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October 30, 2017

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Subject: Quarterly Report 48
Civil Action No. 3:08-cv-00608-CRS

Attention Director and Chiefs:

Please find attached our Quarterly Report, prepared in accordance with Paragraph 29 of our Amended Consent Decree. This report is for the period July 1, 2017 – September 30, 2017, pertaining to Consent Decree compliance activities. Included are sections on Project WIN activities related to: NMC, SORP, Discharge Abatement Plans, Public Outreach, Education, Notification and Participation, CMOM and Performance Overview.

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

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

Sincerely,

Angela Akridge, PE
Louisville MSD Chief Engineer

cc: James A. Parrott
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File

Louisville and Jefferson County Wet Weather Consent Decree Quarterly Report #48



Reporting Period:

July 1, 2017 through September 30, 2017

Submitted To:

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

Submitted By:

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

Submittal Date:

October 30, 2017

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INTRODUCTION

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

Quarterly Reporting Period

This is the forty-eighth Quarterly Report submitted in accordance with Paragraph 29 of the Amended Consent Decree. This report covers the time period from July 1, 2017, through September 30, 2017. The structure for this report is outlined as follows:

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

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

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

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

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

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

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

1.1. NINE MINIMUM CONTROLS PROGRAM BACKGROUND

Per Paragraph 24.a. of the Amended Consent Decree, the Nine Minimum Controls (NMC) Compliance Report was initially submitted to EPA and KDEP on February 10, 2006. MSD received approval of the report on February 22, 2007. The approved NMC compliance document can be viewed on the MSD Project Waterway Improvements Now (WIN) website, available at www.msdpowerwin.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 263 MG were stored in the system during rain events and routed to the Morris Forman WQTC once the system was able to handle the flow. See Figure 1.1 at the end of this section for a detailed report.

The following identifies on-going activities; those completed during the current period; 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, the new RTC servers were operational and utilized for software testing, including the Infoworks Integrated Catchment Model (ICM) RTC hydraulic model, Csoft, and Gorubi software. MSD continued testing the data scripting and transfer process utilizing the iFix software to transfer field data collected at local stations to the RTC system. In addition, new instrumentation for utilization with the RTC system was identified and the process of including the data in the scripting process was initiated. The RTC consultant configured the system to utilize a variable timestep and performed off-line testing with a 2-year/24-hour SCS type II design event to validate system performance and compliance with operational objectives. Testing of the system utilizing historic events was initiated.

The RTC layer process control narrative is a summary of a facility's planned operations, equipment, and instrumentation compiled from a variety of sources, including design drawings, specifications, and discussions with MSD operations personnel and design consultants. The document provides the basis for development of the SOP and Csoft programming. Staff began development of the RTC layer process control narratives for the Clifton Heights CSO Storage Basin, the Southwestern Parkway CSO Basin, and the Southern Outfall Retention Phase 1 (SOR1) in-line storage facility. MSD initiated development of the RTC programming guide for the SOR1 facility and will begin the programming shortly.

The standard operating procedures (SOPs) for Clifton Heights, Southwestern Parkway, and SOR1 will be developed for incorporation into the FY18 Master SOP update. Revised and updated SOPs will be implemented after the Csoft and InfoWorks ICM RTC hydraulic model is integrated. Draft SOPs will be finalized as new or upgraded facilities are brought online and commissioned into the RTC network.

MSD completed programming and startup of the upgraded Nightingale Pump Station (NGPS) facility. Operation of the facility began under local control June 30, 2017, with the expectation of integrating the upgraded facility into RTC during the transition to Csoft 4.

During the next quarter, MSD anticipates completion of data script transfer process testing (iFix and Process Control Network) to ensure proper field communications and commissioning readiness. MSD will also begin online testing for the phase 1 and 2 facilities.

- RTC Performance Assessment and Improvements – The main objective of the RTC Performance Assessment is to determine whether the available flow and storage capacities within the system are being utilized to their full potential. MSD staff continues to review and prioritize strategies for performance improvement. During the next reporting period, MSD staff and the RTC consultant will continue working to implement hardware, software and set-point changes as applicable on a site-by-site basis.

During this period, 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, remained on hold until downstream improvements at the SWPS are completed and the need can be fully assessed. The SWOR2 backup generator installation project is nearing completion as the generator and automatic transfer switch were installed.

MSD contracted field survey and geotechnical exploration to verify the constructability of the proposed Sneads Branch modifications to eliminate the Sneads Branch pumping facility by installing an actuated gate. This will enable transfer of stored volumes to existing infrastructure and utilize the Logan CSO basin pumps for dewatering.

During the next reporting period, MSD will complete the field survey and geotechnical exploration in support of the Sneads Branch modifications, and complete acceptance testing of the SWOR2 backup generator.

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

This change has impacted the ability to dewater upstream storage including SWOR2, Brady Lake, Executive Inn, and Ashland Avenue as effectively. The dewatering of these facilities is dependent on the available downstream storage at SWSG. Therefore, dewatering of these sites may be delayed to allow wet weather flow rates to decrease sufficiently to allow the process to begin safely, stored volumes may be released more slowly to ensure available storage volumes are not exceeded, and

the risk of required dewatering during periods of overflow at SWSG are increased as well. MSD has adjusted Csoft parameters to improve the Southwestern Outfall dewatering process and has made temporary code revisions to the local programmable logic controller (PLC) to improve management during this period. Repairs and upgrades to the SWSG are in progress, have been delayed due to high river elevations, and are anticipated to be completed in the upcoming reporting period. Once complete, MSD will begin a stepwise process of increasing the storage to the previous set-point levels. This process testing is weather-dependent due to the need for wet weather flows for testing, but is anticipated to begin in December 2017 and take approximately two months to complete.

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

Plant Outages

All major construction on the Morris Forman WQTC Headworks Replacement Project is complete. The East Headworks was in service during the reporting period with the exception of brief outages for contractor safety. The Final Effluent Pump Station (FEPS) was in service 1 day of the reporting period. Plant capacity was 160 MGD for the majority of the period while West Headworks was taken out of service for inspection. Inspection was complete near the end of the quarter and plant capacity was updated to 280 MGD. Flows at Morris Forman WQTC were sustained between 160 and 280 MGD as shown in Figures 1.2 through 1.4, depending on equipment in service, before allowing overflows at CSO211 due to rain events during the reporting period.

Morris Forman WQTC Projects

- Morris Forman WQTC Headworks Replacement – Major construction on the East and West Headworks is complete. Contractors will be finishing punch list items during the next reporting period.
- Morris Forman WQTC FEPS Generator – Generator installation is complete and the generator can be operated manually. MSD anticipates all work to be complete by the end of the next reporting period.
- Morris Forman WQTC High Yard Modifications – Power to plant is available via the north and south LG&E feeds. Contractor will be installing capacitors during the next reporting period.
- Morris Forman WQTC Centrifuge Electrical Controls – Construction continues on the project.
- Morris Forman WQTC Oxygen Generation Plants 1 and 2 Replacement – System installation is complete and has been providing 100% of the oxygen demand to the facility. Contractors will finish instrumentation and controls work during the next reporting period. The control strategy is currently under development.

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 zeroes in secondary flow shown in Figures 1.2 and 1.3 e, including August 30 and September 2, when the secondary bypass flow meter was taken out of service for repair; on September 12, September 14, and September 19, when power to the secondary bypass flow meter was lost; and on August 2, August 29, September 1, September 3 and September 13, when failures occurred with the SCADA system at the plant. Additionally, for a period on August 31 when West Headworks was being put into service, flow was retained temporarily causing a zero reading on secondary flow.

For the month of August 2017, Morris Forman WQTC did not meet the 30 Day Secondary Effluent Total Suspended Solids (TSS). MSD is working with the oxygen supplier to verify that the control strategy under development to manage the new oxygen generation system at Morris Forman will resolve these permit issues.


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 1.5.

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



Louisville/Jefferson County
Metropolitan Sewer District



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

Period

From : 07/01/2017
To : 10/01/2017

Event Number	Wet Weather Event			Rainfall			CSO Saved Volume (MG)								High River Levels	Comments
	Start Date	End Date	Duration	Average*	Maximum**	Rain Gauge	SWPS SG Chamber (7.7)	SWOR2 (5.3)	Brady Lake and Executive Inn Storage (13.4)	Southern Outfall (3.5)	Ashland (1.0)	Ohio River Interceptor (4.1)	Sneads Branch (2.5)	Total (46.5)		
				TRFD (in)	TRFD (in)											
2017-046	6/30/17 21:30	7/2/17 15:50	42:20:00	0.46	0.74	TR04	5.80	3.30	1.70	3.50	0.55	4.15	1.17	20.17	0	Moderate storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-048	7/6/17 4:20	7/7/17 16:00	35:40:00	1.09	1.78	TR15	9.20	2.50	3.30	5.90	0.95	5.30	0.91	28.06	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-049	7/7/17 20:55	7/9/17 5:00	32:05:00	0.34	0.57	TR11	5.65	1.85	1.60	3.30	0.75	4.45	0.60	18.20	0	Moderate storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-051	7/23/17 2:30	7/26/17 8:30	78:00:00	1.13	1.50	TR12	6.80	3.70	5.10	3.70	0.80	4.40	1.75	26.25	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-052	7/28/17 6:00	7/28/17 19:25	13:25:00	0.31	0.78	TR12	0.35	0.30	0.05	2.90	0.00	4.30	0.25	8.15	0	Small storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-053	8/1/17 21:55	8/2/17 22:05	24:10:00	0.39	0.88	TR14	1.35	0.50	0.10	3.35	0.10	3.70	0.20	9.30	1	Small storm cells heterogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-054	8/6/17 14:55	8/7/17 16:50	25:55:00	0.64	0.72	TR12	5.80	2.95	1.80	3.50	0.55	4.70	0.55	19.85	0	Moderate storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-056	8/17/17 15:30	8/18/17 21:45	30:15:00	1.50	3.08	TR11	7.75	5.05	7.05	3.45	0.70	4.45	1.45	29.90	0	Large back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-058	8/22/17 13:15	8/24/17 17:50	52:35:00	0.52	0.93	TR04	5.35	2.35	1.45	3.65	0.55	4.50	0.90	18.75	0	Moderate storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-059	8/31/17 18:05	9/5/17 7:25	109:20:00	4.05	5.52	TR11	9.75	5.70	14.10	5.05	1.00	7.05	4.25	46.90	0	Very large storm cells homogeneously distributed over the service area . The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-061	9/12/17 6:30	9/14/17 18:15	59:45:00	0.67	0.96	TR12	2.40	2.10	0.45	3.65	0.25	9.40	0.10	18.35	0	Moderate back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
2017-062	9/19/17 8:20	9/19/17 19:00	10:40:00	0.55	0.68	TR15	6.30	1.60	1.95	3.50	0.45	4.40	0.50	18.70	0	Moderate back-to-back storm cells homogeneously distributed over the service area. The SWSG site was controlled manually. The storage capacity at the SWSG site is restricted due to the damaged Gate 2.
TOTAL							66.50	31.90	38.65	45.45	6.65	60.80	12.63	262.58		

* Average total rainfall depth based on readings from rain gauges TR04, TR05, TR11, TR12, TR13, TR14 and TR15.

** Maximum total rainfall depth measured during the wet weather event and rain gauge.

*** Operators always control the MDS manually.

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

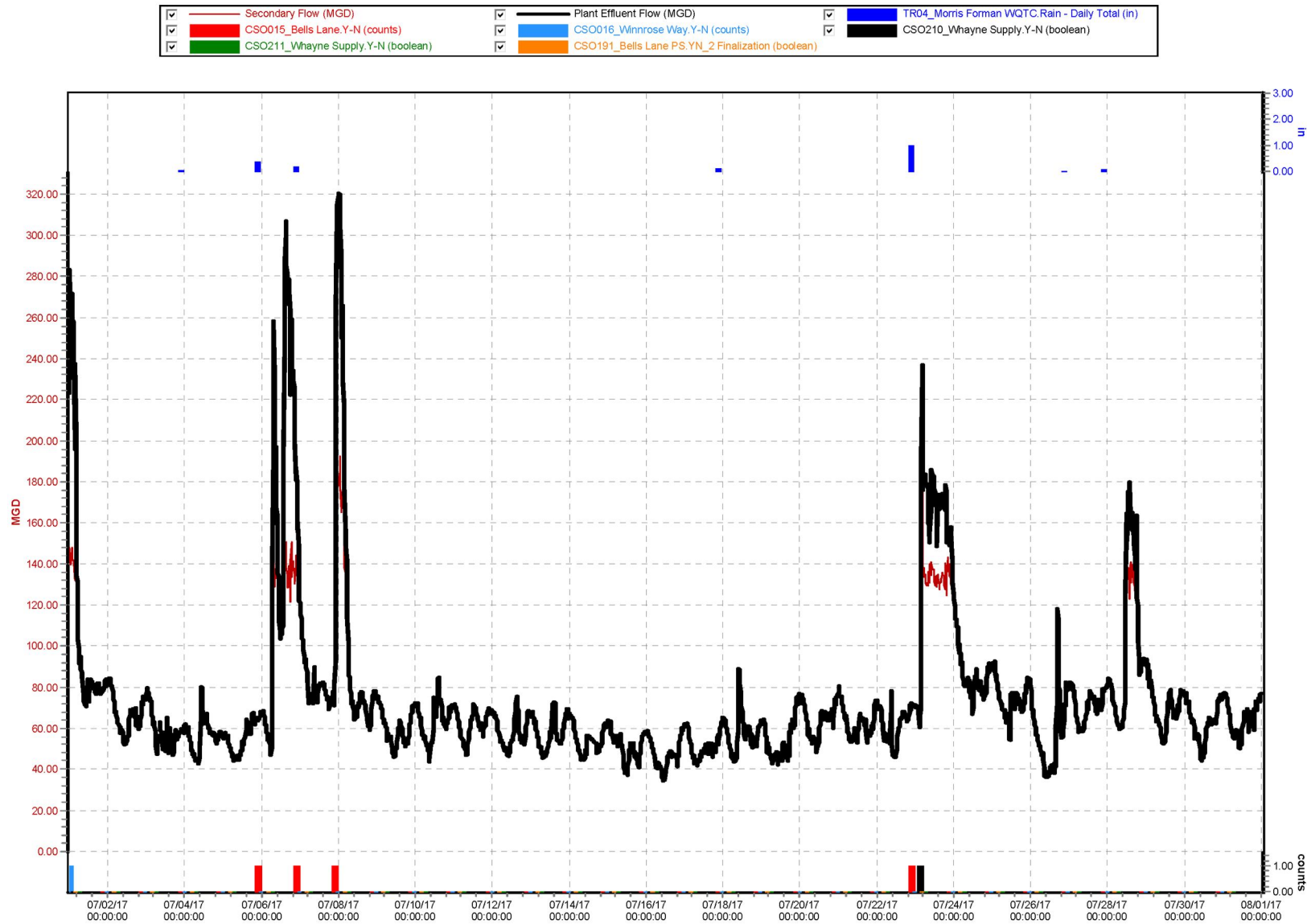


Figure 1.3. Morris Forman WQTC – Plant Flows and Associated CSO Activations – August 2017

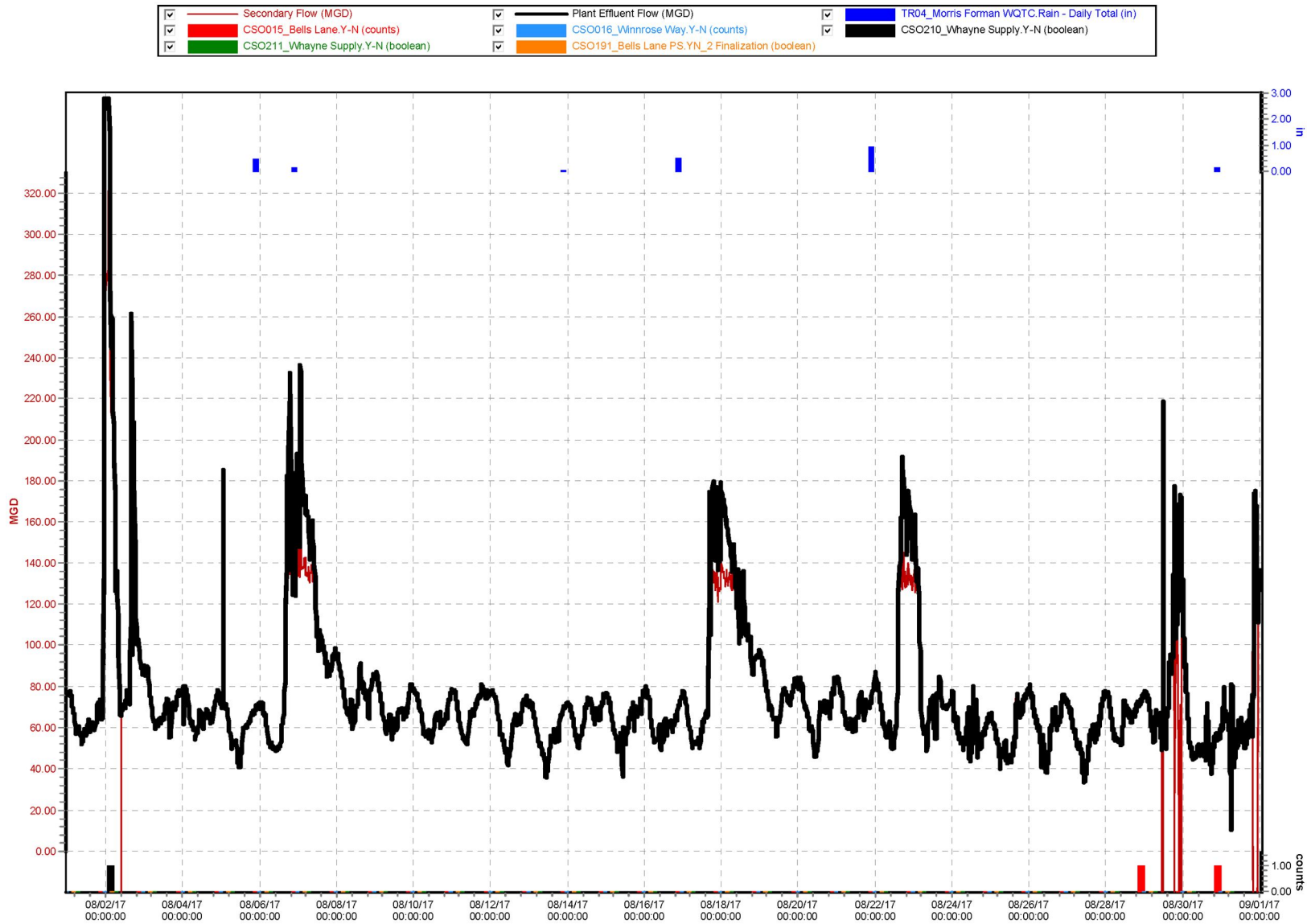


Figure 1.4. Morris Forman WQTC – Plant Flows and Associated CSO Activations – September 2017

