IOAP	25484	S_PO_WC_PC05_M_07_C
LANTANA #1 PS I/I INVESTIGATION & REHABILITATION	IOAP	93719	S_PO_WC_PC05_M_07_C
LANTANA #1 PS I/I INVESTIGATION & REHABILITATION	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	19360	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	19369	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29933	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29943	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29948	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	29949	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31073	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31074	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31083	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	31084	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	57874	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	61266	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	79076	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENT	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
LELAND RD SSO INVESTIGATION	IOAP	96020	S_OR_MF_NB02_S_13_C
LEVEN PS ELIMINATION	IOAP	36419	S_PO_WC_PC10_M_01_C
LEVEN PS ELIMINATION	IOAP	MSD1019-PS	S_PO_WC_PC10_M_01_C
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

LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	IOAP	89197	S_CC_CC_67997_M_01_C
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO091	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO097	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO106	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO110	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO111	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO113	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO137	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO146	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO148	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO149	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO151	L_SO_MF_092_M_09B_B_D_8
LOGAN & BRECKINRIDGE ST STORAGE BASIN	IOAP	CSO152	L_SO_MF_092_M_09B_B_D_8
LUCAS LN PS IN-LINE STORAGE	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
MEADOW STREAM PS & FM UPGRADE	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
MEADOW STREAM PS & FM UPGRADE	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
MELLWOOD SYSTEM IMPR/PS ELIM 1	IOAP	24152-W	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	24472	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	26752	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	41374	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	41416	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B-1

MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B-1
MELLWOOD SYSTEM IMPROVEMENTS AND PS ELIMINATIONS 1 - MELLWOOD PS AND FM IMPROVEMENTS	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B-1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	02932	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	02933	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	02935	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	08537	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	15195	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	24553	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1

MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	40471	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	45829	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	45900	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47596	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1

MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	51221	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	74513	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	96672	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	96673	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 1 - BUECHEL BASIN	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 2 - PS DIVERSION AND STORAGE	IOAP	43726	S_MISF_MF_NB01_M_01_C_A1-2
MONTICELLO PS ELIMINATION	IOAP	27969	S_JT_JT_NB04_M_01_A
MONTICELLO PS ELIMINATION	IOAP	MSD0151-PS	S_JT_JT_NB04_M_01_A
MORRIS FORMAN WQTC HEADWORKS (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	IOAP	CSO211	L_OR_MF_211_M_13_B_A_8_
NIGHTINGALE PS REPLACEMENT & STORAGE	IOAP	CSO018	L_SO_MF_018_S_03_A_A
NORTHERN DITCH DIVERSION INTER	ISSDP	MSD0271	NORTHERN DITCH DIVERSION INTER
OHIO RIVER TUNNEL (FORMERLY STORY & MAIN ST STORAGE BASIN)	IOAP	CSO020	L_OR_MF_020_S_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO022	L_OR_MF_155_M_09B_B_B_4

OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO023	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO050	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO051	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO052	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO053	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO054	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO055	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO056	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO150	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY 13TH ST/ROWAN ST STORAGE BASIN)	IOAP	CSO155	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO082	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO084	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO118	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO119	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO120	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO121	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO141	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL (FORMERLY LEXINGTON RD & PAYNE ST STORAGE BASIN)	IOAP	CSO153	L_SO_MF_083_M_09B_B_A_8
PARKVIEW ESTATES I&I INVESTIGATION	IOAP	47250	S_SD_MF_NB03_S_07_C
PORTLAND CSO STORAGE BASIN	IOAP	CSO019	L_OR_MF_019_S_13_B_A_8
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	16455	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	22436	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	40870	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	40871	S_OR_MF_NB04_M_03_B_B-1

PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	40872	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	40879	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	40880	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	42675	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	42680	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	46621	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	46623	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	46627	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	65606	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	65610	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	65623	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	65633	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	65635	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	89646	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	89791	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0291	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD0292	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 1 - WQTC ELIMINATIONS	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B-1
PROSPECT SYSTEM IMPROVEMENTS 3 - ORFM SYSTEM IMPROVEMENTS	IOAP	89641	S_OR_MF_NB04_M_03_B_B-3
RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS PHASE 1 - PUMP STATION ELIMINATION	IOAP	28729-W	S_JT_JT_NB03_M_01_C-1
RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS PHASE 1 - PUMP STATION ELIMINATION	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C-1
RIDING RIDGE PS IMPROVEMENTS	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
RUNNING FOX PS ELIMINATION	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C

SHAWNEE FPS DWO ELIMINATION	IOAP	MSD0309-FP	L_OR_MF_189_M_03_A_A
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 INTERCEPTOR	IOAP	21103	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR	IOAP	25012	SINKING FORK RELIEF SEWER
SINKING FORK INTERCEPTOR	IOAP	63319	SINKING FORK RELIEF SEWER
SONNE PS I&I INVESTIGATION & REHABILITATION	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	08426	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	08427	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	08430	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	08431	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	18654	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	30680	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	30681	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	30701	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	30702	SOUTHEASTERN DIVERSION STRUCT

SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	30704	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	49647	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	63779	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	IOAP	72571-X	SOUTHEASTERN DIVERSION STRUCT
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1) (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	IOAP	CSO016	L_OR_MF_211_M_13_B_A_8__
SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1) (FORMERLY ALGONQUIN PKWY STORAGE BASIN)	IOAP	CSO210	L_OR_MF_211_M_13_B_A_8__
SOUTHWESTERN PKWY CSO BASIN	IOAP	CSO104	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKWY CSO BASIN	IOAP	CSO105	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PKWY CSO BASIN	IOAP	CSO189	L_OR_MF_105_M_13_B_A_0
ST RENE RD PS IN-LINE STORAGE	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
SUTHERLAND INTERCEPTOR	IOAP	16649	S_SD_MF_NB05_M_01_A
WOODLAND HILLS PS DIVERSION	IOAP	33003	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	IOAP	65516	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PS DIVERSION	IOAP	65531	S_FF_FF_NB01_S_01_C_A

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Appendix F CSO Flow Monitoring Quality Improvement

Table F.1. Phase 1 CSOs

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
015	6/30/2017	6/30/2017	UNDER CONSTRUCTION	UNDER CONSTRUCTION	UNDER CONSTRUCTION
016	6/30/2017	N/A	STARTED	N/A	STARTED
018	6/30/2017	N/A	9/13/2017	N/A	STARTED
020	6/30/2017	6/30/2017	9/21/2017	N/A	10/10/2017
036	6/30/2017	6/30/2017	8/23/2017	7/29/2017	9/14/2017
054	6/30/2017	N/A	9/8/2017	N/A	9/12/2017
058	6/30/2017	6/30/2017	N/A	N/A	STARTED
088	6/30/2017	6/30/2017	8/23/2017	N/A	UNDER CONSTRUCTION
093	6/30/2017	6/30/2017	N/A	N/A	STARTED
104	6/30/2017	6/30/2017	8/16/2017	N/A	9/12/2017
105	6/30/2017	6/30/2017	8/16/2017	N/A	9/12/2017
106	6/30/2017	6/30/2017	N/A	N/A	N/A
108	6/30/2017	6/30/2017	11/21/2017	10/17/2017	STARTED
109	6/30/2017	6/30/2017	11/21/2017	10/13/2017	STARTED
110	6/30/2017	6/30/2017	UNDER CONSTRUCTION	UNDER CONSTRUCTION	UNDER CONSTRUCTION
118	6/30/2017	N/A	N/A	9/12/2017	9/12/2017
121	6/30/2017	6/30/2017	9/12/2017	10/13/2017	12/21/2017
125	6/30/2017	6/30/2017	9/8/2017	8/7/2017	9/8/2017
126	6/30/2017	6/30/2017	9/14/2017	7/25/2017	12/21/2017
127	6/30/2017	N/A	N/A	N/A	N/A
130	6/30/2017	6/30/2017	8/16/2017	N/A	STARTED
132	6/30/2017	6/30/2017	9/8/2017	7/25/2017	9/21/2017
140	6/30/2017	6/30/2017	11/21/2017	10/13/2017	STARTED
146	6/30/2017	N/A	UNDER CONSTRUCTION	UNDER CONSTRUCTION	UNDER CONSTRUCTION
149	6/30/2017	N/A	UNDER CONSTRUCTION	UNDER CONSTRUCTION	UNDER CONSTRUCTION
154	6/30/2017	6/30/2017	12/1/2017	12/20/2017	3/21/2018
160	6/30/2017	6/30/2017	8/23/2017	9/20/2017	12/22/2017
166	6/30/2017	6/30/2017	9/12/2017	10/9/2017	12/21/2017
167	6/30/2017	6/30/2017	9/8/2017	N/A	12/21/2017
189	6/30/2017	6/30/2017	8/16/2017	N/A	9/21/2017
190	6/30/2017	6/30/2017	11/1/2017	N/A	1/26/2018
191	6/30/2017	6/30/2017	UNDER CONSTRUCTION	UNDER CONSTRUCTION	UNDER CONSTRUCTION
206	6/30/2017	6/30/2017	N/A	11/22/2017	12/6/2017
210	6/30/2017	N/A	STARTED	N/A	STARTED
211	6/30/2017	6/30/2017	8/16/2017	N/A	STARTED

Table F.2. Phase 2 CSOs

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
019	STARTED	NOT STARTED	NOT STARTED	N/A	NOT STARTED
022	STARTED	STARTED	NOT STARTED	N/A	NOT STARTED
023	STARTED	STARTED	NOT STARTED	N/A	NOT STARTED
027	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
028	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
029	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
031	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
034	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
035	STARTED	N/A	NOT STARTED	NOT STARTED	NOT STARTED
038	STARTED	STARTED	NOT STARTED	N/A	NOT STARTED
050	STARTED	STARTED	6/12/2018	N/A	NOT STARTED
051	STARTED	N/A	6/12/2018	N/A	NOT STARTED
052	STARTED	STARTED	NOT STARTED	NOT STARTED	NOT STARTED
053	STARTED	STARTED	6/20/2018	N/A	NOT STARTED
055	STARTED	STARTED	6/18/2018	N/A	NOT STARTED
056	STARTED	N/A	NOT STARTED	10/24/2017	NOT STARTED
057	STARTED	N/A	6/12/2018	N/A	NOT STARTED
062	STARTED	N/A	NOT STARTED	NOT STARTED	NOT STARTED
082	STARTED	STARTED	6/26/2018	N/A	NOT STARTED
083	STARTED	STARTED	6/26/2018	N/A	NOT STARTED
084	STARTED	N/A	6/27/2018	NOT STARTED	NOT STARTED
091	STARTED	N/A	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
092	STARTED	STARTED	6/20/2018	N/A	NOT STARTED
097	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
111	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
113	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
117	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
119	STARTED	STARTED	6/26/2018	N/A	NOT STARTED
120	STARTED	STARTED	6/26/2018	TO BE DETERMINED	NOT STARTED
131	STARTED	N/A	NOT STARTED	NOT STARTED	NOT STARTED
137	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
141	STARTED	N/A	NOT STARTED	5/30/2018	NOT STARTED
144	STARTED	STARTED	6/26/2018	TO BE DETERMINED	NOT STARTED
148	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED