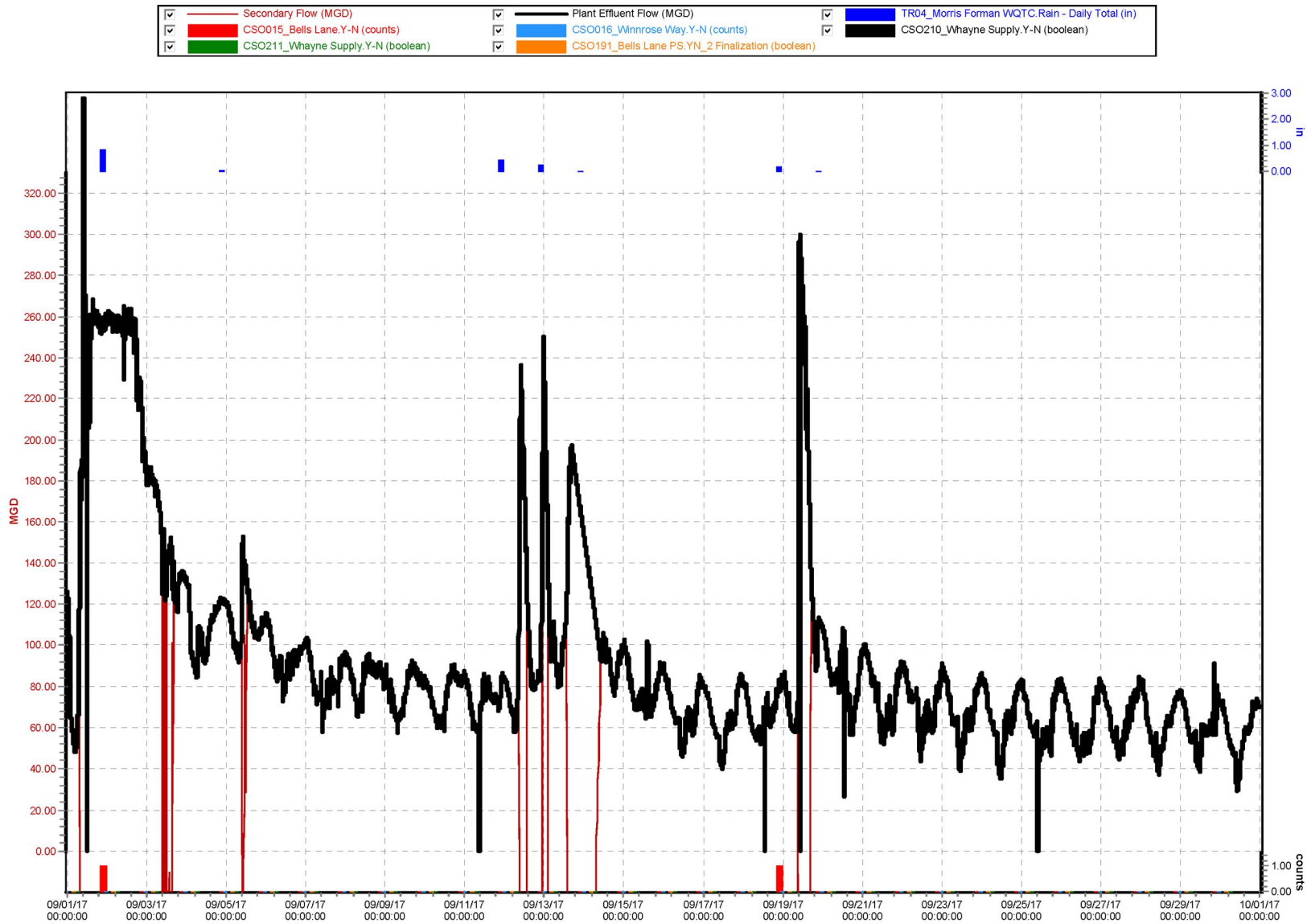


Figure 1.5. NMC Quarterly Commitments Schedule

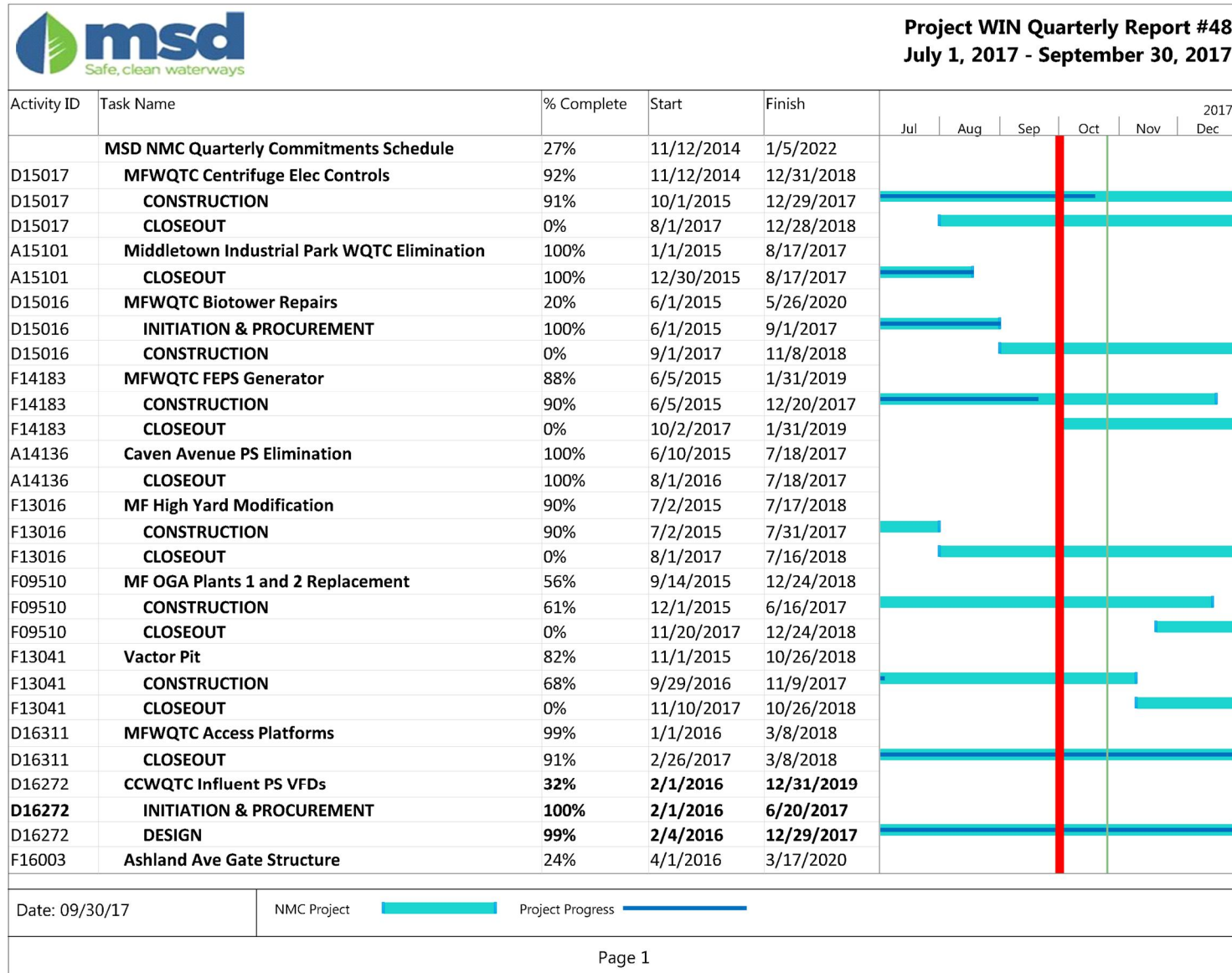
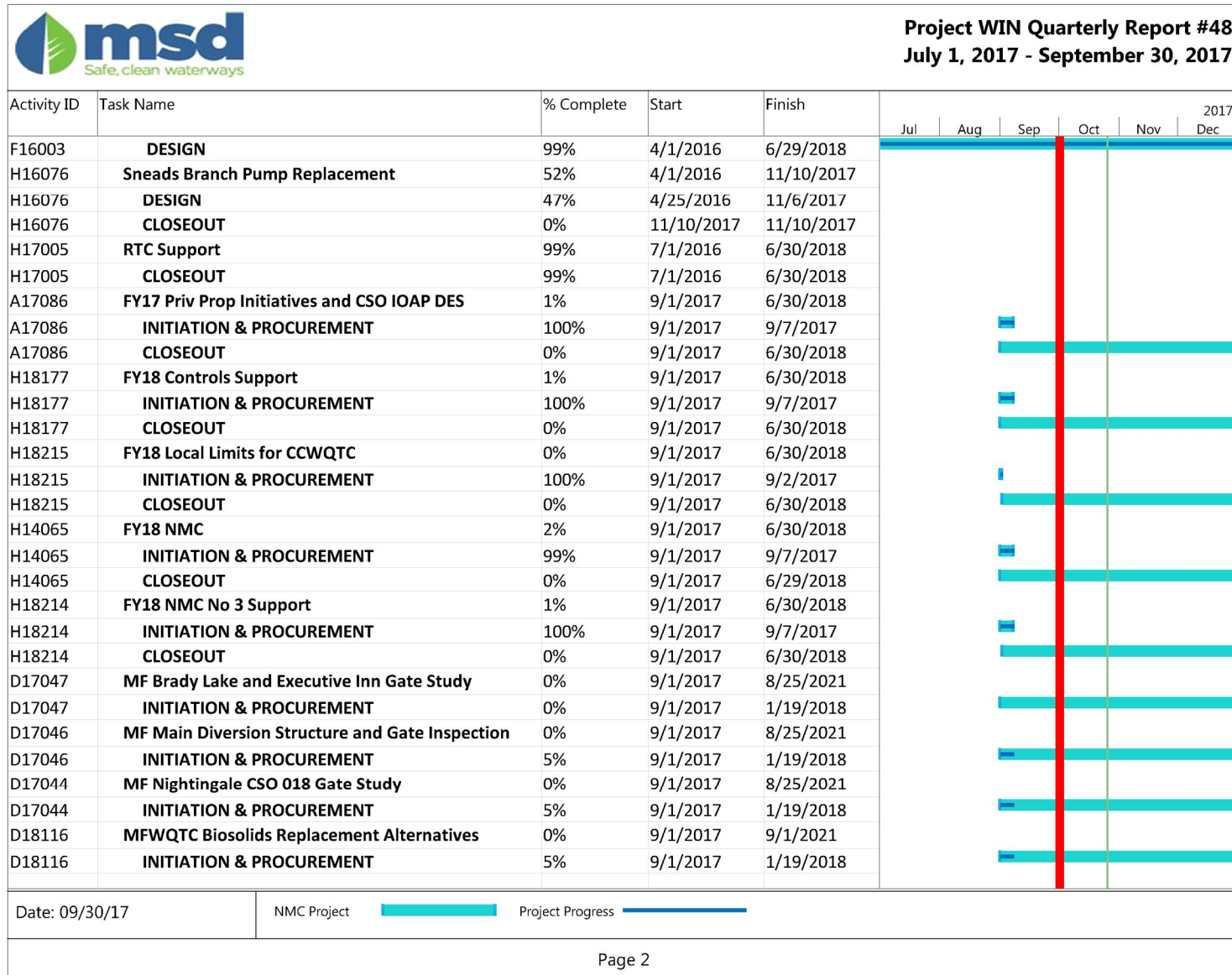


Figure 1.5. NMC Quarterly Commitments Schedule



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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.msdpjprojectwin.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, 10 unauthorized discharges were identified through route reconnaissance. Inspection routes were run during rain events, as described in Table 2.1.

MSD Operations staff hauled 7,660 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
August 17, 2017		X	X	X	X	X
September 1, 2017		X	X	X	X	X

Table 2.2. Hauled Volumes in Gallons

PROBLEM	JUL	AUG	SEP
LACK OF SYSTEM CAPACITY	0	0	7,660
MECHANICAL FAILURE	300	0	0
UTILITY DAMAGE	0	0	0
ELECTRICAL PROBLEMS AT MSD	0	50	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, updated, and repackaged into an enhanced online format for the 2017 third quarter SORP training that included three modules under Public Notification and Overflow Cleanup:

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

A fourth module was developed that included updates related to progress under the IOAP and projects under the CMOM and NMC programs. The modules were successfully delivered to 282 staff in Operations and Engineering.

Fourth quarter training is now being repackaged to utilize the same online format, and includes four modules under Reporting and Follow-up:

- Reporting Basics
- Hansen Reporting
- Paper-Based and Contingency reporting
- Regulatory Reporting and Data Quality

A fifth module is also being developed to provide continued updates related to progress under the IOAP and projects under the CMOM and NMC programs.

A set of two modules is being developed to provide a SORP overview. These modules will 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. These modules will be customized for contractors and for MSD employees who are not directly responsible for overflow response.

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

3.1. INTEGRATED OVERFLOW ABATEMENT PLAN (IOAP)

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

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

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

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

3.2. SANITARY SEWER DISCHARGE PLAN (SSDP)

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

3.2.1. UPDATED SANITARY SEWER OVERFLOW PLAN (SSOP) IMPLEMENTATION

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

3.2.2. INTERIM SANITARY SEWER DISCHARGE PLAN (ISSDP)

MSD submitted an Interim Sanitary Sewer Discharge Plan (ISSDP) for approval on September 30, 2007. Comments were received on January 8, 2008. MSD resubmitted the revised ISSDP on March 7, 2008, and received an approval letter for the ISSDP on July 24, 2008. The approved document can be viewed on the MSD Project WIN website, available at www.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 an Order signed February 12, 2010, and was entered into public record on February 15, 2010. A revised SSDP was included in the 2012 IOAP Modification, submitted on June 14, 2013. On June 19, 2014, MSD received approval of the 2012 IOAP Modification from EPA/KDEP. The approved document can be viewed on the MSD Project WIN website, available at www.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 PROGRAM UPDATE

Green Program projects procured during the current reporting period are shown in Table 3.1. These projects provide additional overflow volume reduction benefits to complement LTCP projects, and were selected for incentive by providing high value for residual AAOV reduction based on the latest modeling results. The modeling team is currently updating the incentive evaluation construct and anticipates finalization next quarter.

Table 3.1. Green Program Projects – Current Reporting Period

PROJECT NAME	SEWERSHED	EST. AAOV REDUCTION (GAL)	INCENTIVE VALUE
Churchill Downs Phase 1	CSO211	4,800,000	\$1,738,212
Paristown Pointe	CSO119; CSO120	1,200,000	\$433,368
Spalding Athletic Events	CSO178	700,000	\$254,826
Solid Light	CSO028	270,000	\$96,093
Victory Park	CSO105	80,000	\$30,000

3.4. DISCHARGE ABATEMENT PLAN PROJECT STATUS

3.4.1. SANITARY SEWER DISCHARGE PLAN (SSDP)

Per the current approved schedule, there were no SSDP projects completed or certified during the current reporting period. Table 3.2 details SSDP projects that are required to be completed and certified during the next reporting period.

Table 3.2. IOAP Project Completion Dates – SSDP –Upcoming Reporting Period

BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	ACD DATE	CERTIFIED COMPLETION DATE
H09218	S_SF_MF_30917_M_09_A	CAMP TAYLOR #3- REPLACE SEWER & REHABILITATION	December 31, 2017	Under Construction

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

Table 3.3 details CSO LTCP projects completed and certified during the current reporting period. Table 3.4 details CSO LTCP projects that are required to be completed and certified during the next reporting period.

Table 3.3. IOAP Project Completion Dates – CSO LTCP – Current Reporting Period

BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	ASSOCIATED CSOs	LEVEL OF CONTROL (TYPICAL YEAR)	ACD DATE	CERTIFIED COMPLETION DATE
H09124	L_OR_MF_015_M_13_B_B_8	Bells Lane Wet Weather Treatment Facility (Formerly Known as Paddy's Run)	CSO015 CSO191	8	September 30, 2017	September 25, 2017

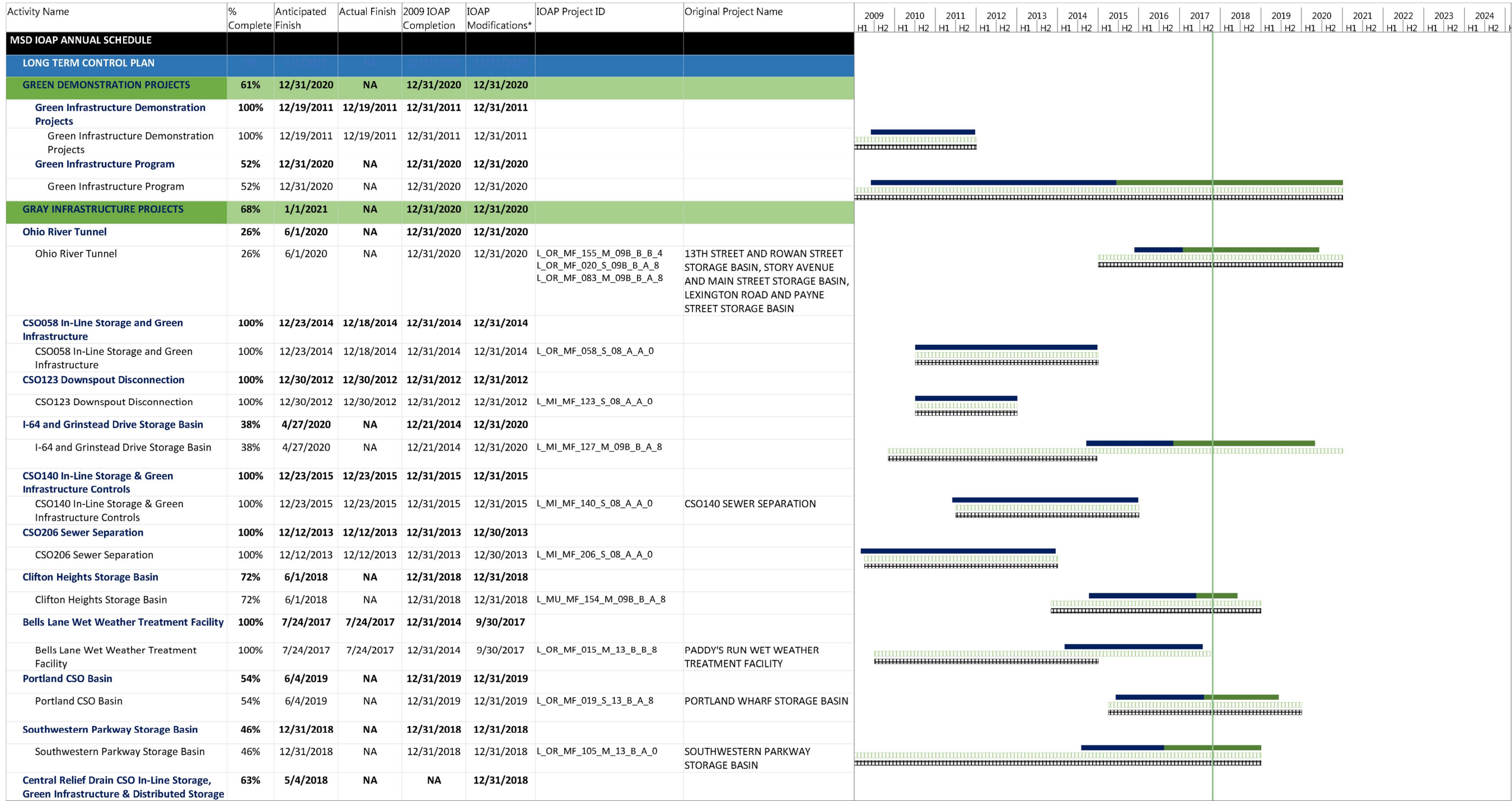
Table 3.4. IOAP Project Completion Dates – CSO LTCP – Upcoming Reporting Period


BUDGET ID	ACD PROJECT NUMBER	PROJECT NAME	ASSOCIATED CSOs	LEVEL OF CONTROL (TYPICAL YEAR)	ACD DATE	CERTIFIED COMPLETION DATE
H09137	L_OR_MF_190_S_09B_B_A_8	CSO190 Green Infrastructure	CSO190	8	12/31/2017	Under Construction
H09142	L_SO_MF_092_M_09B_B_D_8	Logan Street and Breckinridge Street Storage Basin	CSO091 CSO097 CSO106 CSO110 CSO111 CSO113 CSO117 CSO137 CSO146 CSO148 CSO149 CSO151 CSO152	8	12/31/2017	Under Construction

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.

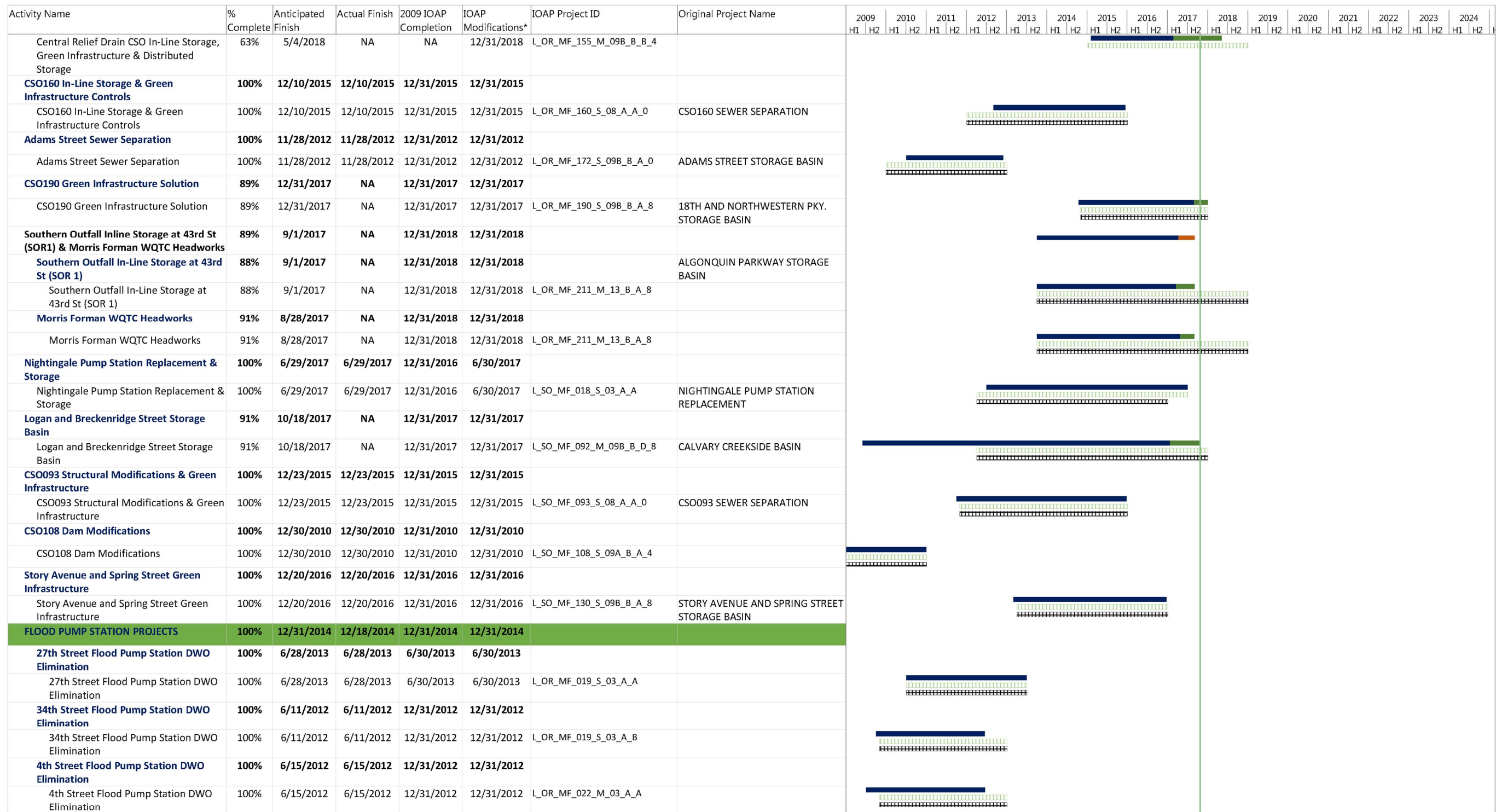
Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



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.

2 of 8

Date: 09/30/17

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

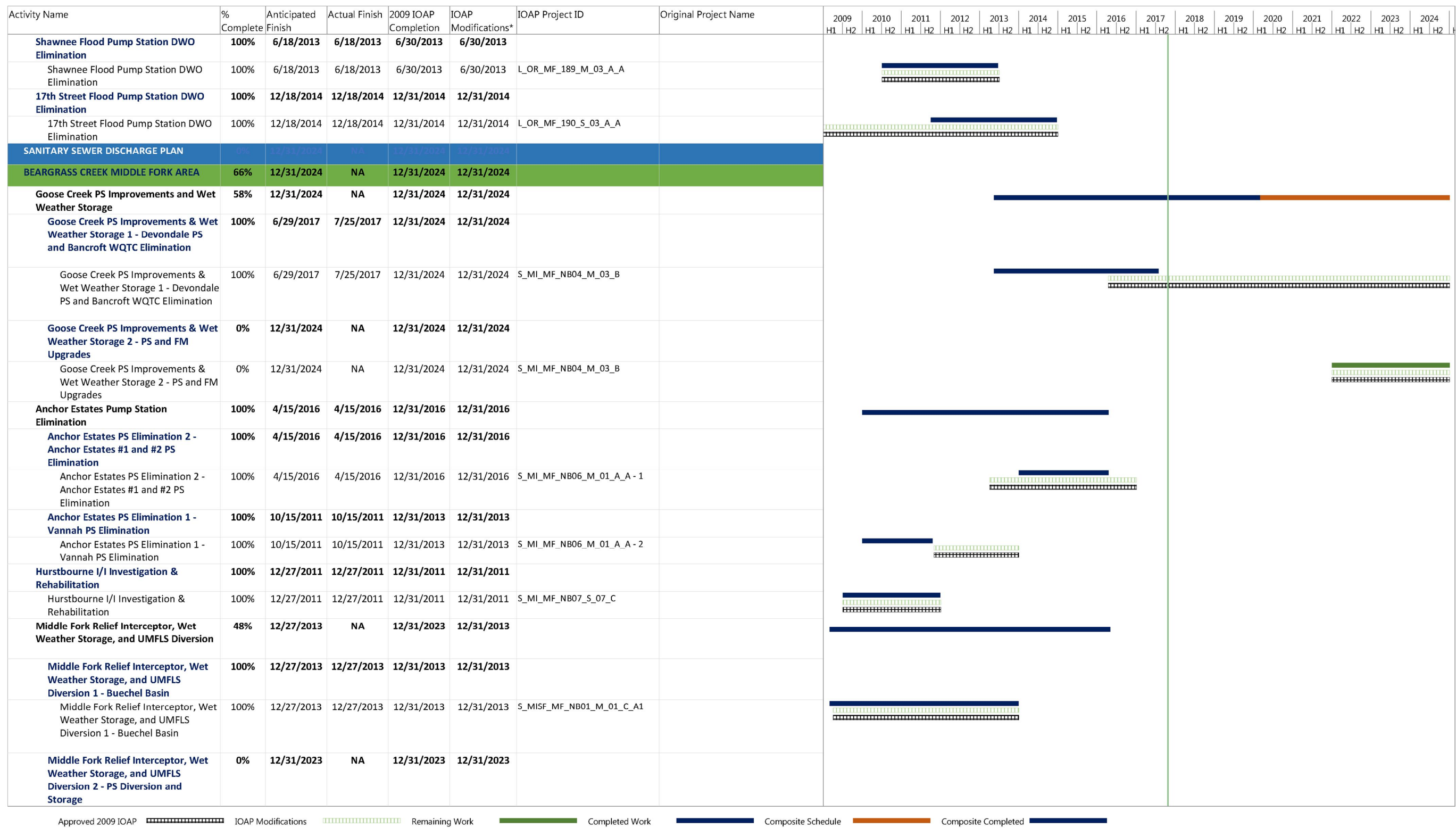
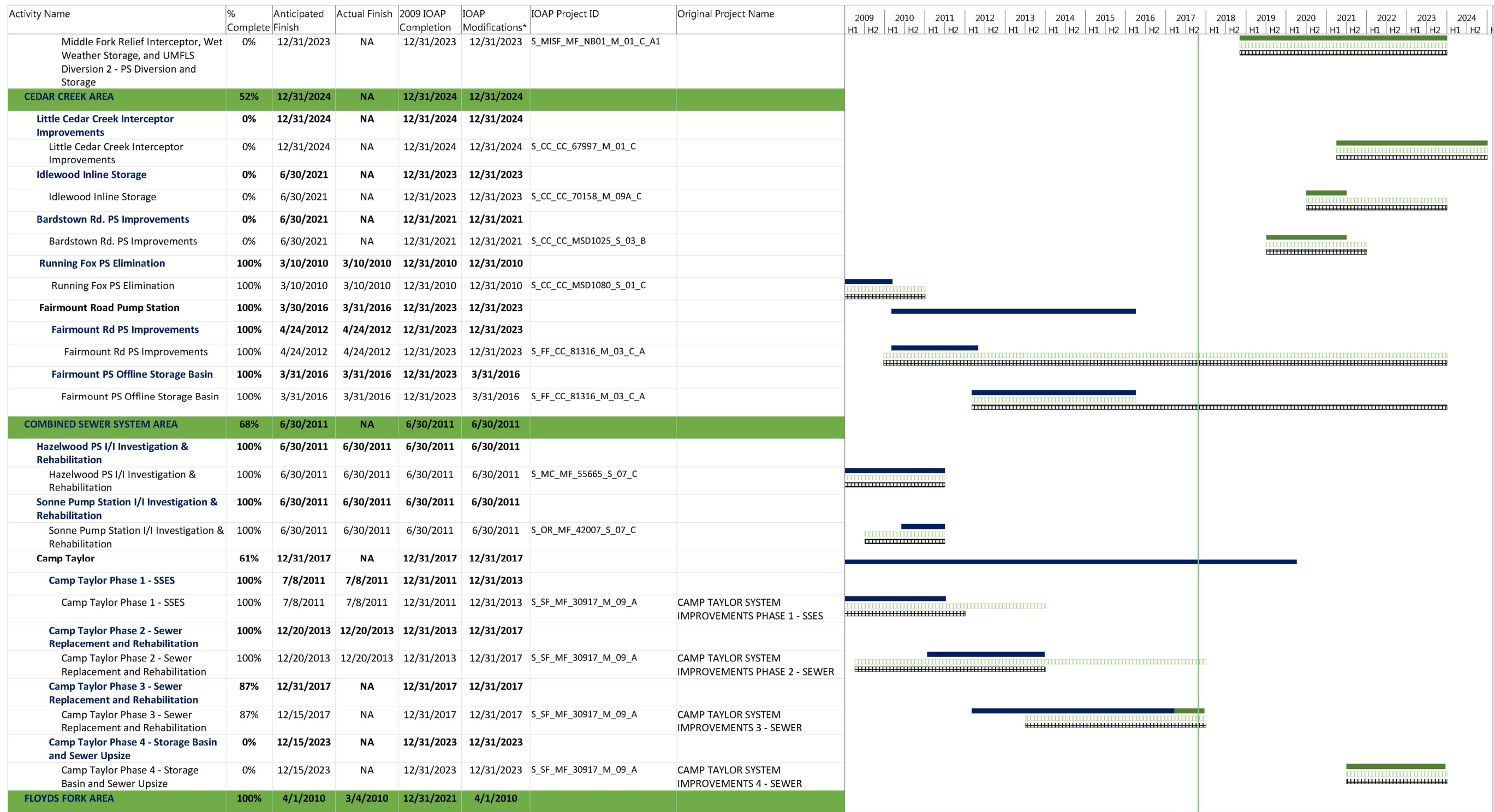


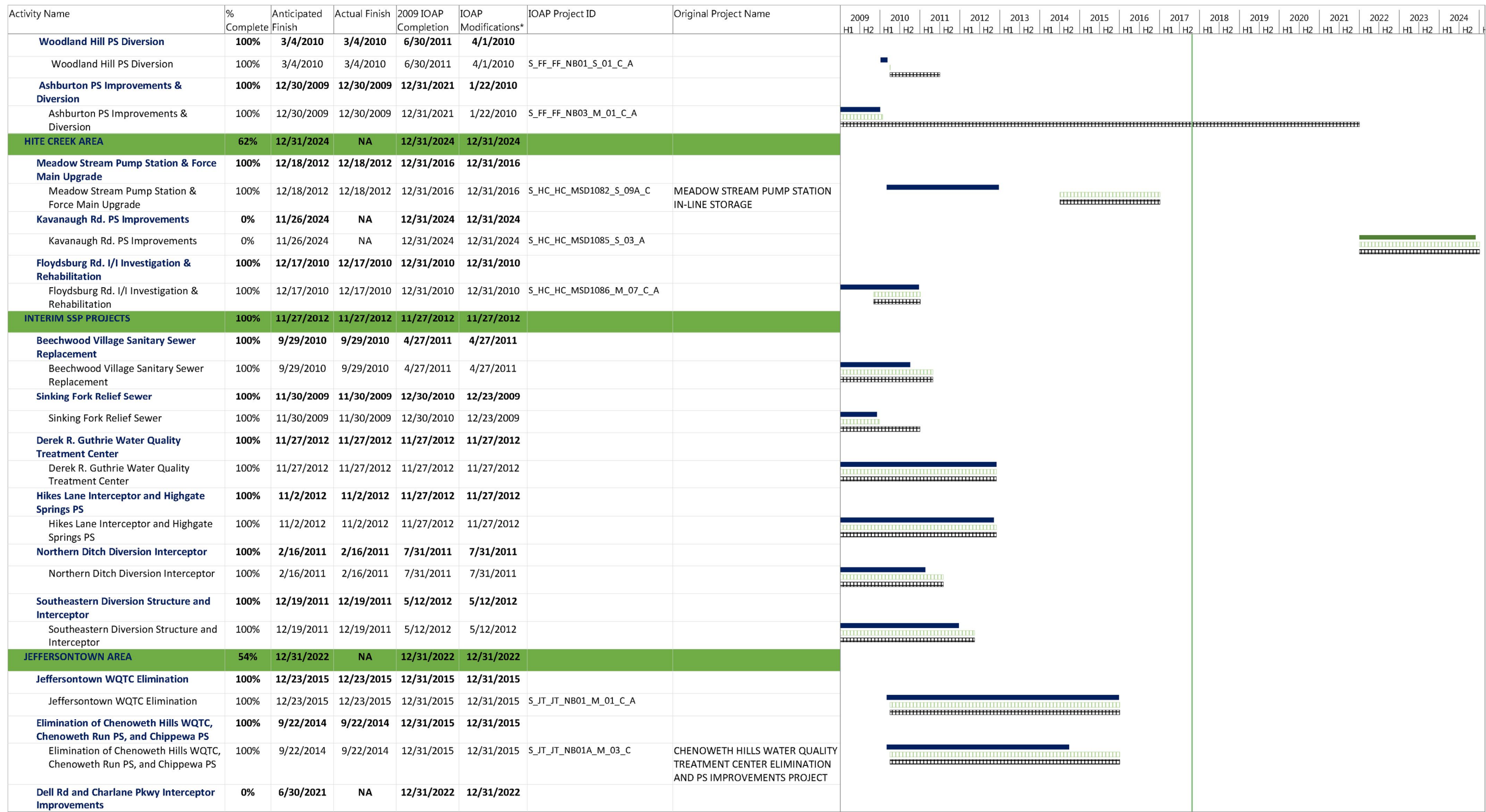
Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



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. 4 of 8 Date: 09/30/17

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule



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

Figure 3.1. MSD Integrated Overflow Abatement Plan Implementation Schedule

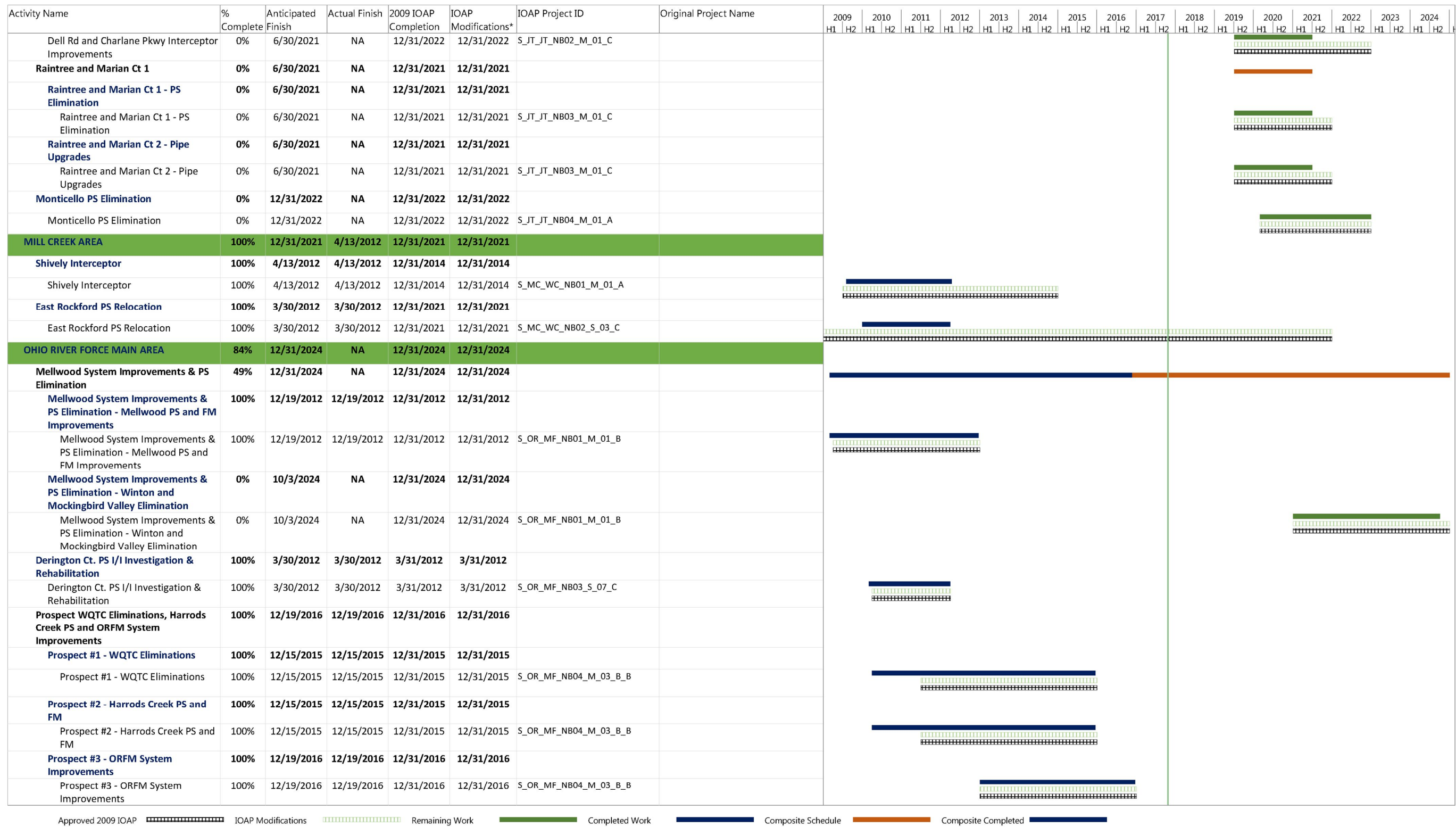


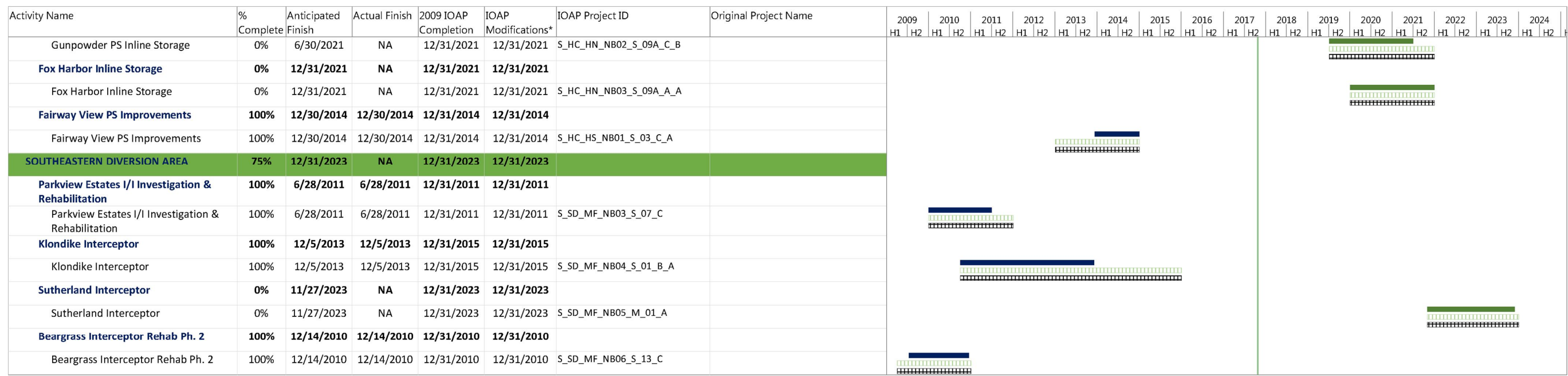
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Approved 2009 IOAP  IOAP Modifications  Remaining Work  Completed Work  Composite Schedule  Composite Completed 

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

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

4.1. PUBLIC NOTIFICATION PROGRAM

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

4.2. PUBLIC EDUCATION PROGRAMS

A public education program aimed at disseminating information to the public on MSD's primary business functions with emphasis on wastewater, stormwater and flood protection has been developed and implemented. Efforts continued to utilize various media outlets, including television, radio, magazines and newspapers, social media, and MSD websites, to serve as a conduit for circulating information to the public. This included 185 tweets and 133 Facebook posts.