Table F.2. Phase 2 CSOs

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
150	STARTED	N/A	6/12/2018	N/A	NOT STARTED
151	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
152	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
153	STARTED	STARTED	6/26/2018	N/A	NOT STARTED
155	STARTED	STARTED	6/12/2018	N/A	NOT STARTED
161	STARTED	N/A	6/12/2018	N/A	NOT STARTED
172	STARTED	N/A	NOT STARTED	NOT STARTED	NOT STARTED
178	STARTED	STARTED	NOT STARTED	TO BE DETERMINED	NOT STARTED
179	STARTED	STARTED	UNDER CONSTRUCTION	UNDER CONSTRUCTION	NOT STARTED
181	STARTED	NOT STARTED	NOT STARTED	NOT STARTED	NOT STARTED
193	STARTED	STARTED	6/20/2018	N/A	NOT STARTED
195	STARTED	STARTED	6/22/2018	N/A	NOT STARTED
196	STARTED	STARTED	6/22/2018	N/A	NOT STARTED
197	STARTED	STARTED	6/22/2018	N/A	NOT STARTED
198	STARTED	STARTED	6/26/2018	N/A	NOT STARTED
199	STARTED	STARTED	6/18/2018	N/A	NOT STARTED
200	STARTED	STARTED	6/22/2018	N/A	NOT STARTED
201	STARTED	STARTED	6/22/2018	N/A	NOT STARTED
202	STARTED	STARTED	6/15/2018	N/A	NOT STARTED
203	STARTED	STARTED	6/15/2018	N/A	NOT STARTED
207	STARTED	NOT STARTED	6/22/2018	N/A	NOT STARTED
208	STARTED	STARTED	6/25/2018	N/A	NOT STARTED
SBR 142	STARTED	STARTED	6/8/2018	N/A	NOT STARTED
SBR 174	STARTED	STARTED	6/8/2018	N/A	NOT STARTED
SBR 180	STARTED	N/A	6/8/2018	TO BE DETERMINED	NOT STARTED
SBR 182	STARTED	STARTED	6/8/2018	N/A	NOT STARTED
SBR 183	STARTED	STARTED	6/4/2018	N/A	NOT STARTED
SBR 184	STARTED	STARTED	6/4/2018	N/A	NOT STARTED
SBR 185	STARTED	STARTED	6/4/2018	N/A	NOT STARTED
SBR 186	STARTED	STARTED	6/8/2018	N/A	NOT STARTED
SBR 187	STARTED	STARTED	6/8/2018	N/A	NOT STARTED
SBR 188	STARTED	STARTED	6/8/2018	TO BE DETERMINED	NOT STARTED
SBR 205	STARTED	STARTED	6/8/2018	N/A	NOT STARTED

Appendix G CSO108 Semi-Annual Report

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

June 29, 2018

Shaun Zeigler
Applied Ecologist & Nature Preserves Manager
Kentucky State Nature Preserve Commission
801 Teton Trail
Frankfort, KY 40601

Subject: CSO 108 Semi-Annual Report #20

Dear Mr. Zeigler,

As required in Paragraph #10 of the document titled "Memorandum of Understanding by and between the Kentucky State Nature Preserve Commission and the Louisville and Jefferson County Metropolitan Sewer District", MSD submits to you the MOU Semi-Annual Report #20. This report summarizes activities at the CSO 108 CDS Site during the reporting period of January 1, 2018 to June 30, 2018.

Should you have any questions or comments, please feel free to contact me via email at heather.dodds@louisvillemad.org or phone at (502) 540-6961.

Sincerely,

Heather Dodds, PE
Regulatory Compliance & Asset Management Administrator

INTRODUCTION

The Louisville and Jefferson County Metropolitan Sewer District (MSD) has entered into a Memorandum of Understanding (MOU) with the Kentucky State Nature Preserve Commission (Commission). The MOU was signed by MSD on July 30, 2008, and by the Commission on September 17, 2008. This MOU is effective for the period starting September 1, 2008, and ending on September 1, 2018.

This is the 20th Semi-Annual Report submitted in accordance with Paragraph 10 of the MOU. This report covers the time period of January 1, 2018 to June 30, 2018.

This Semi-Annual Report will address only those requirements considered ongoing. The initial Semi-Annual Report, MOU Semi-Annual Report #1, was comprehensive and included a response to each requirement addressed within the MOU. Please refer to the initial Semi-Annual Report for additional information not found within this document.

Work and activities undertaken by MSD and relating to the MOU are outlined in the paragraphs below.