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.

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

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

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
July 9, 2017	Story & Main CSO Basin: Conceptual Design Meeting	October 11, 2016
July 10, 2017	Story & Main CSO Basin: Conceptual Design Meeting	October 11, 2016
July 12, 2017	Story & Main CSO Basin: Conceptual Design Meeting	October 11, 2016
July 13, 2017	Story & Main CSO Basin: Conceptual Design Meeting	October 11, 2016
July 31, 2017	Story & Main CSO Basin: Conceptual Design Meeting	October 11, 2016
July 31, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 4, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 5, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 6, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 7, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 7, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 8, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 10, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
August 11, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 12, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 13, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 14, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 18, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 19, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 20, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 21, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 22, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 24, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 25, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 26, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 26, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 28, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
August 31, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 1, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 3, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 5, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 8, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 11, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 16, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 17, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
September 17, 2017	Ohio River Tunnel: Advanced Design Meeting	July 19, 2017
September 22, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
September 22, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
September 22, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
September 23, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
September 24, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
September 24, 2017	Southwest Parkway CSO Basin: Construction Meeting	April 18, 2017
September 25, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
September 25, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
September 27, 2017	Clifton Heights CSO Basin: Advanced Design Meeting	September 15, 2015
September 27, 2017	Story & Main CSO Basin: Conceptual Design Meeting	February 9, 2016
September 28, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
September 28, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016

Table 4.1. Metro TV Broadcasts

DATE	PROGRAM TITLE	ORIGINAL MEETING DATE
September 29, 2017	Southwest Parkway CSO Basin: Construction Meeting	April 18, 2017
September 30, 2017	Story & Main CSO Basin: Orientation Meeting	June 16, 2015
September 30, 2017	Portland CSO Basin: Conceptual Design Meeting	January 26, 2016
September 30, 2017	Southwest Parkway CSO Basin: Construction Meeting	April 18, 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.msdpwin.org/Public-Input.aspx>.

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

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

DATE	EVENT
July 11, 2017	Ohio River Tunnel: Advanced Design Meeting
July 19, 2017	Ohio River Tunnel: Advanced Design Meeting
July 25, 2017	I-64 & Grinstead CSO Basin: Construction Meeting
August 23, 2017	Wet Weather Team Meeting

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

DATE	EVENT
October 17, 2017	Southwest Parkway CSO Basin: Construction 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 continued to enhance the activities. Highlights of the CMOM program implementation over this reporting period are outlined below.

5.1. MANAGEMENT PROGRAMS

M-E-9 Infrastructure Rehabilitation

Refer to the CMOM activity schedule provided in Section 5.4.

M-E-10 System Capacity Assurance Program

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

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

5.2. OPERATIONS PROGRAMS

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

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

Refer to the CMOM activity schedule provided in Section 5.4.

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

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

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 and will continue during the next reporting period.

The Preliminary Treatment Odor Control Improvements project started construction during this reporting period.

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

During this reporting period, construction for the Secondary Clarifiers 1, 2 and 3 collection mechanisms replacement project reached final completion and is now in the warranty phase.

Vibration testing of the wet weather pumps and additional instrumentation and controls testing was conducted during the reporting period. Per recommendations from the vibration testing, a finite element analysis will be conducted on the wet weather pumps during the next quarter.

The final Regional Facilities Plan was prepared for submission to KDOW. Letters requesting comments on any significant concerns that may result from proposed projects in the recommended Plan were prepared for the Heritage Council, US Fish and Wildlife, US Corps of Engineers, Kentucky Fish and Wildlife and the Kentucky Conservation District.

The contracted construction period began for the Return Activated Sludge (RAS) 1 and 4 Pump Replacement project. This project calls for the removal and upgrade of RAS pumps 1 and 4, including replacement of the variable frequency drives.

5.3.4. CEDAR CREEK WATER QUALITY TREATMENT CENTER

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

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

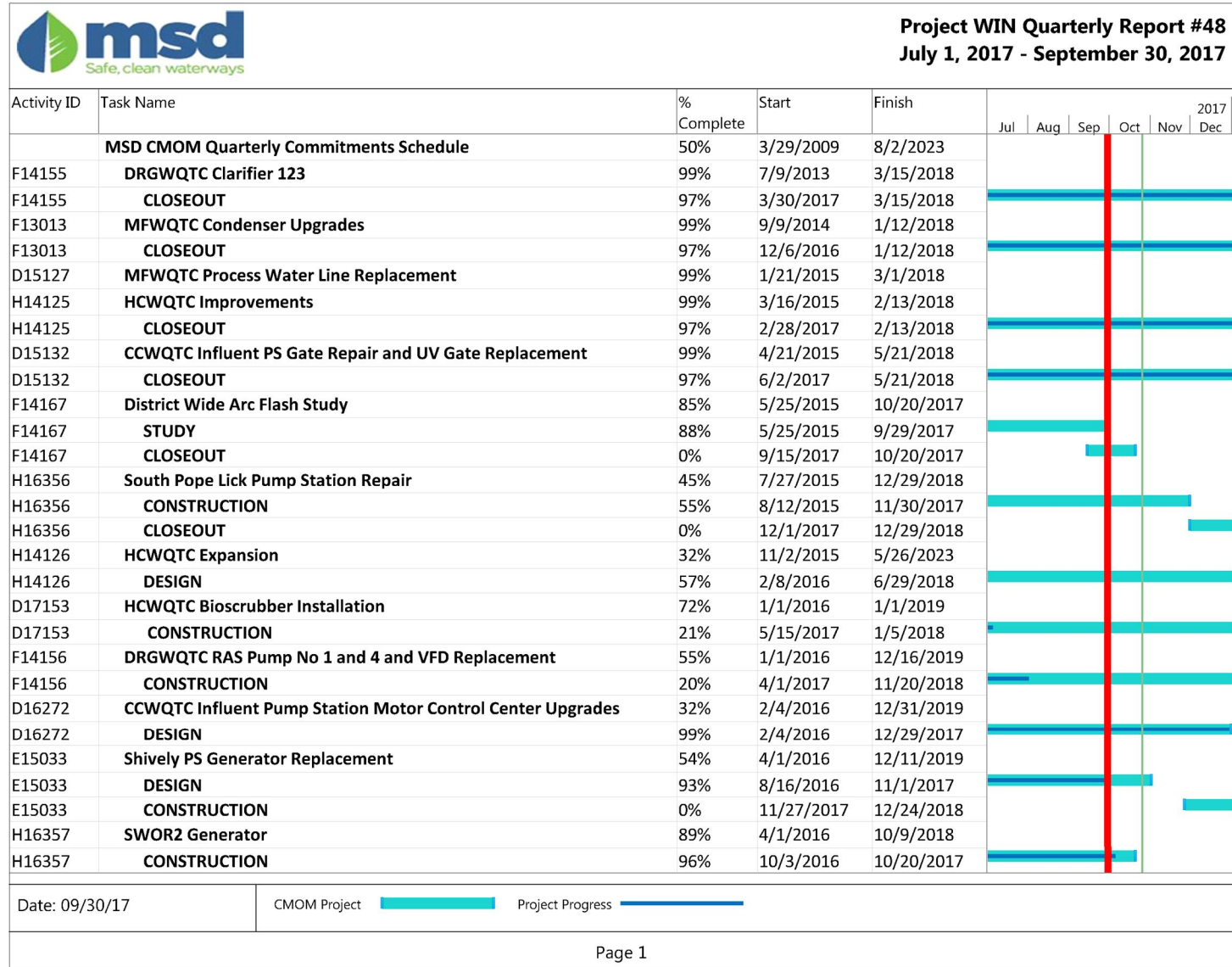
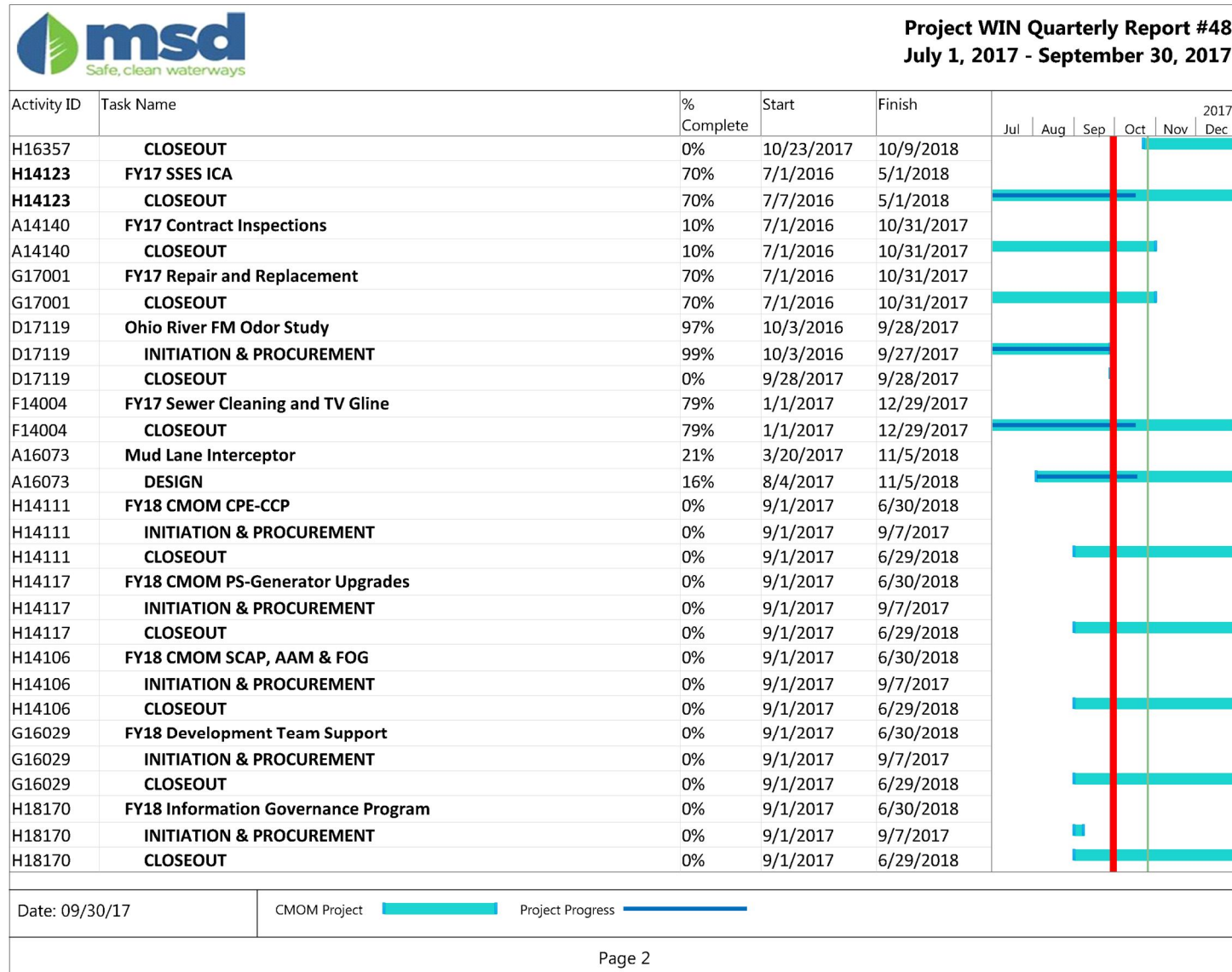


Figure 5.1. CMOM Quarterly Commitments Schedule



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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

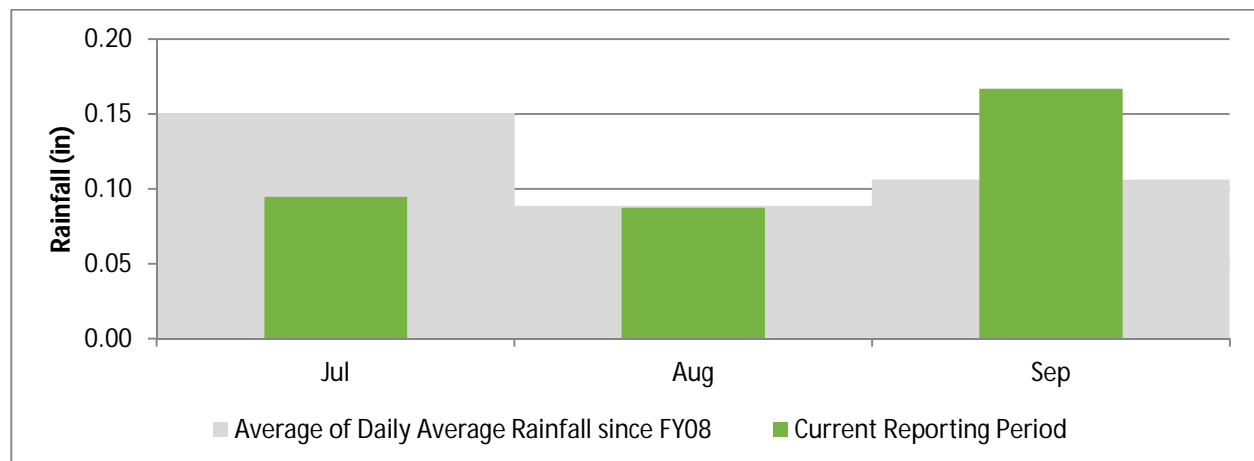
6.2.1. RAINFALL

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 July, average for August, and higher than average for September 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

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

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.

6.4.2. UNAUTHORIZED DISCHARGES – DRY WEATHER CSOs

MSD recorded information related to dry weather overflows from permitted combined sewer overflow outfalls. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. A detailed report of these overflows will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017. There was one dry weather overflow reported at a CSO 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)
7/5/2017	CSO197	OBSTRUCTION-NOT GREASE / ROOTS	LINE OBSTRUCTED WITH DEBRIS & SEDIMENT	1,825

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 will be reviewed during the upcoming 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 begin the analysis. 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. Any revised volumes for previous reporting periods up to and including FY17 for the 33 CSO locations initially reviewed will be 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

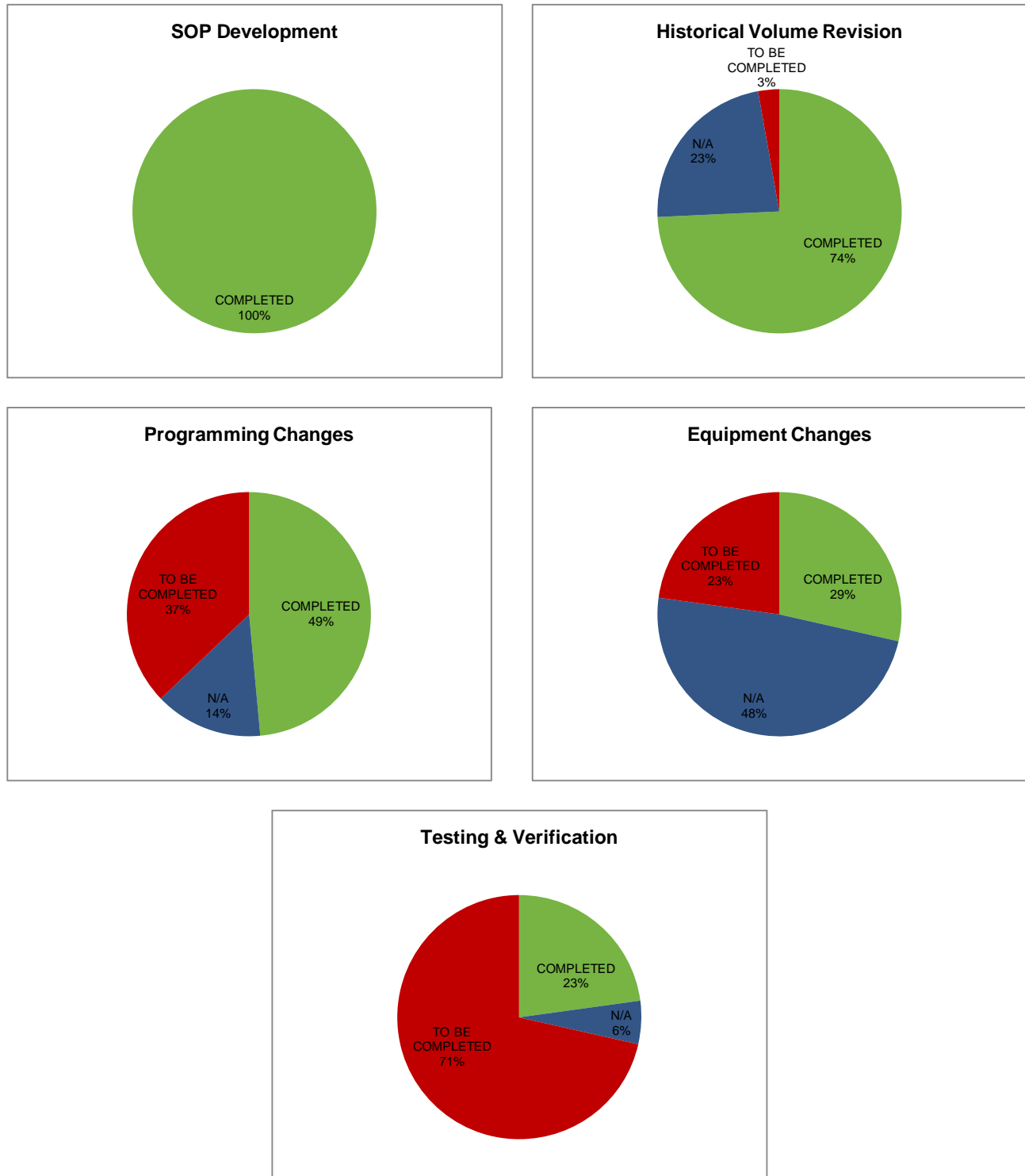
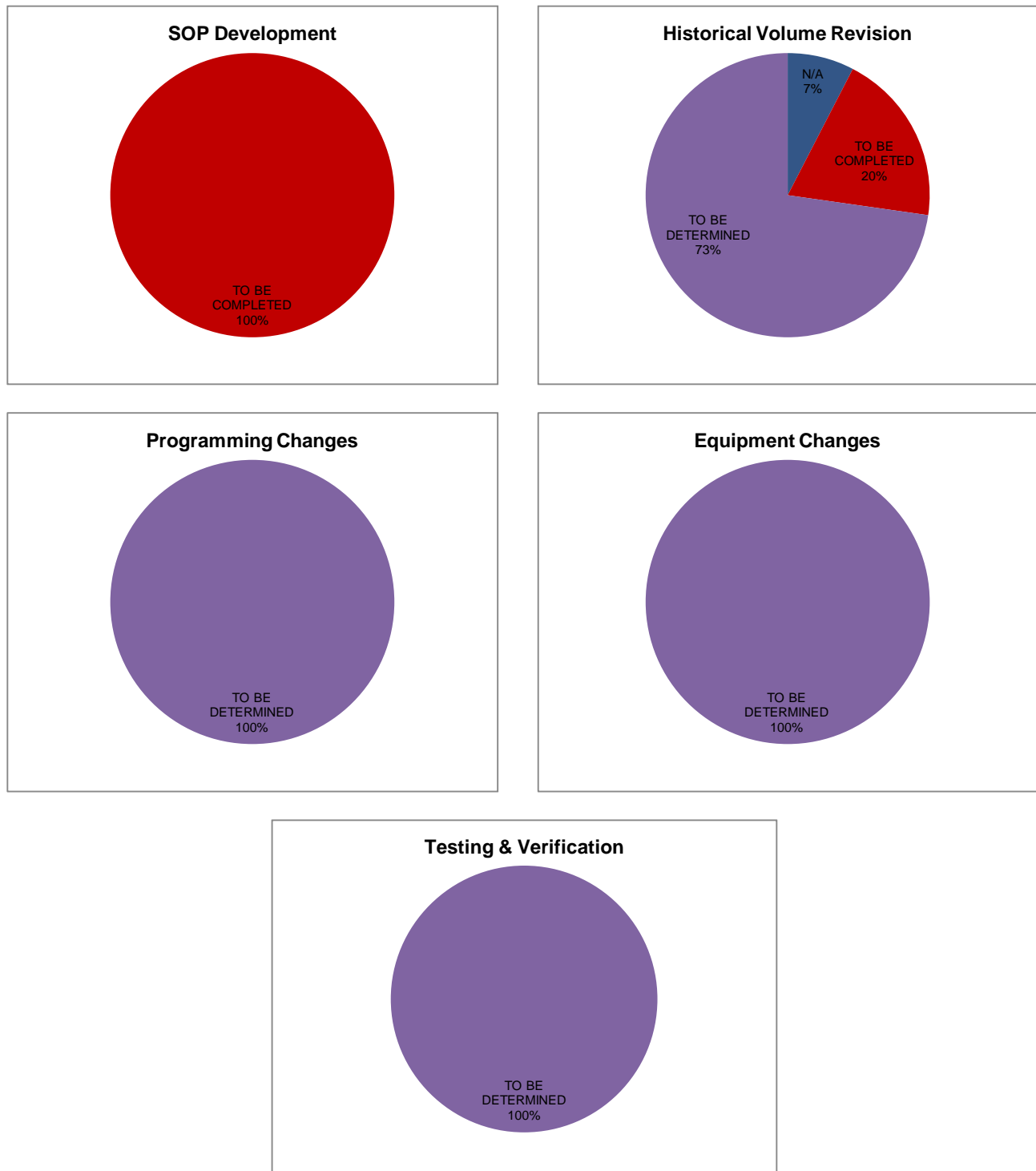


Figure 6.3. CSO Flow Monitoring Quality Improvement Status – Phase 2



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, 15 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
ELECTRICAL PROBLEMS AT MSD	0	0
LACK OF SYSTEM CAPACITY	0	12
MECHANICAL FAILURE	0	0
OBSTRUCTION-NOT GREASE / ROOTS	0	0
STRUCTURAL FAILURE	2	1
UTILITY DAMAGED MSD ASSET	0	0

6.5.2. OVERFLOWS TO THE EXTERIOR

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

6.5.3. OVERFLOWS TO INTERIOR

MSD recorded information related to overflows to building interiors for the reporting period. This information is entered and maintained in Hansen utilizing procedures reviewed and improved through efforts associated with various components of the Amended Consent Decree. These overflows, that are the result of an issue in the main line, will be included in the Annual Report for the period of July 1, 2016, through June 30, 2017.