1.1. PARAGRAPH #10 OF THE MOU

MSD shall be diligent of this ten-year period in more timely supplying the Commission with semi-annual reports on the efficacy of the CDS unit, water quality monitoring data, and any other such pertinent information. Said reports shall be provided to the Commission by June 30 and December 31 of each year.

1.2. MSD RESPONSE

This document is the 19th semi-annual report to the Commission since the completion of the Project.

1.2.1 CLEANING AND INSPECTION ACTIVITIES

The CSO108 CDS unit is inspected weekly and cleaned on an as-needed basis. During the reporting period, MSD cleaned the CDS Unit bar racks **two** times. The information, shown in Table 1, is generated from work orders initiated whenever the CDS Unit is inspected and needs to be cleaned. Cleaning consists of either washing debris off of the bar racks or hauling the solids and floatables from the site. Both operations result in removing debris that would otherwise overflow into Beargrass Creek. When cleaning the bar racks, the debris is reintroduced into the sewer system, and as a result, is difficult to accurately estimate the amount removed during the maintenance process. The Crystal Report often indicates the quantity removed as “unknown”.

Table 1: CSO108 CDS Unit Debris Removal

ACTIVITY	QUANTITY	COMMENTS	COMPLETED DATE
Debris	Unknown	Cleaned medium debris off rack bars	01/09/18
Debris	Unknown	Cleaned heavy debris off rack bars	01/19/18
Debris	Unknown	Cleaned heavy debris off rack bars	01/30/18
Debris	Unknown	Cleaned medium debris off rack bars	02/14/18
Debris	Unknown	Cleaned medium debris off rack bars	03/06/18

1.2.2 MAINTENANCE ACTIVITIES

In addition to the weekly inspections, MSD has initiated a preventative maintenance program to insure that the CDS unit and respective pumps are performing optimally. During these quarterly preventative maintenance activities MSD staff also cleans the CDS unit and rack bars, washing the debris into the interceptor. The CDS Unit's pumps are removed from the facility twice yearly to more closely inspect and to perform any needed maintenance.

1.2.3 CAPTURED FLOW

The CDS unit was placed along the Trevillian Way Twin Trunk Sewer to capture solids and floatables from a 485-acre drainage area. The unit uses a vortex action created by the hydraulic energy of incoming flow to separate solids and floatable from the flow. The treated flow is then discharged through the outlet pipe to Beargrass Creek and the debris that is captured is pumped to the Morris Forman Water Quality Treatment Center (WQTC).

In an effort to estimate the volume of debris captured by the CDS unit and kept within the sewer system, a study of the efficiency of the unit was performed in the early 2002. The results of the study indicated that the concentration of solids kept within the sewer system was approximately 1ml/l. Using pump run times and knowing the efficiency of the pumps, MSD was able to determine a volume of solids captured by the CDS technology. MSD estimates that the CDS unit captured 52.6 tons of solids during the reporting period. Attachment "B" lists the pump run times and calculations MSD used to determine the amount of debris captured by the CDS Unit and sent to the Morris Forman WQTC for treatment.

ATTACHMENT "A" – PHOTOS OF AREA ADJACENT TO
CSO 108 AND THE CDS UNIT
(DATED JUNE 29, 2018)



Figure 1. Entrance to CDS Unit



Figure 2. Entrance to CDS Unit



Figure 3. Area Adjacent to the CDS Unit



Figure 4. Area Adjacent to the CDS Unit



Figure 5. Area Adjacent to the Creek



Figure 6. Area Adjacent to the Creek



ATTACHMENT "B" –CDS UNIT PUMP RUN TIMES

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
December 27, 2017	0.00	0.00	0.10
December 28, 2017	0.00	0.00	0.08
December 29, 2017	0.00	0.00	0.03
December 30, 2017	0.00	0.00	0.05
December 31, 2017	0.00	0.00	0.00
January 1, 2018	0.00	0.00	0.00
January 2, 2018	0.00	0.00	0.05
January 3, 2018	0.00	0.00	0.00
January 4, 2018	0.00	0.00	0.00
January 5, 2018	0.00	0.00	0.03
January 6, 2018	0.00	0.00	0.00
January 7, 2018	0.00	0.00	0.00
January 8, 2018	0.00	0.00	0.00
January 9, 2018	0.00	0.00	0.00
January 10, 2018	0.00	0.00	0.05
January 11, 2018	0.00	0.00	0.00
January 12, 2018	0.00	0.00	0.00
January 13, 2018	0.00	0.00	0.03
January 14, 2018	0.00	0.00	0.10
January 15, 2018	0.00	0.00	0.03
January 16, 2018	0.00	0.00	0.05
January 17, 2018	0.00	0.00	0.03
January 18, 2018	0.00	0.00	0.05
January 19, 2018	0.00	0.00	0.00
January 20, 2018	0.00	0.00	0.03
January 21, 2018	0.00	0.00	0.00
January 22, 2018	0.00	0.00	0.00
January 23, 2018	0.00	0.00	0.05
January 24, 2018	0.00	0.00	0.05
January 25, 2018	0.00	0.00	0.03
January 26, 2018	0.00	0.00	0.00
January 27, 2018	0.00	0.00	0.05
January 28, 2018	0.00	0.00	0.00
January 29, 2018	0.00	0.00	0.03

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
January 30, 2018	0.00	0.00	0.10
January 31, 2018	0.00	0.00	0.03
February 1, 2018	0.00	0.00	0.05
February 2, 2018	0.00	0.00	0.03
February 3, 2018	0.00	0.00	0.00
February 4, 2018	0.00	0.00	0.05
February 5, 2018	0.00	0.00	0.00
February 6, 2018	0.00	0.00	0.05
February 7, 2018	0.00	0.00	0.00
February 8, 2018	0.00	0.00	0.00
February 9, 2018	0.00	0.00	0.17
February 10, 2018	0.00	0.00	0.08
February 11, 2018	0.00	0.00	0.08
February 12, 2018	0.00	0.00	0.00
February 13, 2018	0.00	0.00	0.00
February 14, 2018	0.00	0.00	0.13
February 15, 2018	0.00	0.00	0.08
February 16, 2018	0.00	0.00	0.18
February 17, 2018	0.00	0.00	0.12
February 18, 2018	0.00	0.00	0.35
February 19, 2018	0.00	0.00	0.27
February 20, 2018	0.00	0.00	0.18
February 21, 2018	0.00	0.00	0.17
February 22, 2018	0.00	0.00	0.13
February 23, 2018	0.00	0.00	0.17
February 24, 2018	2.65	1.50	20.37
February 25, 2018	0.00	0.00	23.98
February 26, 2018	0.00	0.00	24.00
February 27, 2018	0.00	0.00	24.00
February 28, 2018	0.00	0.00	24.00
March 1, 2018	0.00	0.00	24.00
March 2, 2018	0.00	0.00	0.00
March 3, 2018	0.00	0.00	0.00
March 4, 2018	0.00	0.00	0.00

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
March 5, 2018	0.00	0.00	24.00
March 6, 2018	0.00	0.00	24.00
March 7, 2018	0.00	0.00	24.00
March 8, 2018	0.00	0.00	47.98
March 9, 2018	0.00	0.00	24.00
March 10, 2018	0.00	0.00	24.00
March 11, 2018	0.00	0.00	24.00
March 12, 2018	0.00	0.00	23.98
March 13, 2018	0.00	0.00	24.00
March 14, 2018	0.00	0.00	24.00
March 15, 2018	0.00	0.00	24.00
March 16, 2018	0.00	0.00	24.00
March 17, 2018	0.00	0.00	23.98
March 18, 2018	0.00	0.00	24.00
March 19, 2018	0.00	0.00	24.00
March 20, 2018	0.00	0.00	22.10
March 21, 2018	0.00	0.00	0.05
March 22, 2018	0.00	0.00	0.08
March 23, 2018	0.00	0.00	0.08
March 24, 2018	0.00	0.00	0.13
March 25, 2018	0.00	0.00	0.08
March 26, 2018	0.00	0.00	0.32
March 27, 2018	0.00	0.00	0.30
March 28, 2018	0.00	0.00	0.17
March 29, 2018	0.00	0.00	0.13
March 30, 2018	0.00	0.00	0.13
March 31, 2018	0.00	0.22	0.75
April 1, 2018	0.00	0.00	0.30
April 2, 2018	0.00	0.00	0.13
April 3, 2018	0.00	0.00	0.20
April 4, 2018	0.00	0.00	0.32
April 5, 2018	0.00	0.00	0.17
April 6, 2018	0.00	0.00	0.22
April 7, 2018	0.02	0.00	0.30

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
April 8, 2018	0.00	0.00	0.08
April 9, 2018	0.00	0.00	0.08
April 10, 2018	0.00	0.00	0.08
April 11, 2018	0.00	0.00	0.05
April 12, 2018	0.00	0.00	0.03
April 13, 2018	0.00	0.00	0.05
April 14, 2018	0.00	0.00	0.05
April 15, 2018	0.00	0.00	0.03
April 16, 2018	0.00	0.00	0.05
April 17, 2018	0.00	0.00	0.22
April 18, 2018	0.00	0.00	0.08
April 19, 2018	0.00	0.00	0.08
April 20, 2018	0.00	0.00	0.08
April 21, 2018	0.00	0.00	0.05
April 22, 2018	0.00	0.00	0.03
April 23, 2018	0.00	0.00	0.05
April 24, 2018	0.00	0.00	0.03
April 25, 2018	0.00	0.00	0.05
April 26, 2018	0.00	0.00	0.08
April 27, 2018	0.00	0.00	0.05
April 28, 2018	0.00	0.00	0.20
April 29, 2018	0.00	0.00	0.05
April 30, 2018	0.00	0.00	0.00
May 1, 2018	0.00	0.00	0.00
May 2, 2018	0.00	0.00	0.00
May 3, 2018	0.00	0.00	0.00
May 4, 2018	0.00	0.00	0.00
May 5, 2018	0.00	0.00	0.00
May 6, 2018	0.00	0.00	0.00
May 7, 2018	1.13	0.43	1.93
May 8, 2018	0.00	0.00	0.25
May 9, 2018	0.00	0.00	0.10
May 10, 2018	0.00	0.00	0.08
May 11, 2018	0.00	0.00	0.08