6.6. GRAVITY LINE PREVENTIVE MAINTENANCE (GLPM)

Each quarter, data and statistics relating to the cleaning, inspection and maintenance of sewer assets performed under the Gravity Line Preventive Maintenance are reported. Data for the current and previous three reporting periods are shown in Table 6.3.

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 – By Activity

ACTIVITY	ACTIVITY TYPE	AREA	OCT-DEC	JAN-MAR	APR-JUN	JUL-SEP	TOTAL	TARGET/ QTR	% OF ANNUAL TARGET
Catch Basins Cleaned	PM	Combined System	3,921	6,995	6,799	6,317	24,032	4,460	35%
		Separate System	1,070	45	2,551	1,587	5,253	1,144	35%
	UM	Combined System	359	323	259	54	995	-	-
		Separate System	59	94	49	367	569	-	-
CSO Inspections	PM	Combined System	1,289	1,276	1,273	1,279	5,117	1,272	25%
CSO Debris Removal WO	UM		143	132	177	149	601	-	-
Sewer Main Chemical Root Treatment (LF)	UM	Combined System	60,912	602	0	0	61,514	-	-
		Separate System	60,069	267,194	0	0	327,263	-	-
Sewer Main Flushing and Cleaning (LF)	UM	Combined System	2,490	2,735	2,624	6,159	14,008	-	-
		Separate System	52,496	154,286	61,634	58,818	327,234	-	-
Sewer Main Inspections (LF)	PM	County Wide	486,473	265,419	235,246	93,687	1,080,825	396,000	6%
Sewer Main Root Cutting (LF)	UM	Combined System	0	0	1,067	310	1,377	-	-
		Separate System	7,098	13,357	13,357	6,228	48,547	-	-

APPENDICES

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

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	1218 S 3RD ST	07/05/2017 10:15 AM	07/05/2017 04:20 PM	1,825	SEWER MANHOLE	CSO197	STREAM	OHIO RIVER	LINE OBSTRUCTED WITH DEBRIS & SEDIMENT	OBSTRUCTION-NOT GREASE / ROOTS	DISDW DRY WEATHER DISCHARGE	2769793	NO CLEAN UP PERFORMED - PIPE DISCHARGING TO CENTRAL RELIEF DRAIN	FLUSHED & VACTORED UPSTREAM & DOWN STREAM LINE TO REMOVE DEBRIS & SEDIMENT.

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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
DEREK R. GUTHRIE	KY0078956	9114 CINDERELLA LN	09/02/2017 12:24 AM	09/02/2017 06:30 AM	1,830	SEWER MANHOLE	60679	DITCH	FISHPOOL CREEK	LACK OF CAPACITY (EXCESSIVE RAIN)	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797746	MSD CLEANED AND SANITIZED AREA	A SOLUTION CAN BE FOUND IN THE IOAP
DEREK R. GUTHRIE	KY0078956	9317 LANTANA DR	09/02/2017 12:58 AM	09/02/2017 04:50 AM	1,160	SEWER MANHOLE	25484	STREAM	PENNSYLVANIA RUN	LACK OF CAPACITY (EXCESSIVE RAIN)	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797756	MSD CLEANED AND SANITIZED AREA	A SOLUTION CAN BE FOUND IN THE IOAP
FLOYDS FORK	KY0102784	605 WOODLAKE DR	07/21/2017 12:30 PM	07/21/2017 12:40 PM	50	SEWER MAIN	80377A-AG	GROUND	CHENOWETH RUN, UPPER	FORCE MAIN BREAK	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2777451	MSD CLEANED AND SANITIZED AREA	FORCE MAIN REPAIRED BY CONTRACTOR
FLOYDS FORK	KY0102784	611 WOODLAKE DR	07/10/2017 01:48 PM	07/10/2017 02:45 PM	57	SEWER MAIN	80581B-AG	STREAM	FLOYDS FORK	STRUCTURAL FAILURE, FORCEMAIN BREAK	STRUCTURAL FAILURE	DISDW DRY WEATHER DISCHARGE	2771358	MSD CLEANED AND SANITIZED AREA	CONTRACTOR REPAIRED FORCEMAIN
FLOYDS FORK	KY0102784	611 WOODLAKE DR	09/05/2017 09:25 AM	09/05/2017 09:30 AM	25	SEWER MAIN	80581B-AG	STREAM	FLOYDS FORK	BROKEN FORCE MAIN	STRUCTURAL FAILURE	DISREV RAIN EVENT DISCHARGE	2799536	CONTRACTOR CLEANED AREA	SHUT OFF PUMP TO BROKEN FORCE MAIN
MORRIS FORMAN	KY0022411	1001 BRECKENRIDGE LN	09/01/2017 05:39 PM	09/02/2017 02:45 PM	3,289,123	SEWER MANHOLE	08935-SM	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797728	NO CLEAN UP PERFORMED – PIPE DISCHARGING UNDERWATER, DIRECTLY INTO STREAM	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1011 ALTA CIR	09/01/2017 06:26 PM	09/02/2017 11:32 AM	120,000	SEWER MANHOLE	45796	DITCH	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797729	WO# 2797826	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1132 ROSTREVOR CIR	09/01/2017 09:04 PM	09/02/2017 11:25 AM	66,000	SEWER MANHOLE	45835	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797734	WO# 2797831	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1700 SULGRAVE RD	09/01/2017 06:26 PM	09/02/2017 08:10 AM	100,000	SEWER MANHOLE	72289	GROUND	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797730	WO# 2797827	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	08/17/2017 07:15 PM	08/17/2017 08:15 PM	2,000	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2788007	WO# 2788055	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	1726 FRASER DR	09/01/2017 03:35 PM	09/02/2017 08:15 PM	180,631	SEWER MANHOLE	16649	DITCH	SOUTH FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797727	WO# 2797839	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	202 OXMOOR LN	09/01/2017 06:58 PM	09/02/2017 07:30 PM	90,000	SEWER MANHOLE	47583	STREAM	MIDDLE FORK BEARGRASS CREEK	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797733	WO# 2797830	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3500 ST EDWARDS DR	09/01/2017 07:15 PM	09/02/2017 01:45 PM	33,000	SEWER MANHOLE	28249	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797737	WO# 27977833	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3506 CHARLANE PKY	09/01/2017 05:40 PM	09/02/2017 01:45 PM	36,000	SEWER MANHOLE	28250	DITCH	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797736	WO# 2797832	LOCATION INCLUDED IN IOAP
MORRIS FORMAN	KY0022411	3620 CHARLANE PKY	09/01/2017 05:33 PM	09/02/2017 08:33 AM	22,500	SEWER MANHOLE	28340	GROUND	CHENOWETH RUN	LACK OF SYSTEM CAPACITY-HEAVY RAIN.	LACK OF SYSTEM CAPACITY	DISREV RAIN EVENT DISCHARGE	2797735	WO# 2797774	LOCATION INCLUDED IN IOAP

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Appendix B CSO Flow Monitoring Data

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CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO019	7/18/2017 7:45	Tue 7/18/2017 9:00 AM	75	0.13	3,824,716	0.13	0.11		1 Atlas
	7/28/2017 9:15	Fri 7/28/2017 11:15 AM	120	0.15	8,465,492	1.26	0.08		3 Atlas
	8/1/2017 21:30	Tue 8/1/2017 11:30 PM	120	0.22	26,608,008	0.38	0.15		3 Atlas
	8/6/2017 14:45	Mon 8/7/2017 1:30 AM	645	0.61	712,173	0.91	0.27		12 Atlas
	8/17/2017 14:45	Thu 8/17/2017 7:15 PM	270	0.36	746,926	0.40	0.20		6 Atlas
CSO019 Total									
CSO027	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.28	6,184	0.53			
CSO027 Total									
CSO028	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.14	1,581	0.22			
CSO028 Total									
CSO029	7/7/2017 20:45	Fri 7/7/2017 8:45 PM	0	0.24	53,357	1.05	74.07		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 6:45 AM	255	1.14	129,797	0.78			
	7/28/2017 9:30	Fri 7/28/2017 9:45 AM	15	0.26	236,059	1.40	370.59		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.28	55,396	0.53			
	8/17/2017 18:00	Thu 8/17/2017 6:00 PM	0	0.49	36,466	0.51			
	8/22/2017 16:00	Tue 8/22/2017 4:30 PM	30	0.61	87,020	1.13			
	8/29/2017 5:15	Tue 8/29/2017 7:15 AM	120	0.03	5,299,358	0.67			
	8/29/2017 19:15	Tue 8/29/2017 7:15 PM	0	0.08	539,727	0.14			
	9/1/2017 7:30	Fri 9/1/2017 3:00 PM	450	2.61	45,782	1.44			
	9/19/2017 8:45	Tue 9/19/2017 8:45 AM	0	0.38	10,554	0.61			
CSO029 Total									
CSO031	7/23/2017 2:45	Sun 7/23/2017 11:00 AM	495	1.14	427,746	1.16			
	7/29/2017 10:15	Sat 7/29/2017 10:15 AM	0	Discharge		1.42			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.49	27	0.22			
CSO031 Total									
CSO034	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.14	4,282	0.22			
	7/28/2017 9:30	Fri 7/28/2017 9:30 AM	0	0.26	93	1.39	370.59		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.28	5	0.53			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.49	33,981	0.22			
	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.61	36,634	1.01			
	9/19/2017 8:00	Tue 9/19/2017 8:00 AM	0	0.38	4,584	0.49			
CSO034 Total									
CSO035	7/7/2017 20:45	Fri 7/7/2017 8:45 PM	0	0.23	192,311	1.09	0.46		3 Atlas
	7/23/2017 2:45	Sun 7/23/2017 3:30 AM	45	1.18	352,140	0.34	8.17		12 Cloudburst
	7/28/2017 9:30	Fri 7/28/2017 9:45 AM	15	0.31	401,168	1.49			
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.22	898,499	0.53	0.55		1 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:00 PM	180	0.66	394,017	0.67	1.39		6 Cloudburst
	8/22/2017 16:00	Tue 8/22/2017 4:45 PM	45	0.62	494,508	1.30	1.61		1 Atlas
	9/1/2017 14:45	Fri 9/1/2017 3:00 PM	15	2.84	5,822	1.57	263.03		24 Cloudburst
	9/19/2017 8:00	Tue 9/19/2017 8:45 AM	45	0.39	1,071,387	0.64	0.76		3 Atlas
CSO035 Total									
CSO036	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.18	4,705	0.23	8.17		12 Cloudburst
	8/1/2017 10:15	Tue 8/1/2017 9:45 PM	690	Discharge		0.53			
	8/6/2017 14:45	Mon 8/7/2017 12:15 AM	570	0.57	15,772	0.80	0.76		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:15 PM	195	0.66	55,823	0.69	1.39		6 Cloudburst
	8/22/2017 12:45	Tue 8/22/2017 4:45 PM	240	0.62	77,066	1.30	1.61		1 Atlas
	8/29/2017 19:30	Tue 8/29/2017 7:30 PM	0	0.08	26,138	0.14			
	9/1/2017 7:45	Sat 9/2/2017 5:15 AM	1,290	2.84	50,580	2.95	263.03		24 Cloudburst
CSO036 Total									
CSO038	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.28	31	0.53			
	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.61	0	1.01			
CSO038 Total									
CSO051	7/7/2017 20:30	Fri 7/7/2017 8:30 PM	0	0.22	6,406	1.42	0.70		1 Atlas
	7/23/2017 3:00	Sun 7/23/2017 6:30 AM	210	1.33	10,692	0.96	70.77		12 Atlas

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO051	7/28/2017 9:00	Fri 7/28/2017 9:45 AM	45	0.34	20,239	1.68	1.39		1 Atlas
	8/1/2017 21:15	Tue 8/1/2017 9:30 PM	15	0.87	30,145	1.08	382.35		1 Atlas
	8/6/2017 14:30	Sun 8/6/2017 2:30 PM	0	0.73	2,741	1.09	3.02		12 Cloudburst
	8/22/2017 15:45	Tue 8/22/2017 4:00 PM	15	0.37	42,274	0.79	1.39		1 Atlas
	9/1/2017 10:15	Sat 9/2/2017 5:45 AM	1,170	2.8	95,723	2.91			
	9/19/2017 8:15	Tue 9/19/2017 8:15 AM	0	0.39	16	0.56	0.99		3 Atlas
CSO051 Total									
CSO053	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.63	131,091	1.06			
	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.35	19,465	0.74	10.00		1 Atlas
	9/19/2017 8:00	Tue 9/19/2017 8:15 AM	15	0.54	63,682	0.73	80.00		3 Cloudburst
CSO053 Total									
CSO055	7/23/2017 1:45	Sun 7/23/2017 11:00 AM	555	1.15	481,637	1.22			
	8/1/2017 21:15	Tue 8/1/2017 9:45 PM	30	0.63	442,372	1.10			
	8/6/2017 23:45	Sun 8/6/2017 11:45 PM	0	0.67	363	1.30	26.25		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:00 PM	180	0.38	1,733	0.40	4.42		6 Cloudburst
	8/22/2017 12:15	Tue 8/22/2017 5:30 PM	315	0.35	95,141	0.77	10.00		1 Atlas
	9/1/2017 9:30	Sat 9/2/2017 8:00 AM	1,350	2.71	805,441	2.82			
	9/19/2017 8:00	Tue 9/19/2017 9:30 AM	90	0.54	115,052	0.84	80.00		3 Cloudburst
CSO055 Total									
CSO057	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.62	2,236	0.95	13.64		1 Atlas
	9/1/2017 14:45	Fri 9/1/2017 9:45 PM	420	2.69	961	2.25			
	9/19/2017 8:00	Tue 9/19/2017 8:15 AM	15	0.46	169	0.61			
CSO057 Total									
CSO058	7/6/2017 4:30	Thu 7/6/2017 1:00 PM	510	0.53	8,689	1.00	0.25		3 Atlas
	7/7/2017 20:30	Fri 7/7/2017 9:15 PM	45	0.19	3,159	1.27	0.13		3 Atlas
CSO058 Total									
CSO082	7/23/2017 3:00	Sun 7/23/2017 3:30 AM	30	1.02	23,252	0.49	53.85		12 Atlas
	9/1/2017 13:00	Sat 9/2/2017 5:30 AM	990	2.98	282,329	3.05			
	9/19/2017 8:30	Tue 9/19/2017 12:30 PM	240	0.47	993,044	0.89			
CSO082 Total									
CSO083	7/23/2017 2:30	Sun 7/23/2017 2:30 AM	0	1.18	162	0.33	148.48		12 Cloudburst
	7/28/2017 9:30	Fri 7/28/2017 9:45 AM	15	0.52	4,463	1.67			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.53	17,467	0.19	4.77		6 Cloudburst
CSO083 Total									
CSO084	7/6/2017 5:00	Thu 7/6/2017 1:15 PM	495	0.51	7,127	0.83	1.94		6 Cloudburst
	7/7/2017 21:15	Fri 7/7/2017 9:15 PM	0	0.26	4,879	0.87	0.87		1 Atlas
	7/23/2017 7:00	Sun 7/23/2017 7:15 AM	15	1.18	1,967	0.91	148.48		12 Cloudburst
	7/28/2017 9:30	Fri 7/28/2017 10:15 AM	45	0.52	4,337	1.71			
	8/6/2017 17:00	Mon 8/7/2017 12:00 AM	420	0.56	4,170	0.79	2.53		12 Cloudburst
	8/17/2017 15:15	Thu 8/17/2017 11:00 PM	465	0.53	10,422	0.56	4.77		6 Cloudburst
	8/22/2017 16:30	Tue 8/22/2017 4:30 PM	0	0.76	1,503	1.32	164.71		1 Atlas
	9/1/2017 10:30	Sat 9/2/2017 1:00 AM	870	3.29	7,366	3.07			
	9/19/2017 8:00	Tue 9/19/2017 9:45 AM	105	0.43	10,206	0.84			
CSO084 Total									
CSO088	7/23/2017 2:45	Sun 7/23/2017 3:30 AM	45	1.02	15,853	0.61	201.82		12 Cloudburst
	7/28/2017 9:45	Fri 7/28/2017 9:45 AM	0	0.47	20,763	1.46	34.82		1 Atlas
	8/17/2017 15:15	Fri 8/18/2017 12:15 PM	1,260	0.34	749,551	0.38	1.64		6 Cloudburst
CSO088 Total									
CSO092	7/23/2017 2:30	Sun 7/23/2017 6:30 AM	240	1.19	1,217	0.84	160.61		12 Cloudburst
CSO092 Total									
CSO104	8/22/2017 16:00	Tue 8/22/2017 4:45 PM	45	0.42	31,738	0.79	0.89		1 Atlas
	9/1/2017 15:15	Fri 9/1/2017 3:45 PM	30	3.66	287	2.05			
CSO104 Total									
CSO105	7/6/2017 12:00	Thu 7/6/2017 2:30 PM	150	0.28	886,130	1.08	0.40		3 Atlas