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
May 12, 2018	0.00	0.00	0.03
May 13, 2018	0.00	0.00	0.05
May 14, 2018	0.00	0.00	0.00
May 15, 2018	0.00	0.00	0.05
May 16, 2018	0.00	0.00	0.00
May 17, 2018	0.00	0.00	0.03
May 18, 2018	0.00	0.00	0.00
May 19, 2018	0.00	0.00	0.00
May 20, 2018	0.00	0.00	0.05
May 21, 2018	0.00	0.00	0.03
May 22, 2018	0.00	0.00	0.00
May 23, 2018	0.00	0.00	0.00
May 24, 2018	0.00	0.00	0.05
May 25, 2018	0.00	0.00	0.00
May 26, 2018	0.00	0.00	0.00
May 27, 2018	0.00	0.00	0.00
May 28, 2018	0.00	0.00	0.03
May 29, 2018	0.00	0.00	0.00
May 30, 2018	0.00	0.00	0.05
May 31, 2018	0.00	0.00	0.00
June 1, 2018	0.00	0.00	0.00
June 2, 2018	0.07	0.13	0.25
June 3, 2018	0.18	0.18	0.78
June 4, 2018	0.00	0.00	0.03
June 5, 2018	0.00	0.00	0.05
June 6, 2018	0.00	0.00	0.00
June 7, 2018	0.00	0.00	0.00
June 8, 2018	0.00	0.00	0.03
June 9, 2018	0.00	0.00	0.00
June 10, 2018	0.00	0.00	0.00
June 11, 2018	0.00	0.00	0.00
June 12, 2018	0.00	0.00	0.05
June 13, 2018	0.00	0.15	0.40
June 14, 2018	0.00	0.00	0.05

CDS Unit Pump Runtimes

DATE	PUMP 1 RUN HOURS	PUMP 2 RUN HOURS	PUMP 3 RUN HOURS
June 15, 2018	0.00	0.00	0.00
June 16, 2018	0.00	0.00	0.05
June 17, 2018	0.00	0.00	0.00
June 18, 2018	0.00	0.00	0.00
June 19, 2018	0.00	0.00	0.00
June 20, 2018	0.00	0.00	0.00
June 21, 2018	0.00	0.00	0.03
June 22, 2018	0.00	0.00	0.00
June 23, 2018	0.00	0.00	0.05
June 24, 2018	0.00	0.00	0.03
June 25, 2018	0.00	0.00	0.05
June 26, 2018	0.00	0.00	0.00
June 27, 2018	0.00	0.00	0.13
June 28, 2018	0.45	0.13	1.42

CSO108 Underflow Pump Flow Meter Data

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
December 27, 2017	0.0475	6,356.14	47,547.25	47.55
December 28, 2017	0.0463	6,186.06	46,274.98	46.27
December 29, 2017	0.0444	5,929.36	44,354.72	44.35
December 30, 2017	0.0438	5,859.54	43,832.40	43.83
December 31, 2017	0.0385	5,142.40	38,467.83	38.47
January 1, 2018	0.0387	5,178.51	38,737.98	38.74
January 2, 2018	0.0441	5,890.83	44,066.46	44.07
January 3, 2018	0.0403	5,382.10	40,260.90	40.26
January 4, 2018	0.0402	5,379.67	40,242.69	40.24
January 5, 2018	0.0437	5,836.07	43,656.86	43.66
January 6, 2018	0.0396	5,296.33	39,619.30	39.62
January 7, 2018	0.0398	5,319.11	39,789.67	39.79
January 8, 2018	0.0400	5,343.78	39,974.25	39.97
January 9, 2018	0.0387	5,167.03	38,652.10	38.65
January 10, 2018	0.0416	5,566.92	41,643.44	41.64
January 11, 2018	0.0371	4,965.44	37,144.11	37.14
January 12, 2018	0.0370	4,940.51	36,957.61	36.96
January 13, 2018	0.0399	5,332.24	39,887.91	39.89
January 14, 2018	0.0461	6,160.93	46,086.99	46.09
January 15, 2018	0.0432	5,778.77	43,228.22	43.23
January 16, 2018	0.0432	5,778.67	43,227.42	43.23
January 17, 2018	0.0425	5,678.92	42,481.27	42.48
January 18, 2018	0.0433	5,789.73	43,310.17	43.31
January 19, 2018	0.0396	5,296.81	39,622.88	39.62
January 20, 2018	0.0432	5,779.74	43,235.47	43.24
January 21, 2018	0.0383	5,114.01	38,255.43	38.26
January 22, 2018	0.0373	4,992.47	37,346.27	37.35
January 23, 2018	0.0402	5,377.86	40,229.20	40.23
January 24, 2018	0.0407	5,443.91	40,723.31	40.72
January 25, 2018	0.0402	5,378.82	40,236.34	40.24
January 26, 2018	0.0377	5,036.96	37,679.07	37.68
January 27, 2018	0.0414	5,541.01	41,449.63	41.45
January 28, 2018	0.0374	4,996.07	37,373.21	37.37
January 29, 2018	0.0394	5,265.75	39,390.53	39.39