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO105	7/7/2017 20:30	Sat 7/8/2017 12:00 AM	210	0.31	3,696,187	1.39	0.70		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 11:15 AM	510	1.12	5,571,052	1.33	6.44		12 Cloudburst
	8/1/2017 21:15	Wed 8/2/2017 12:00 AM	165	0.21	16,802,194	0.32	0.42		3 Atlas
	8/17/2017 17:45	Thu 8/17/2017 7:45 PM	120	0.33	622,834	0.37	0.55		1 Atlas
	8/22/2017 0:45	Tue 8/22/2017 12:45 AM	0	0.01	2,230,826	0.37	0.03		1 Atlas
	9/19/2017 9:00	Tue 9/19/2017 11:45 AM	165	0.17	10,770,314	0.60			
	8/31/2017 18:30	Sat 9/2/2017 8:00 AM	2,700	3.84	6,711,668	3.90			
CSO105 Total									
CSO108	8/7/2017 12:45	Mon 8/7/2017 1:00 PM	15	Discharge		1.05			
	8/17/2017 14:45	Thu 8/17/2017 2:45 PM	0	0.95	278	0.10	0.55		3 Atlas
	8/29/2017 14:30	Tue 8/29/2017 2:45 PM	15	0.16	2,800	0.51			
	9/1/2017 17:45	Sat 9/2/2017 1:30 AM	465	4.02	3,156	3.87	4.36		24 Cloudburst
CSO108 Total									
CSO109	7/6/2017 5:00	Thu 7/6/2017 5:00 AM	0	0.97	11,449	1.09	0.82		12 Atlas
	7/7/2017 21:15	Fri 7/7/2017 9:15 PM	0	0.3	142,436	1.33	0.42		1 Atlas
	7/23/2017 3:00	Sun 7/23/2017 7:15 AM	255	1.41	107,259	0.99	3.11		12 Cloudburst
	7/28/2017 9:45	Fri 7/28/2017 10:15 AM	30	0.53	384,310	1.94	0.83		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:15 PM	0	0.13	334,379	0.71	0.21		1 Atlas
	8/17/2017 15:15	Thu 8/17/2017 6:00 PM	165	0.96	171,286	0.93	1.31		6 Cloudburst
	8/22/2017 16:15	Tue 8/22/2017 4:15 PM	0	0.5	405,042	1.46	0.68		1 Atlas
	9/1/2017 14:45	Fri 9/1/2017 2:45 PM	0	4.03	12,314	2.20	181.52		24 Cloudburst
	9/1/2017 23:00	Sat 9/2/2017 1:00 AM	120	4.03	32,627	3.87	181.52		24 Cloudburst
CSO109 Total									
CSO110	7/6/2017 5:00	Thu 7/6/2017 2:15 PM	555	0.58	769	1.36	0.53		3 Atlas
	7/7/2017 21:15	Fri 7/7/2017 10:30 PM	75	0.35	964	1.05	0.49		1 Atlas
	7/23/2017 3:00	Sun 7/23/2017 11:00 AM	480	1.08	1,109	1.07	1.00		12 Cloudburst
	7/28/2017 10:00	Fri 7/28/2017 11:30 AM	90	0.28	1,376	1.35	0.40		1 Atlas
	8/2/2017 13:30	Wed 8/2/2017 2:00 PM	30	0.33	134	0.66	0.57		1 Atlas
	8/6/2017 17:00	Mon 8/7/2017 1:15 AM	495	0.6	576	0.99	0.53		12 Atlas
	8/17/2017 15:15	Thu 8/17/2017 8:00 PM	285	0.69	1,013	0.72	0.75		6 Atlas
	8/22/2017 16:15	Tue 8/22/2017 5:15 PM	60	0.55	640	1.26	0.78		1 Atlas
	8/29/2017 19:45	Tue 8/29/2017 8:00 PM	15	0.14	274	0.17			
	9/1/2017 8:15	Sat 9/2/2017 11:30 AM	1,635	3.88	1,274	4.05	151.18		24 Cloudburst
	9/19/2017 9:15	Tue 9/19/2017 10:45 AM	90	0.46	503	0.86			
CSO110 Total									
CSO111	7/6/2017 13:15	Thu 7/6/2017 1:15 PM	0	0.58	585	1.32	0.53		3 Atlas
	7/7/2017 21:15	Fri 7/7/2017 9:15 PM	0	0.35	3,815	1.02	0.49		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 7:15 AM	270	1.08	4,990	0.78	1.00		12 Cloudburst
	7/28/2017 10:00	Fri 7/28/2017 10:30 AM	30	0.28	32,952	1.35	0.40		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:15 PM	0	0.33	1,454	0.66	0.57		1 Atlas
	9/1/2017 15:00	Fri 9/1/2017 10:00 PM	420	3.88	835	3.48	151.18		24 Cloudburst
CSO111 Total									
CSO118	7/6/2017 4:00	Thu 7/6/2017 5:30 PM	810	0.51	835,072	0.94	1.94		6 Cloudburst
	7/7/2017 20:30	Fri 7/7/2017 10:00 PM	90	0.26	1,444,838	1.19	0.87		1 Atlas
	7/23/2017 1:45	Sun 7/23/2017 10:30 AM	525	1.18	2,780,016	1.18	148.48		12 Cloudburst
	7/28/2017 9:15	Fri 7/28/2017 10:45 AM	90	0.52	3,376,508	1.71			
	8/1/2017 21:15	Tue 8/1/2017 10:15 PM	60	0.23	2,006,748	0.76	0.96		1 Atlas
	8/2/2017 13:00	Wed 8/2/2017 1:15 PM	15	0.01	84,713	0.78	0.04		1 Atlas
	8/6/2017 14:30	Mon 8/7/2017 12:30 AM	600	0.56	565,641	0.80	2.53		12 Cloudburst
	8/17/2017 15:00	Fri 8/18/2017 10:30 AM	1,170	0.53	3,000,564	0.56	4.77		6 Cloudburst
	8/22/2017 12:30	Tue 8/22/2017 5:15 PM	285	0.76	2,436,188	1.32	164.71		1 Atlas
	8/29/2017 19:15	Tue 8/29/2017 7:45 PM	30	0.05	22,176	0.09			
	9/1/2017 4:15	Sat 9/2/2017 5:45 AM	1,530	3.29	3,444,501	3.36			
	9/12/2017 6:00	Tue 9/12/2017 8:00 AM	120	0.73	2,290	0.48	1.95		48 Cloudburst

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO118	9/12/2017 20:15	Tue 9/12/2017 9:45 PM	90	0.73	785	0.46	1.95		48 Cloudburst
	9/13/2017 12:15	Wed 9/13/2017 7:15 PM	420	0.73	2,259	0.72	1.95		48 Cloudburst
	9/19/2017 8:00	Tue 9/19/2017 10:45 AM	165	0.43	5,270,471	0.86			
CSO118 Total									
CSO119	7/6/2017 4:30	Thu 7/6/2017 1:00 PM	510	0.51	117,061	0.82	1.94		6 Cloudburst
	7/7/2017 20:30	Fri 7/7/2017 9:00 PM	30	0.26	97,138	1.14	0.87		1 Atlas
	7/23/2017 2:15	Sun 7/23/2017 9:30 AM	435	1.18	190,902	1.16	148.48		12 Cloudburst
	7/28/2017 9:15	Fri 7/28/2017 10:15 AM	60	0.52	218,025	1.71			
	8/6/2017 16:45	Sun 8/6/2017 11:45 PM	420	0.56	29,892	0.78	2.53		12 Cloudburst
	8/17/2017 14:45	Thu 8/17/2017 11:00 PM	495	0.53	680,474	0.56	4.77		6 Cloudburst
	8/22/2017 15:45	Tue 8/22/2017 4:30 PM	45	0.76	155,349	1.32	164.71		1 Atlas
	9/1/2017 8:00	Sat 9/1/2017 4:30 AM	1,230	3.29	351,934	3.30			
	9/19/2017 7:45	Tue 9/19/2017 9:45 AM	120	0.43	371,041	0.84			
CSO119 Total									
CSO120	7/6/2017 4:45	Thu 7/6/2017 1:00 PM	495	0.5	111,550	0.76	2.71		3 Atlas
	7/7/2017 20:45	Fri 7/7/2017 8:45 PM	0	0.22	2,500	0.96	0.73		3 Atlas
	7/23/2017 1:45	Sun 7/23/2017 6:45 AM	300	1.02	257,736	0.71	53.85		12 Atlas
	7/28/2017 9:30	Fri 7/28/2017 10:15 AM	45	0.52	424,007	1.53	23.18		1 Atlas
	8/6/2017 17:00	Mon 8/7/2017 12:00 AM	420	0.52	81,315	0.86	1.91		12 Cloudburst
	8/17/2017 15:00	Fri 8/18/2017 10:15 AM	1,155	0.36	7,380,238	0.40	1.22		1 Atlas
	8/22/2017 12:30	Tue 8/22/2017 4:45 PM	255	0.74	220,943	1.13	43.75		1 Atlas
	9/1/2017 10:15	Sat 9/2/2017 3:30 AM	1,035	2.98	284,156	2.91			
	9/19/2017 8:00	Tue 9/19/2017 9:00 AM	60	0.47	211,555	0.74			
CSO120 Total									
CSO121	7/6/2017 4:45	Thu 7/6/2017 1:00 PM	495	0.5	41,021	0.76	2.71		3 Atlas
	7/7/2017 20:45	Fri 7/7/2017 8:45 PM	0	0.22	25,538	0.96	0.73		3 Atlas
	7/23/2017 1:45	Sun 7/23/2017 7:00 AM	315	1.02	62,745	0.73	53.85		12 Atlas
	7/28/2017 9:30	Fri 7/28/2017 10:15 AM	45	0.52	38,583	1.53	23.18		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:45 PM	15	0.32	7,233	0.82	3.13		1 Atlas
	8/6/2017 14:30	Sun 8/6/2017 2:45 PM	15	0.52	4,668	0.49	1.91		12 Cloudburst
	8/6/2017 23:45	Mon 8/7/2017 12:00 AM	15	0.52	30,775	0.86	1.91		12 Cloudburst
	8/14/2017 6:45	Mon 8/14/2017 6:45 AM	0	0.03	389	0.03	0.10		3 Atlas
	8/17/2017 15:00	Thu 8/17/2017 11:15 PM	495	0.36	501,582	0.40	1.22		1 Atlas
	8/22/2017 16:00	Tue 8/22/2017 4:45 PM	45	0.74	96,103	1.13	43.75		1 Atlas
	9/1/2017 6:45	Sat 9/2/2017 4:00 AM	1,275	2.98	98,723	2.94			
	9/12/2017 7:30	Tue 9/12/2017 7:30 AM	0	0.71	4	0.29	1.78		48 Cloudburst
	9/19/2017 8:15	Tue 9/19/2017 10:00 AM	105	0.47	153,188	0.88			
CSO121 Total									
CSO125	7/6/2017 4:30	Thu 7/6/2017 1:30 PM	540	0.54	698,964	0.75	0.45		6 Atlas
	7/23/2017 2:45	Sun 7/23/2017 10:00 AM	435	1.1	580,194	1.11	1.09		12 Cloudburst
	7/28/2017 9:45	Fri 7/28/2017 10:15 AM	30	0.57	461,535	1.66	0.85		1 Atlas
	8/1/2017 22:00	Tue 8/1/2017 10:00 PM	0	0.13	120,711	0.68	0.17		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:30 PM	15	0.05	3,318,078	0.74	0.07		1 Atlas
	8/6/2017 17:15	Mon 8/7/2017 12:15 AM	420	0.55	332,316	0.74	0.50		12 Atlas
	8/17/2017 15:15	Thu 8/17/2017 6:30 PM	195	0.45	749,636	0.48	0.49		6 Atlas
	8/22/2017 16:15	Tue 8/22/2017 5:00 PM	45	0.52	682,750	0.99	0.63		1 Atlas
CSO125 Total									
CSO127	7/6/2017 4:15	Fri 7/7/2017 9:15 AM	1,740	0.61	2,726,591	1.08	0.98		6 Atlas
	7/7/2017 21:00	Fri 7/7/2017 9:00 PM	0	0.13	788,520	0.79	0.35		3 Atlas
	7/23/2017 2:45	Sun 7/23/2017 10:30 AM	465	1.21	222,304	1.21	41.25		12 Atlas
	7/28/2017 9:45	Fri 7/28/2017 11:00 AM	75	0.76	182,642	1.97	92.59		1 Atlas
	8/1/2017 21:45	Tue 8/1/2017 10:15 PM	30	0.19	301,857	0.94	0.59		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:45 PM	30	0.22	127,670	1.17	0.77		1 Atlas
	8/6/2017 15:00	Mon 8/7/2017 12:45 AM	585	0.62	154,594	1.04	1.56		12 Cloudburst

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO127	8/17/2017 15:15	Thu 8/17/2017 7:00 PM	225	0.51	173,534	0.55	1.64		6 Cloudburst
	8/22/2017 16:30	Tue 8/22/2017 5:15 PM	45	0.43	140,741	0.96	0.97		1 Atlas
	9/1/2017 7:45	Sat 9/2/2017 6:30 AM	1,365	4.2	346,687	4.28			
	9/12/2017 6:45	Tue 9/12/2017 8:00 AM	75	0.28	10,709	0.33			
	9/12/2017 21:30	Tue 9/12/2017 9:30 PM	0	0.44	218	0.37			
	9/13/2017 12:45	Wed 9/13/2017 1:00 PM	15	0.44	67,761	0.58			
	9/19/2017 8:15	Tue 9/19/2017 10:45 AM	150	0.46	248,201	0.91			
CSO127 Total									
CSO130	7/6/2017 4:45	Thu 7/6/2017 5:15 AM	30	0.46	3,760	0.43	2.63		6 Cloudburst
	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.02	978	0.44	201.82		12 Cloudburst
CSO130 Total									
CSO131	7/23/2017 2:30	Sun 7/23/2017 3:00 AM	30	1.02	8,129	0.51	201.82		12 Cloudburst
	8/17/2017 14:45	Thu 8/17/2017 2:45 PM	0	0.34	104,779	0.14	1.64		6 Cloudburst
	8/22/2017 15:45	Tue 8/22/2017 3:45 PM	0	0.47	45,130	0.80	9.23		1 Atlas
CSO131 Total									
CSO132	7/6/2017 4:30	Thu 7/6/2017 1:30 PM	540	0.48	778,041	0.66	0.61		6 Atlas
	7/7/2017 20:30	Fri 7/7/2017 8:30 PM	0	0.12	329,661	0.80	0.24		3 Atlas
	7/28/2017 10:30	Fri 7/28/2017 10:30 AM	0	0.42	2,883	1.41	0.91		1 Atlas
	8/6/2017 17:00	Mon 8/7/2017 12:15 AM	435	0.43	1,179,353	0.58	0.58		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:30 PM	210	0.32	2,096,432	0.36	0.55		1 Atlas
	8/22/2017 12:30	Tue 8/22/2017 5:00 PM	270	0.44	668,399	0.78	0.73		1 Atlas
	9/1/2017 8:00	Sat 9/2/2017 6:45 AM	1,365	3.57	1,482,492	3.65			
	9/12/2017 7:15	Tue 9/12/2017 7:15 AM	0	0.3	135,270	0.24			
	9/19/2017 8:00	Tue 9/19/2017 10:15 AM	135	0.41	1,361,319	0.87			
CSO132 Total									
CSO140	7/6/2017 4:45	Thu 7/6/2017 12:45 PM	480	0.48	730,403	0.76	0.93		3 Atlas
	7/23/2017 2:30	Sun 7/23/2017 6:30 AM	240	1.12	1,151,848	0.83	26.25		12 Atlas
	7/28/2017 9:15	Fri 7/28/2017 9:45 AM	30	0.58	1,160,673	1.68			
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.25	980,516	0.83	0.83		1 Atlas
	8/6/2017 23:45	Sun 8/6/2017 11:45 PM	0	0.49	308,296	0.73	0.86		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 5:45 PM	165	0.37	1,034,681	0.32	0.80		1 Atlas
	8/22/2017 12:30	Tue 8/22/2017 4:30 PM	240	0.53	1,772,696	0.90	1.91		1 Atlas
	9/1/2017 11:45	Sat 9/2/2017 3:30 AM	945	3.46	2,700,690	3.41			
	9/13/2017 12:15	Wed 9/13/2017 12:15 PM	0	0.78	201,015	0.64	1.07		48 Cloudburst
CSO140 Total	9/19/2017 8:00	Tue 9/19/2017 9:30 AM	90	0.5	1,753,285	0.93			
CSO142	7/7/2017 21:00	Fri 7/7/2017 9:00 PM	0	0.27	1,513	0.88	16.36		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 6:45 AM	240	1.05	17,731	0.73			
	7/28/2017 9:45	Fri 7/28/2017 9:45 AM	0	0.27	13,212	1.31			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.72	45,535	0.37			
	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.54	51,430	1.17			
	9/1/2017 14:45	Fri 9/1/2017 2:45 PM	0	3.08	688	1.67			
	9/19/2017 8:00	Tue 9/19/2017 8:00 AM	0	0.4	9,324	0.56			
CSO142 Total									
CSO144	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.35	5,906	0.12	0.19		1 Atlas
CSO144 Total									
CSO148	7/6/2017 4:15	Thu 7/6/2017 1:00 PM	525	0.64	11,561	1.04	1.37		12 Cloudburst
	7/7/2017 20:30	Fri 7/7/2017 9:00 PM	30	0.24	54,460	1.34	0.70		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 7:00 AM	270	1.08	35,098	0.75	22.29		12 Atlas
	7/28/2017 9:30	Fri 7/28/2017 10:15 AM	45	0.43	69,407	1.52	3.31		1 Atlas
	8/2/2017 13:00	Wed 8/2/2017 1:00 PM	0	0.39	75,261	0.90	3.69		1 Atlas
	8/6/2017 14:30	Sun 8/6/2017 11:45 PM	555	0.71	19,559	1.18	2.63		12 Cloudburst
	8/17/2017 15:00	Thu 8/17/2017 5:45 PM	165	0.77	47,785	0.69	9.53		6 Cloudburst
	8/22/2017 16:00	Tue 8/22/2017 4:30 PM	30	0.39	116,336	1.16	1.04		1 Atlas

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO148	8/29/2017 19:15	Tue 8/29/2017 7:15 PM	0	0.13	127,669	0.17			
	9/1/2017 10:15	Sat 9/2/2017 12:30 AM	855	4.13	15,986	3.92			
	9/13/2017 12:15	Wed 9/13/2017 12:15 PM	0	0.66	1	0.53	0.86		48 Atlas
	9/19/2017 8:00	Tue 9/19/2017 9:30 AM	90	0.43	6,438	0.76			
CSO148 Total									
CSO150	7/23/2017 3:00	Sun 7/23/2017 11:30 AM	510	1.15	105,873	1.22			
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.63	20,301	1.06			
	8/22/2017 16:00	Tue 8/22/2017 5:30 PM	90	0.35	13,028	0.77	10.00		1 Atlas
	9/1/2017 9:30	Sat 9/2/2017 8:00 AM	1,350	2.71	413,955	2.82			
CSO150 Total	9/19/2017 8:15	Tue 9/19/2017 8:15 AM	0	0.54	1,216	0.73	80.00		3 Cloudburst
CSO151									
CSO151	7/6/2017 4:30	Thu 7/6/2017 6:30 PM	840	0.55	1,353,008	0.98	0.25		6 Atlas
	7/7/2017 21:00	Sat 7/8/2017 12:00 AM	180	0.32	1,007,830	0.99	0.23		1 Atlas
	7/11/2017 14:45	Tue 7/11/2017 2:45 PM	0 Discharge			0.87			
	7/12/2017 14:00	Wed 7/12/2017 2:00 PM	0 Discharge			0.87			
	7/17/2017 13:45	Mon 7/17/2017 1:45 PM	0 Discharge			0.00			
	7/23/2017 2:30	Sun 7/23/2017 2:30 PM	720	1.14	1,654,279	1.14	0.52		12 Atlas
	7/28/2017 9:45	Fri 7/28/2017 12:30 PM	165	0.62	1,013,379	1.78			
	8/1/2017 22:00	Tue 8/1/2017 10:30 PM	30	0.17	344,825	0.80	0.13		1 Atlas
	8/2/2017 13:30	Wed 8/2/2017 3:00 PM	90	0.31	652,431	1.12	0.27		1 Atlas
	8/6/2017 15:00	Mon 8/7/2017 2:45 AM	705	0.66	1,222,137	1.15	0.29		12 Atlas
	8/17/2017 15:15	Thu 8/17/2017 9:00 PM	345	0.66	1,089,877	0.70	0.36		6 Atlas
	8/22/2017 13:30	Tue 8/22/2017 6:00 PM	270	0.57	913,782	1.26	0.40		1 Atlas
	8/29/2017 19:45	Tue 8/29/2017 8:30 PM	45	0.08	1,879,295	0.11			
	9/1/2017 6:00	Sun 9/3/2017 4:45 PM	3,525	3.98	1,490,017	4.09	4.40		24 Cloudburst
	9/12/2017 6:30	Tue 9/12/2017 9:00 AM	150	0.29	361,603	0.49			
	9/12/2017 20:30	Tue 9/12/2017 10:45 PM	135	0.42	156,058	0.42			
	9/13/2017 11:15	Wed 9/13/2017 10:45 PM	690	0.42	239,896	0.71			
	9/19/2017 8:15	Tue 9/19/2017 12:15 PM	240	0.42	1,014,915	0.87			
CSO151 Total									
CSO152	7/6/2017 4:45	Thu 7/6/2017 2:00 PM	555	0.55	498,076,436	1.07	3.04		6 Cloudburst
	7/7/2017 20:45	Fri 7/7/2017 10:00 PM	75	0.31	468,008,253	1.27	1.22		1 Atlas
	7/23/2017 2:15	Sun 7/23/2017 10:30 AM	495	1.19	166,014,792	1.19	160.61		12 Cloudburst
	7/28/2017 9:45	Fri 7/28/2017 11:00 AM	75	0.46	1,115,851,311	1.63	8.85		1 Atlas
	8/1/2017 22:00	Tue 8/1/2017 10:00 PM	0	0.19	55,674,074	0.64	0.78		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:45 PM	30	0.08	1,792,107,013	0.73	0.35		1 Atlas
	8/6/2017 15:00	Mon 8/7/2017 12:45 AM	585	0.6	471,468,332	0.88	3.50		12 Cloudburst
	8/17/2017 15:15	Thu 8/17/2017 7:00 PM	225	0.64	149,877,519	0.67	12.03		6 Cloudburst
	8/22/2017 16:15	Tue 8/22/2017 5:00 PM	45	0.61	86,516,582	1.26	30.36		1 Atlas
	8/29/2017 20:00	Tue 8/29/2017 8:00 PM	0	0.09	35,876,392	0.12			
	9/1/2017 7:15	Sat 9/2/2017 6:30 AM	1,395	3.59	450,965,932	3.71			
	9/12/2017 6:30	Tue 9/12/2017 8:15 AM	105	0.69	14,648,886	0.54	1.62		48 Cloudburst
	9/12/2017 21:45	Tue 9/12/2017 9:45 PM	0	0.69	707,603	0.41	1.62		48 Cloudburst
	9/13/2017 12:45	Wed 9/13/2017 1:00 PM	15	0.69	20,547,696	0.58	1.62		48 Cloudburst
	9/19/2017 8:30	Tue 9/19/2017 10:45 AM	135	0.39	877,784,369	0.82			
CSO152 Total									
CSO153	7/6/2017 4:45	Thu 7/6/2017 1:00 PM	495	0.5	175,427	0.76	2.71		3 Atlas
	7/7/2017 20:30	Fri 7/7/2017 9:00 PM	30	0.22	53,731	1.04	0.73		3 Atlas
	7/23/2017 1:45	Sun 7/23/2017 9:45 AM	480	1.02	496,810	1.02	53.85		12 Atlas
	7/28/2017 9:15	Fri 7/28/2017 10:15 AM	60	0.52	331,214	1.53	23.18		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.32	52,726	0.81	3.13		1 Atlas
	8/2/2017 13:00	Wed 8/2/2017 1:00 PM	0	0.34	29,478	0.84			
	8/6/2017 14:30	Mon 8/7/2017 12:00 AM	570	0.52	107,072	0.86	1.91		12 Cloudburst
	8/17/2017 15:00	Thu 8/17/2017 6:15 PM	195	0.36	297,358	0.39	1.22		1 Atlas

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO153	8/22/2017 12:30	Tue 8/22/2017 4:45 PM	255	0.74	230,726	1.13	43.75		1 Atlas
	9/1/2017 7:30	Sat 9/2/2017 12:45 AM	1,035	2.98	224,814	2.74			
	9/12/2017 7:00	Tue 9/12/2017 7:00 AM	0	0.71	3,230	0.26	1.78		48 Cloudburst
	9/13/2017 12:15	Wed 9/13/2017 12:15 PM	0	0.71	11,746	0.58	1.78		48 Cloudburst
	9/19/2017 8:00	Tue 9/19/2017 11:30 AM	210	0.47	571,949	0.89			
CSO153 Total									
CSO155	7/5/2017 14:15	Wed 7/5/2017 2:15 PM	0	Discharge		0.93			
	7/18/2017 7:45	Tue 7/18/2017 7:45 AM	0	0.06	6,921	0.06	0.21		1 Atlas
	7/23/2017 1:30	Sun 7/23/2017 6:45 AM	315	1.33	13,987	1.00	70.77		12 Atlas
	7/28/2017 9:00	Fri 7/28/2017 9:30 AM	30	0.34	54,628	1.67	1.39		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.87	16,622	1.08	382.35		1 Atlas
	8/22/2017 15:45	Tue 8/22/2017 3:45 PM	0	0.37	46,830	0.78	1.39		1 Atlas
	9/1/2017 13:15	Fri 9/1/2017 3:00 PM	105	2.8	2,370	1.48			
	9/19/2017 8:00	Tue 9/19/2017 8:15 AM	15	0.39	26,682	0.56	0.99		3 Atlas
CSO155 Total									
CSO160	8/1/2017 21:45	Tue 8/1/2017 9:45 PM	0	0.46	10,468	0.77	6.15		1 Atlas
	8/22/2017 16:15	Tue 8/22/2017 4:15 PM	0	0.62	1,897	1.02	13.64		1 Atlas
CSO160 Total									
CSO161	7/6/2017 12:00	Thu 7/6/2017 12:00 PM	0	0.52	1,644	0.93	1.08		6 Cloudburst
	7/23/2017 1:45	Sun 7/23/2017 1:45 AM	0	1.15	1,889	0.19	31.25		12 Atlas
	8/1/2017 21:30	Tue 8/1/2017 9:30 PM	0	0.46	4,875	0.75	6.15		1 Atlas
	8/22/2017 16:00	Tue 8/22/2017 4:00 PM	0	0.62	1,408	0.95	13.64		1 Atlas
CSO161 Total									
CSO167	7/6/2017 4:30	Thu 7/6/2017 1:15 PM	525	0.48	149,300	0.65	0.61		6 Atlas
	7/7/2017 20:30	Fri 7/7/2017 8:30 PM	0	0.12	12,274	0.80	0.24		3 Atlas
	7/23/2017 1:45	Sun 7/23/2017 10:00 AM	495	1	300,032	1.05	3.98		12 Cloudburst
	7/28/2017 9:15	Fri 7/28/2017 10:15 AM	60	0.42	284,736	1.41	0.91		1 Atlas
	8/1/2017 21:30	Tue 8/1/2017 10:00 PM	30	0.14	283,390	0.55	0.31		1 Atlas
	8/2/2017 13:15	Wed 8/2/2017 1:15 PM	0	Discharge		0.56			
	8/6/2017 17:00	Mon 8/7/2017 12:15 AM	435	0.43	140,879	0.58	0.58		12 Atlas
	8/17/2017 14:45	Thu 8/17/2017 6:15 PM	210	0.32	410,623	0.35	0.55		1 Atlas
	8/22/2017 12:30	Tue 8/22/2017 4:45 PM	255	0.44	429,057	0.78	0.73		1 Atlas
	9/1/2017 8:00	Sat 9/2/2017 5:45 AM	1,305	3.57	481,559	3.64			
	9/12/2017 7:15	Tue 9/12/2017 7:15 AM	0	0.3	1,038	0.24			
CSO167 Total									
CSO174	7/6/2017 13:00	Thu 7/6/2017 1:00 PM	0	0.53	3,229	1.17	100.00		6 Cloudburst
	7/7/2017 21:00	Fri 7/7/2017 9:15 PM	15	0.27	253,329	0.91	16.36		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 7:00 AM	270	1.05	450,658	0.73			
	7/28/2017 9:45	Fri 7/28/2017 10:15 AM	30	0.27	136,453	1.32			
	8/2/2017 13:00	Wed 8/2/2017 1:15 PM	15	0.01	6,828,196	0.42	0.09		1 Atlas
	8/6/2017 16:45	Sun 8/6/2017 11:45 PM	420	0.53	222,458	0.65	53.85		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:00 PM	180	0.72	492,708	0.72			
	8/22/2017 16:00	Tue 8/22/2017 4:30 PM	30	0.54	542,431	1.27			
	8/29/2017 19:15	Tue 8/29/2017 7:30 PM	15	0.12	1,786,481	0.16			
	9/1/2017 10:15	Sat 9/2/2017 12:30 AM	855	3.08	247,177	2.96			
CSO174 Total									
CSO180	7/7/2017 20:30	Fri 7/7/2017 9:00 PM	30	0.27	87,809	1.48	16.36		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 6:30 AM	240	1.05	54,494	0.66			
	7/28/2017 9:30	Fri 7/28/2017 9:45 AM	15	0.27	53,521	1.31			
	8/2/2017 13:00	Wed 8/2/2017 1:00 PM	0	0.01	1,350,521	0.42	0.09		1 Atlas
	8/6/2017 16:45	Sun 8/6/2017 4:45 PM	0	0.53	12,653	0.38	53.85		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.72	38,652	0.37			
	8/22/2017 16:00	Tue 8/22/2017 4:30 PM	30	0.54	54,053	1.27			

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO180	8/29/2017 19:15	Tue 8/29/2017 7:15 PM	0	0.12	191,588	0.16			
	9/1/2017 13:15	Fri 9/1/2017 9:45 PM	510	3.08	11,997	2.73			
	9/19/2017 7:45	Tue 9/19/2017 8:45 AM	60	0.4	33,774	0.67			
CSO180 Total									
CSO181	7/23/2017 3:00	Sun 7/23/2017 3:00 AM	0	1.18	52,032,725	0.26	8.17		12 Cloudburst
	7/28/2017 9:45	Fri 7/28/2017 9:45 AM	0	0.31	3,172,533	1.49			
	8/1/2017 21:45	Tue 8/1/2017 9:45 PM	0	0.22	55,748,782	0.53	0.55		1 Atlas
	8/17/2017 15:15	Thu 8/17/2017 3:15 PM	0	0.66	22,635,323	0.37	1.39		6 Cloudburst
	8/22/2017 16:15	Tue 8/22/2017 4:15 PM	0	0.62	128,924,413	1.30	1.61		1 Atlas
	9/19/2017 8:15	Tue 9/19/2017 8:15 AM	0	0.39	12,004,223	0.59	0.76		3 Atlas
CSO181 Total									
CSO182	7/6/2017 4:30	Thu 7/6/2017 1:45 PM	555	0.54	50,437	1.53	0.51		3 Atlas
	7/7/2017 20:45	Fri 7/7/2017 9:45 PM	60	0.49	28,678	1.47	0.75		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 10:15 AM	465	1.04	31,749	1.04	0.95		12 Atlas
	7/28/2017 9:45	Fri 7/28/2017 10:45 AM	60	0.2	35,274	1.22	0.26		1 Atlas
	8/2/2017 13:00	Wed 8/2/2017 1:30 PM	30	0.09	36,040	0.35	0.16		1 Atlas
	8/6/2017 14:45	Mon 8/7/2017 12:30 AM	585	0.56	25,923	0.71	0.50		12 Atlas
	8/17/2017 15:30	Thu 8/17/2017 6:45 PM	195	0.72	8,671	0.75	0.79		6 Atlas
	8/22/2017 13:00	Tue 8/22/2017 5:00 PM	240	0.59	5,971	1.32	0.89		1 Atlas
	8/29/2017 19:45	Tue 8/29/2017 8:00 PM	15	0.12	44,921	0.15			
	9/1/2017 5:45	Sat 9/2/2017 6:30 AM	1,485	3.4	57,135	3.54	60.62		24 Cloudburst
	9/12/2017 7:30	Tue 9/12/2017 8:00 AM	30	0.68	15,953	0.43	0.44		48 Atlas
	9/12/2017 20:30	Tue 9/12/2017 8:45 PM	15	0.68	8,570	0.38	0.44		48 Atlas
	9/13/2017 12:30	Wed 9/13/2017 12:30 PM	0	0.68	5,335	0.56	0.44		48 Atlas
	9/19/2017 8:15	Tue 9/19/2017 10:30 AM	135	0.5	38,261	0.90			
CSO182 Total									
CSO185	7/7/2017 21:15	Fri 7/7/2017 9:15 PM	0	0.37	11,136	1.03	0.81		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 3:15 AM	30	0.96	33,588	0.46	3.40		12 Cloudburst
	7/28/2017 10:00	Fri 7/28/2017 10:00 AM	0	0.11	6,302	1.07			
	8/2/2017 13:15	Wed 8/2/2017 1:15 PM	0	0.1	18,225	0.27	0.23		1 Atlas
	8/6/2017 16:45	Sun 8/6/2017 5:00 PM	15	0.59	13,840	0.44	0.78		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 6:00 PM	180	0.79	26,721	0.80	3.15		6 Cloudburst
	8/22/2017 16:15	Tue 8/22/2017 4:15 PM	0	0.56	29,032	1.35	1.09		1 Atlas
	8/29/2017 19:30	Tue 8/29/2017 7:30 PM	0	0.2	361,536	0.23			
	9/1/2017 14:45	Fri 9/1/2017 9:45 PM	420	3.77	5,054	3.40			
	9/19/2017 9:00	Tue 9/19/2017 9:00 AM	0	0.49	4,547	0.73			
CSO185 Total									
CSO187	8/17/2017 14:45	Thu 8/17/2017 2:45 PM	0	0.72	2,203	0.37			
CSO187 Total									
CSO189	7/7/2017 21:30	Fri 7/7/2017 10:30 PM	60	0.31	397,882	0.74	0.70		1 Atlas
	7/23/2017 3:30	Sun 7/23/2017 11:00 AM	450	1.12	1,861,286	1.33	6.44		12 Cloudburst
	7/28/2017 10:15	Fri 7/28/2017 10:15 AM	0	0.1	50,605	1.21	0.13		1 Atlas
	8/1/2017 21:45	Tue 8/1/2017 11:15 PM	90	0.21	5,715,380	0.31	0.42		3 Atlas
	8/17/2017 18:15	Thu 8/17/2017 7:00 PM	45	0.33	265,340	0.37	0.55		1 Atlas
	8/22/2017 16:00	Tue 8/22/2017 5:15 PM	75	0.42	1,927,613	0.79	0.89		1 Atlas
	9/1/2017 9:00	Sat 9/2/2017 7:15 AM	1,335	3.66	2,799,889	3.90			
	9/19/2017 10:15	Tue 9/19/2017 10:45 AM	30	0.17	147,960	0.60			
CSO189 Total									
CSO190	7/4/2017 7:45	Tue 7/4/2017 7:45 AM	0	0.23	109	0.87	0.45		3 Atlas
	7/6/2017 12:30	Thu 7/6/2017 1:00 PM	30	0.46	9,443	1.29	0.91		3 Atlas
	7/7/2017 20:30	Fri 7/7/2017 9:00 PM	30	0.22	92,837	1.56	0.70		1 Atlas
	7/18/2017 8:00	Tue 7/18/2017 8:00 AM	0	0.06	38,860	0.06	0.21		1 Atlas
	7/23/2017 1:45	Sun 7/23/2017 9:45 AM	480	1.33	195,870	1.38	70.77		12 Atlas
	7/28/2017 9:15	Fri 7/28/2017 10:15 AM	60	0.34	604,108	1.68	1.39		1 Atlas

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO190	8/1/2017 21:30	Tue 8/1/2017 10:15 PM	45	0.87	1,503,476	1.21	382.35		1 Atlas
	8/6/2017 14:45	Mon 8/7/2017 12:15 AM	570	0.73	1,943	1.62	3.02		12 Cloudburst
	8/17/2017 14:45	Thu 8/17/2017 6:15 PM	210	0.42	12,844	0.46	0.92		6 Atlas
	8/22/2017 16:00	Tue 8/22/2017 4:45 PM	45	0.37	773,774	0.82	1.39		1 Atlas
	8/29/2017 19:15	Tue 8/29/2017 7:15 PM	0	0.04	1,788	0.14			
	9/1/2017 5:30	Sat 9/2/2017 5:45 AM	1,455	2.8	240,377	2.91			
	9/12/2017 7:15	Tue 9/12/2017 8:00 AM	45	0.2	454	0.20			
	9/12/2017 20:30	Tue 9/12/2017 8:30 PM	0	0.34	79	0.24			
	9/13/2017 12:30	Wed 9/13/2017 12:30 PM	0	0.34	6	0.39			
	9/19/2017 8:00	Tue 9/19/2017 10:00 AM	120	0.39	792,498	0.73	0.99		3 Atlas
CSO190 Total									
CSO196	7/7/2017 20:45	Fri 7/7/2017 9:00 PM	15	0.35	754	1.26	57.41		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 6:45 AM	240	1.01	4,008	0.69			
	8/6/2017 23:45	Sun 8/6/2017 11:45 PM	0	0.56	121	0.70	42.08		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.71	4,931	0.36			
CSO196 Total									
CSO197	7/4/2017 9:45	Tue 7/4/2017 2:00 PM	255	0.14	5,868	0.84	0.66		3 Atlas
	7/5/2017 9:15	Wed 7/5/2017 2:45 PM	330	Discharge		0.84			
	7/6/2017 4:00	Thu 7/6/2017 1:45 PM	585		20,983	1.24	33.33		6 Cloudburst
	7/7/2017 20:30	Fri 7/7/2017 10:00 PM	90	0.35	46,320	1.67	57.41		1 Atlas
	7/23/2017 2:30	Sun 7/23/2017 9:45 AM	435	1.01	18,766	1.01			
	7/28/2017 9:30	Fri 7/28/2017 10:00 AM	30	0.27	10,424	1.27	10.91		1 Atlas
	8/6/2017 14:30	Mon 8/7/2017 12:00 AM	570	0.56	6,536	0.71	42.08		12 Atlas
	8/17/2017 14:45	Thu 8/17/2017 6:30 PM	225	0.71	54,205	0.75			
	9/1/2017 8:00	Sat 9/2/2017 5:00 AM	1,260	2.76	69,527	2.96			
	9/13/2017 14:30	Wed 9/13/2017 2:30 PM	0	0.65	341	0.56	18.53		48 Atlas
	9/19/2017 7:45	Tue 9/19/2017 10:00 AM	135	0.37	108,498	0.74	29.49		3 Cloudburst
CSO197 Total									
CSO198	7/6/2017 4:15	Thu 7/6/2017 1:45 PM	570	0.49	88,519	1.24	33.33		6 Cloudburst
	7/7/2017 20:30	Fri 7/7/2017 9:45 PM	75	0.35	116,278	1.66	57.41		1 Atlas
	7/28/2017 9:30	Fri 7/28/2017 10:15 AM	45	0.27	16,720	1.27	10.91		1 Atlas
	7/29/2017 10:30	Sat 7/29/2017 11:00 AM	30	Discharge		1.29			
	8/6/2017 16:45	Mon 8/7/2017 12:00 AM	435		31,840	0.71	42.08		12 Atlas
	8/17/2017 14:45	Thu 8/17/2017 6:15 PM	210	0.71	101,933	0.75			
	8/22/2017 15:45	Tue 8/22/2017 4:45 PM	60	0.65	73,816	1.39			
	8/29/2017 19:00	Tue 8/29/2017 7:30 PM	30	0.19	189,960	0.24			
	9/1/2017 8:00	Sat 9/2/2017 12:45 AM	1,005	2.76	56,622	2.74			
	9/19/2017 7:45	Tue 9/19/2017 9:30 AM	105	0.37	114,670	0.68	29.49		3 Cloudburst
CSO198 Total									
CSO199	7/7/2017 20:45	Fri 7/7/2017 9:15 PM	30	0.35	9,811	1.28	57.41		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 7:00 AM	255	1.01	3,891	0.69			
	7/28/2017 9:45	Fri 7/28/2017 9:45 AM	0	0.27	1,022	1.27	10.91		1 Atlas
	8/6/2017 17:00	Sun 8/6/2017 11:45 PM	405	0.56	884	0.70	42.08		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 3:15 PM	15	0.71	21,618	0.36			
	8/22/2017 16:00	Tue 8/22/2017 4:45 PM	45	0.65	9,905	1.39			
	8/29/2017 19:15	Tue 8/29/2017 7:30 PM	15	0.19	80,707	0.24			
	9/1/2017 13:30	Fri 9/1/2017 10:00 PM	510	2.76	881	2.55			
	9/19/2017 8:00	Tue 9/19/2017 9:00 AM	60	0.37	3,218	0.61	29.49		3 Cloudburst
CSO199 Total									
CSO200	7/7/2017 21:00	Fri 7/7/2017 9:00 PM	0	0.35	5,461	0.93	57.41		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 3:15 AM	30	1.01	3,422	0.40			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.71	33,639	0.36			
	8/22/2017 9:45	Tue 8/22/2017 4:30 PM	405	0.94	21,813	1.39			
	8/29/2017 19:15	Tue 8/29/2017 7:30 PM	15	0.19	148,898	0.24			