CSO108 Underflow Pump Flow Meter Data

DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
January 30, 2018	0.0435	5,818.07	43,522.18	43.52
January 31, 2018	0.0397	5,306.71	39,696.92	39.70
February 1, 2018	0.0424	5,674.50	42,448.23	42.45
February 2, 2018	0.0420	5,608.43	41,953.95	41.95
February 3, 2018	0.0373	4,983.87	37,281.93	37.28
February 4, 2018	0.0415	5,553.97	41,546.55	41.55
February 5, 2018	0.0383	5,118.00	38,285.28	38.29
February 6, 2018	0.0407	5,443.96	40,723.64	40.72
February 7, 2018	0.0385	5,143.45	38,475.69	38.48
February 8, 2018	0.0377	5,039.54	37,698.35	37.70
February 9, 2018	0.0505	6,757.36	50,548.58	50.55
February 10, 2018	0.0433	5,782.81	43,258.39	43.26
February 11, 2018	0.0447	5,972.81	44,679.70	44.68
February 12, 2018	0.000	0.00	0.00	0.00
February 13, 2018	0.000	0.00	0.00	0.00
February 14, 2018	0.0498	6,651.65	49,757.81	49.76
February 15, 2018	0.0439	5,864.49	43,869.42	43.87
February 16, 2018	0.0501	6,697.86	50,103.49	50.10
February 17, 2018	0.0457	6,115.60	45,747.85	45.75
February 18, 2018	0.0640	8,561.96	64,047.94	64.05
February 19, 2018	0.0611	8,162.93	61,062.96	61.06
February 20, 2018	0.0512	6,840.41	51,169.86	51.17
February 21, 2018	0.0528	7,055.26	52,777.01	52.78
February 22, 2018	0.0458	6,122.25	45,797.64	45.80
February 23, 2018	0.0484	6,474.09	48,429.55	48.43
February 24, 2018	0.1267	16,942.17	126,736.22	126.74
February 25, 2018	0.6134	81,999.25	613,397.00	613.40
February 26, 2018	0.3832	51,230.84	383,233.31	383.23
February 27, 2018	0.4440	59,349.74	443,966.90	443.97
February 28, 2018	0.0944	12,618.53	94,393.13	94.39
March 1, 2018	0.0371	4,956.32	37,075.88	37.08
March 2, 2018	0.0369	4,936.69	36,929.04	36.93
March 3, 2018	0.0374	4,995.23	37,366.90	37.37
March 4, 2018	0.0379	5,066.77	37,902.10	37.90

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
March 5, 2018	0.0469	6,263.81	46,856.54	46.86
March 6, 2018	0.0534	7,133.08	53,359.16	53.36
March 7, 2018	0.0517	6,907.04	51,668.28	51.67
March 8, 2018	0.0381	5,089.82	38,074.47	38.07
March 9, 2018	0.0417	5,578.03	41,726.60	41.73
March 10, 2018	0.0493	6,593.60	49,323.58	49.32
March 11, 2018	0.0374	4,997.50	37,383.89	37.38
March 12, 2018	0.0372	4,969.33	37,173.15	37.17
March 13, 2018	0.0588	7,863.60	58,823.84	58.82
March 14, 2018	0.0655	8,755.92	65,498.86	65.50
March 15, 2018	0.0529	7,072.21	52,903.79	52.90
March 16, 2018	0.0528	7,058.13	52,798.50	52.80
March 17, 2018	0.0372	4,976.86	37,229.52	37.23
March 18, 2018	0.0372	4,972.45	37,196.54	37.20
March 19, 2018	0.0370	4,941.99	36,968.69	36.97
March 20, 2018	0.0420	5,611.37	41,975.96	41.98
March 21, 2018	0.0414	5,535.18	41,406.02	41.41
March 22, 2018	0.0464	6,197.54	46,360.82	46.36
March 23, 2018	0.0467	6,246.63	46,728.02	46.73
March 24, 2018	0.0506	6,766.69	50,618.38	50.62
March 25, 2018	0.0461	6,156.62	46,054.69	46.05
March 26, 2018	0.0672	8,989.83	67,248.59	67.25
March 27, 2018	0.0672	8,982.57	67,194.26	67.19
March 28, 2018	0.0547	7,309.09	54,675.76	54.68
March 29, 2018	0.0504	6,741.65	50,431.08	50.43
March 30, 2018	0.0505	6,751.81	50,507.02	50.51
March 31, 2018	0.1125	15,040.76	112,512.68	112.51
April 1, 2018	0.0672	8,987.97	67,234.66	67.23
April 2, 2018	0.0494	6,603.59	49,398.31	49.40
April 3, 2018	0.0576	7,704.61	57,634.49	57.63
April 4, 2018	0.0658	8,789.82	65,752.42	65.75
April 5, 2018	0.0544	7,278.75	54,448.81	54.45
April 6, 2018	0.0594	7,942.81	59,416.35	59.42
April 7, 2018	0.0616	8,238.88	61,631.11	61.63

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
April 8, 2018	0.0461	6,156.30	46,052.31	46.05
April 9, 2018	0.0465	6,216.15	46,500.03	46.50
April 10, 2018	0.0457	6,111.88	45,720.03	45.72
April 11, 2018	0.0415	5,548.72	41,507.30	41.51
April 12, 2018	0.0415	5,542.34	41,459.56	41.46
April 13, 2018	0.0415	5,548.36	41,504.62	41.50
April 14, 2018	0.0415	5,543.15	41,465.61	41.47
April 15, 2018	0.0412	5,505.02	41,180.38	41.18
April 16, 2018	0.0412	5,501.83	41,156.58	41.16
April 17, 2018	0.0559	7,469.22	55,873.68	55.87
April 18, 2018	0.0463	6,192.62	46,324.05	46.32
April 19, 2018	0.0462	6,175.82	46,198.33	46.20
April 20, 2018	0.0455	6,086.84	45,532.69	45.53
April 21, 2018	0.0413	5,519.76	41,290.65	41.29
April 22, 2018	0.0411	5,490.87	41,074.53	41.07
April 23, 2018	0.0412	5,501.16	41,151.52	41.15
April 24, 2018	0.0413	5,526.12	41,338.27	41.34
April 25, 2018	0.0412	5,509.03	41,210.38	41.21
April 26, 2018	0.0455	6,078.40	45,469.57	45.47
April 27, 2018	0.0412	5,510.22	41,219.28	41.22
April 28, 2018	0.0541	7,228.41	54,072.28	54.07
April 29, 2018	0.0409	5,465.95	40,888.15	40.89
April 30, 2018	0.0369	4,936.62	36,928.49	36.93
May 1, 2018	0.0370	4,941.52	36,965.17	36.97
May 2, 2018	0.0370	4,941.43	36,964.45	36.96
May 3, 2018	0.0369	4,936.63	36,928.57	36.93
May 4, 2018	0.0369	4,936.62	36,928.49	36.93
May 5, 2018	0.0369	4,936.62	36,928.49	36.93
May 6, 2018	0.0370	4,942.32	36,971.11	36.97
May 7, 2018	0.1801	24,078.34	180,118.50	180.12
May 8, 2018	0.0639	8,548.76	63,949.20	63.95
May 9, 2018	0.0454	6,072.42	45,424.83	45.42
May 10, 2018	0.0455	6,087.79	45,539.86	45.54
May 11, 2018	0.0456	6,101.03	45,638.87	45.64

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
May 12, 2018	0.0384	5,130.05	38,375.47	38.38
May 13, 2018	0.0383	5,114.69	38,260.51	38.26
May 14, 2018	0.0369	4,936.62	36,928.49	36.93
May 15, 2018	0.0412	5,511.76	41,230.82	41.23
May 16, 2018	0.0369	4,936.62	36,928.49	36.93
May 17, 2018	0.0409	5,468.34	40,906.00	40.91
May 18, 2018	0.0369	4,936.62	36,928.49	36.93
May 19, 2018	0.0369	4,936.62	36,928.49	36.93
May 20, 2018	0.0412	5,512.83	41,238.82	41.24
May 21, 2018	0.0412	5,509.34	41,212.69	41.21
May 22, 2018	0.0369	4,936.62	36,928.49	36.93
May 23, 2018	0.0369	4,936.62	36,928.49	36.93
May 24, 2018	0.0411	5,498.55	41,132.03	41.13
May 25, 2018	0.0369	4,936.62	36,928.49	36.93
May 26, 2018	0.0369	4,936.62	36,928.49	36.93
May 27, 2018	0.0369	4,936.62	36,928.49	36.93
May 28, 2018	0.0412	5,505.65	41,185.13	41.19
May 29, 2018	0.0369	4,936.62	36,928.49	36.93
May 30, 2018	0.0412	5,509.71	41,215.52	41.22
May 31, 2018	0.0369	4,936.62	36,928.49	36.93
June 1, 2018	0.0369	4,936.62	36,928.49	36.93
June 2, 2018	0.0500	6,690.57	50,048.94	50.05
June 3, 2018	0.1071	14,311.14	107,054.74	107.05
June 4, 2018	0.0413	5,517.11	41,270.86	41.27
June 5, 2018	0.0415	5,547.67	41,499.46	41.50
June 6, 2018	0.0369	4,936.62	36,928.49	36.93
June 7, 2018	0.0369	4,936.62	36,928.49	36.93
June 8, 2018	0.0411	5,499.65	41,140.28	41.14
June 9, 2018	0.0369	4,936.62	36,928.49	36.93
June 10, 2018	0.0369	4,936.62	36,928.49	36.93
June 11, 2018	0.0369	4,936.62	36,928.49	36.93
June 12, 2018	0.0416	5,555.17	41,555.55	41.56
June 13, 2018	0.0604	8,077.33	60,422.65	60.42
June 14, 2018	0.0388	5,190.06	38,824.36	38.82

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DATE	DAILY VOLUME (MG)	DAILY VOLUME (CF)	DAILY VOLUME (GAL)	DAILY VOLUME DEBRIS (GAL)
June 15, 2018	0.0369	4,936.62	36,928.49	36.93
June 16, 2018	0.0398	5,316.27	39,768.47	39.77
June 17, 2018	0.0369	4,936.62	36,928.49	36.93
June 18, 2018	0.0369	4,933.16	36,902.61	36.90
June 19, 2018	0.0369	4,936.62	36,928.49	36.93
June 20, 2018	0.0369	4,936.62	36,928.49	36.93
June 21, 2018	0.0392	5,243.87	39,226.89	39.23
June 22, 2018	0.0370	4,940.48	36,957.39	36.96
June 23, 2018	0.0411	5,490.15	41,069.21	41.07
June 24, 2018	0.0409	5,468.46	40,906.93	40.91
June 25, 2018	0.0408	5,452.70	40,789.06	40.79
June 26, 2018	0.0369	4,936.62	36,928.49	36.93
June 27, 2018	0.0489	6,537.88	48,906.73	48.91
June 28, 2018	0.1209	16,166.73	120,935.55	120.94

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