CSO	Start Date-Time	End Date-Time	Duration (Minutes)	Rain Total (Inch)	Volume per Inch	Antecedent Rain	Frequency	Period	Standard
CSO200	9/1/2017 14:45	Fri 9/1/2017 2:45 PM	0	2.76	202	1.60			
	9/19/2017 8:00	Tue 9/19/2017 8:45 AM	45	0.37	972	0.61	29.49		3 Cloudburst
CSO200 Total									
CSO202	7/7/2017 21:00	Fri 7/7/2017 9:00 PM	0	0.35	4,323	0.93	57.41		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.01	3,242	0.32			
	8/6/2017 16:45	Sun 8/6/2017 11:45 PM	420	0.56	1,492	0.70	42.08		12 Atlas
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.71	12,930	0.36			
	8/22/2017 16:00	Tue 8/22/2017 4:30 PM	30	0.65	11,790	1.39			
	8/29/2017 19:15	Tue 8/29/2017 7:30 PM	15	0.19	48,758	0.24			
	9/1/2017 13:30	Fri 9/1/2017 10:00 PM	510	2.76	607	2.55			
	9/19/2017 8:00	Tue 9/19/2017 8:45 AM	45	0.37	3,932	0.61	29.49		3 Cloudburst
CSO202 Total									
CSO203	6/30/2017 21:00	Sat 7/1/2017 11:15 AM	855	0.69	175,709	0.79			
	7/7/2017 20:45	Sat 7/8/2017 6:45 AM	600	0.35	102,624	1.32	57.41		1 Atlas
	7/23/2017 2:45	Sun 7/23/2017 2:45 AM	0	1.01	2,246	0.32			
	8/17/2017 15:00	Thu 8/17/2017 3:00 PM	0	0.71	14,806	0.36			
	8/29/2017 19:15	Tue 8/29/2017 7:15 PM	0	0.19	81,241	0.24			
	9/19/2017 8:00	Tue 9/19/2017 8:00 AM	0	0.37	750	0.49	29.49		3 Cloudburst
CSO203 Total									
Grand Total									

Appendix C Acronyms

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Appendix C Acronyms

ACD	Amended Consent Decree
BOD	Biological Oxygen Demand
CCP	Composite Correction Plan
CMF	Central Maintenance Facility
CMOM	Capacity Management Operations and Maintenance
CPE	Comprehensive Performance Evaluations
CSO	Combined Sewer Overflow
CSOFT	Software Name
CSS	Combined Sewer System
DWO	Dry Weather Overflow
EPA	Environmental Protection Agency
FEPS	Final Effluent Pump Station
FY	Fiscal Year
GLPM	Gravity Line Preventive Maintenance
HMI	Human Machine Interface
ICM	Integrated Catchment Model
ID	Identification
IOAP	Integrated Overflow Abatement Plan
ISSDP	Interim Sanitary Sewer Discharge Plan
KDEP	Kentucky Department of Environmental Protection
KPDES	Kentucky Pollutant Discharge Elimination System
LTCP	Long Term Control Plan
MG	Million Gallons
MGD	Million Gallons per Day
MSD	Metropolitan Sewer District (Louisville and Jefferson County)
NMC	Nine Minimum Controls
PLC	Programmable Logic Controller
PM	Preventive Maintenance
PS	Pump Station
RAS	Return Activated Sludge
RTC	Real Time Control
SCAP	System Capacity Assurance Plan
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Protocol
SSDP	Sanitary Sewer Discharge Plan
SSO	Sanitary Sewer Overflow
SSOP	Sanitary Sewer Overflow Plan
SWOR1	Southwestern Outfall Retention – Phase 1
SWOR2	Southwestern Outfall Retention – Phase 2

Appendix C Acronyms

SWSG	Southwest Sluice Gate
TSS	Total Suspended Solids
TV	Television
WIN	Waterway Improvements Now
WQTC	Water Quality Treatment Center
WUS	Waters of the United States

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

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>
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
HCREEK						
SC1006307	CONTRACTED WORK FY06 - HITE CREEK	SCAPCREDIT		5/15/06	656	656
235561	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	6,404	7,060
362641	MAINTENANCE WORK FY09A - HITE	SCAPCREDIT		12/31/08	2	7,062
SC1006214	CONTRACTED WORK FY09 - HITE CREEK	SCAPCREDIT		6/1/09	328	7,390
362648	MAINTENANCE WORK FY09B - HITE	SCAPCREDIT		6/30/09	7	7,397
362652	MAINTENANCE WORK FY10A - HITE	SCAPCREDIT		12/31/09	10	7,407
362657	MAINTENANCE WORK FY10B - HITE	SCAPCREDIT		6/30/10	332	7,739
320906	FLOYDSBURG ROAD I/I REHABILITA	SCAPCREDIT		12/17/10	28,437	36,176
362662	MAINTENANCE WORK FY11A - HITE	SCAPCREDIT		12/31/10	9	36,185
362670	MAINTENANCE WORK FY11B - HITE	SCAPCREDIT		6/30/11	9	36,194
SC1011058	Meadow Stream Pump Station & Force Main	SCAPCREDIT		9/7/11	2,304,000	2,340,194
246638	CHAPMAN COURT S/S	LAT EXT	800	9/28/11	-1,740	2,338,454
362675	MAINTENANCE WORK FY12A - HITE	SCAPCREDIT		12/31/11	340	2,338,794
362679	MAINTENANCE WORK FY12B - HITE	SCAPCREDIT		6/30/12	5,007	2,343,801
290181	CAMDEN WOOD APARTMENTS	LAT EXT	12,400	8/31/12	-26,970	2,316,831
304536	MAGNOLIA SPRINGS EAST PRIV P/S	LAT EXT	9,500	12/1/12	-20,663	2,296,169
335610	ROCK SPRINGS FARM SEC 4B	LAT EXT	6,400	12/7/12	-13,920	2,282,249
362684	MAINTENANCE WORK FY13A - HITE	SCAPCREDIT		12/31/12	7	2,282,256
SC1005530	CONTRACTED WORK FY13 - HITE CREEK	SCAPCREDIT		4/11/13	1,442	2,283,698
SC1006178	CONTRACTED WORK FY14 - HITE CREEK	SCAPCREDIT		1/27/15	77,660	2,361,358

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>
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
LE926081	Monticello Manors Sec 2	LAT EXT	7,600	3/23/17	-16,530	920,213

MCREEK

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>
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
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

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>
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
MFORK						
359400	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	84,000	84,000

Capacity Credit Balance Sheet per Credit Basin

<u>APNO</u>	<u>APNAME</u>	<u>APTYPE</u>	<u>FLOW</u>	<u>Release Date</u>	<u>Approved Credit Required/ Flow Reduction</u>	<u>Running Total</u>
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
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

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>
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
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

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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
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

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

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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
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

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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
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

Capacity Credit Balance Sheet per Credit Basin

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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
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

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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
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

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

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>
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
SC1005639	SILVER HEIGHTS SEWER REHAB	SCAPCREDIT		10/31/16	284,936	3,335,278
SC1005631	LEA ANN WAY WEST (LAWW) QUAD 4 I/I	SCAPCREDIT		10/31/16	692,905	4,028,183
LE954229	Jefferson Commerce Center Bldg.2	LAT EXT	3,150	2/2/17	-6,851	4,021,331
SEDIV						
359355	CALENDAR 2007 SUMP PUMP CREDIT	SCAPCREDIT		12/31/07	8,000	8,000
359440	CALENDAR 2007 DOWNSPOUT CREDIT	SCAPCREDIT		12/31/07	128,000	136,000
235575	MAINTENANCE WORK FY06 AUG-FY09	SCAPCREDIT		11/1/08	71,472	207,472

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>
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
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

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>
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



System Capacity Planning Projected Credit Needs

<u>Credit Basin</u>	<u>Projected Credit Need</u>
CCREEK	50,243
FFORK	57,594
HCREEK	4,350
JTOWN	1,740
MCREEK	289,036
MFORK	194,010
NDITCH	870
ORFM	19,575
PCREEK	181,743
SEDIV	26,785
	825,945

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Appendix E IOAP Project Crosswalk

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

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21153	BEECHWOOD VILLAGE SEWER REPL
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	ISSDP	21156	BEECHWOOD VILLAGE SEWER REPL
BELLS LANE WET WEATHER TREATMENT FACILITY (FORMERLY KNOWN AS PADDY'S RUN)	IOAP	CSO015	L_OR_MF_015_M_13_B_B_8
BELLS LANE WET WEATHER TREATMENT FACILITY (FORMERLY KNOWN AS PADDY'S RUN)	IOAP	CSO191	L_OR_MF_015_M_13_B_B_8
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	08717	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104223	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104224	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	104231	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13931	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13943	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	13946	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	34093542	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	36763	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	44396	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	44397	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	51301	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	66349	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	99259	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	KK14815019	S_SF_MF_30917_M_09_A
CAMP TAYLOR SYSTEM IMPROVEMENTS - PHASES 1 THROUGH 4	IOAP	KK14855239	S_SF_MF_30917_M_09_A
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	17724	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	27116	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	61667	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	61687	S_PO_WC_PC09_M_09B_C
CAVEN AVENUE PUMP STATION ELIMINATION	IOAP	70212	S_PO_WC_PC09_M_09B_C

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
CAVEN AVENUE PUMP STATION 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

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
CINDERELLA PUMP STATION ELIMINATION	IOAP	102339	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	35309	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	60679	S_PO_WC_PC04_M_01_C
CINDERELLA PUMP STATION ELIMINATION	IOAP	MSD1013-PS	S_PO_WC_PC04_M_01_C
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO083	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO088	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO131	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO132	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO154	L_MU_MF_154_M_09B_B_A_8
CLIFTON HEIGHTS STORAGE BASIN	IOAP	CSO167	L_MU_MF_154_M_09B_B_A_8
CSO058 IN-LINE STORAGE AND GREEN INFRASTRUCTURE	IOAP	CSO058	L_OR_MF_058_S_08_A_A_0
CSO093 STRUCTURAL MODIFICATIONS AND GREEN INFRASTRUCTURE	IOAP	CSO093	L_SO_MF_093_S_08_A_A_0
CSO108 DAM MODIFICATIONS	IOAP	CSO108	L_SO_MF_108_S_09A_B_A_4
CSO140 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	IOAP	CSO140	L_MI_MF_140_S_08_A_A_0
CSO160 IN-LINE STORAGE AND GREEN INFRASTRUCTURE CONTROLS	IOAP	CSO160	L_OR_MF_160_S_08_A_A_0
CSO190 GREEN INFRASTRUCTURE	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 ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	104289	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28249	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28250	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28336	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28340	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28413	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28414	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28415	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28416	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28417	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28451	S_JT_JT_NB02_M_01_C

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28453	S_JT_JT_NB02_M_01_C
DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	IOAP	28711	S_JT_JT_NB02_M_01_C
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22307	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22370	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	22385	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	32682	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	32688	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	59169	DEREK R GUTHRIE WQTC UPGRADES
DEREK R GUTHRIE WQTC WET WEATHER FACILITY	ISSDP	MSD0277	DEREK R GUTHRIE WQTC UPGRADES
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	20154-W	S_OR_MF_NB03_S_07_C
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	20155	S_OR_MF_NB03_S_07_C
DERINGTON COURT PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0095-PS	S_OR_MF_NB03_S_07_C
EAST ROCKFORD PUMP STATION RELOCATION	IOAP	04699-W	S_MC_WC_NB02_S_03_C
EDEN CARE PUMP STATION SSO INVESTIGATION	IOAP	MSD1105-PS	S_FF_FF_NB02_S_13_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	92098	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	92099	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	94009	S_PO_WC_PC11_M_07_C
EDSEL PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD1048-PS	S_PO_WC_PC11_M_07_C
ELIMINATION OF CHENOWETH HILLS WQTC, CHENOWETH RUN PUMP STATION, AND CHIPPEWA PUMP STATION	IOAP	64096	S_JT_JT_NB01A_M_03_C

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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 ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	116106	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	81316	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97362	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97363	S_FF_CC_81316_M_03_C_A
FAIRMOUNT ROAD PUMP STATION IMPROVEMENTS AND OFFLINE STORAGE	IOAP	97365	S_FF_CC_81316_M_03_C_A
FAIRWAY VIEW PUMP STATION IMPROVEMENTS	IOAP	MSD1065-PS	S_HC_HS_NB01_S_03_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108953	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108956	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108957	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	108958	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	90776	S_HC_HC_MSD1086_M_07_C_A
FLOYDSBURG ROAD I&I INVESTIGATION AND REHABILITATION	IOAP	MSD1086-PS	S_HC_HC_MSD1086_M_07_C_A
FOX HARBOR IN-LINE STORAGE	IOAP	62769	S_HC_HN_NB03_S_09A_A_A

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	105936	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	117721	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	43472	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	46891	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	62418	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	62420	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	91629	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	91630	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	MSD0040-PS	S_MI_MF_NB04_M_03_B
GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE	IOAP	MSD1024-PS	S_MI_MF_NB04_M_03_B
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	94541	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	94542	S_PO_WC_PC06_M_01_C
GOVERNMENT CENTER PUMP STATION ELIMINATION	IOAP	MSD0180-PS	S_PO_WC_PC06_M_01_C
GUNPOWDER PUMP STATION IN-LINE STORAGE	IOAP	MSD1055-LS	S_HC_HN_NB02_S_09A_C_B
HAZELWOOD PUMP STATION I&I INVESTIGATION & REHABILITATION	IOAP	55665	S_MC_MF_55665_S_07_C
HAZELWOOD PUMP STATION I&I INVESTIGATION & REHABILITATION	IOAP	55667	S_MC_MF_55665_S_07_C
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	17571	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18134	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18297	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18298	HIKES LN INTER & HIGHGATE SPR

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18299	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18302	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18318-W	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18370	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18434	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18471	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18483	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18505	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	18595	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	47960A	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48885	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48886	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	48888	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49224	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49236	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49672	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	49673	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	73111	HIKES LN INTER & HIGHGATE SPR
HIKES LANE INTERCEPTOR AND HIGHGATE SPRINGS PUMP STATION	ISSDP	MSD0012-PS	HIKES LN INTER & HIGHGATE SPR
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	01793	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	47650	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	47656	S_MI_MF_NB07_S_07_C
HURSTBOURNE I&I INVESTIGATION AND REHABILITATION	IOAP	67535	S_MI_MF_NB07_S_07_C
I-64 AND GRINSTEAD DRIVE CSO BASIN	IOAP	CSO125	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE CSO BASIN	IOAP	CSO126	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE CSO BASIN	IOAP	CSO127	L_MI_MF_127_M_09B_B_A_8
I-64 AND GRINSTEAD DRIVE CSO BASIN	IOAP	CSO166	L_MI_MF_127_M_09B_B_A_8
IDLEWOOD IN-LINE STORAGE	IOAP	28984	S_CC_CC_70158_M_09A_C

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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 ROAD PUMP STATION IMPROVEMENTS	IOAP	MSD1085-PS	S_HC_HC_MSD1085_S_03_A
KLONDIKE INTERCEPTOR	IOAP	20644	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	25676	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	26650	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	26651	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	49513	S_SD_MF_NB04_S_01_B_A
KLONDIKE INTERCEPTOR	IOAP	66232	S_SD_MF_NB04_S_01_B_A
LAKE FOREST PUMP STATION SSO INVESTIGATION	IOAP	MSD1169-LS	S_FF_LF_NB01_S_13_C_A
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	25484	S_PO_WC_PC05_M_07_C
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	93719	S_PO_WC_PC05_M_07_C
LANTANA #1 PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0101-PS	S_PO_WC_PC05_M_07_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	19360	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	19369	S_PO_WC_PC08_M_01_C

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LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29933	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29943	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29948	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	29949	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31073	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31074	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31083	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	31084	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	57874	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	61266	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	79076	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	MSD1010-PS	S_PO_WC_PC08_M_01_C
LEA ANN WAY SYSTEM IMPROVEMENTS	IOAP	MSD1200-PS	S_PO_WC_PC08_M_01_C
LELAND ROAD SSO INVESTIGATION	IOAP	96020	S_OR_MF_NB02_S_13_C
LEVEN PUMP STATION ELIMINATION	IOAP	36419	S_PO_WC_PC10_M_01_C
LEVEN PUMP STATION ELIMINATION	IOAP	MSD1019-PS	S_PO_WC_PC10_M_01_C
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 STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO091	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO097	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO106	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO110	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO111	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO113	L_SO_MF_092_M_09B_B_D_8

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO137	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO146	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO148	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO149	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO151	L_SO_MF_092_M_09B_B_D_8
LOGAN STREET AND BRECKINRIDGE STREET STORAGE BASIN	IOAP	CSO152	L_SO_MF_092_M_09B_B_D_8
LUCAS LANE PUMP STATION IN-LINE STORAGE	IOAP	MSD0199-LS	S_FF_BT_NB01_S_09A_C_A
MEADOW STREAM PUMP STATION AND FORCE MAIN UPGRADE	IOAP	91087	S_HC_HC_MSD1082_S_09A_C
MEADOW STREAM PUMP STATION AND FORCE MAIN UPGRADE	IOAP	MSD1082-PS	S_HC_HC_MSD1082_S_09A_C
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	24152-W	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	24472	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	26752	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	41374	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	41416	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0006-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0007-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0010-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0023-PS	S_OR_MF_NB01_M_01_B
MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS	IOAP	MSD0024-PS	S_OR_MF_NB01_M_01_B
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02932	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02933	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	02935	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	08537	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	08935-SM	S_MISF_MF_NB01_M_01_C_A1

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115183	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115184	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	115185	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	15194	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	15195	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	23211	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	23212	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	24553	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	27005	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	27007	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	30376	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	40471	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	40559	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45796	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45829	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45835	S_MISF_MF_NB01_M_01_C_A1

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	45900	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47034	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47582	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47583	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47593	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47596	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47603	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	47604	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51160	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51161	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51180	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	51221	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	72288	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	72289	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	74513	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	84155	S_MISF_MF_NB01_M_01_C_A1

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	90700	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	96672	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	96673	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION	IOAP	IS021A-SI	S_MISF_MF_NB01_M_01_C_A1
MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE AND UMFPS DIVERSION 2 - PUMP STATION DIVERSION AND STORAGE	IOAP	43726	S_MISF_MF_NB01_M_01_C_A1-2
MONTICELLO PUMP STATION ELIMINATION	IOAP	27969	S_JT_JT_NB04_M_01_A
MONTICELLO PUMP STATION ELIMINATION	IOAP	MSD0151-PS	S_JT_JT_NB04_M_01_A
MORRIS FORMAN WQTC HEADWORKS / SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1)	IOAP	CSO016	L_OR_MF_211_M_13_B_A_8
MORRIS FORMAN WQTC HEADWORKS / SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1)	IOAP	CSO210	L_OR_MF_211_M_13_B_A_8
MORRIS FORMAN WQTC HEADWORKS / SOUTHERN OUTFALL IN-LINE STORAGE AT 43RD STREET (SOR1)	IOAP	CSO211	L_OR_MF_211_M_13_B_A_8
NIGHTINGALE PUMP STATION REPLACEMENT AND STORAGE	IOAP	CSO018	L_SO_MF_018_S_03_A_A
NORTHERN DITCH DIVERSION INTERCEPTOR	ISSDP	MSD0271	NORTHERN DITCH DIVERSION INTER
OHIO RIVER TUNNEL	IOAP	CSO020	L_OR_MF_020_S_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO022	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO023	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO050	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO051	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO052	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO053	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO054	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO055	L_OR_MF_155_M_09B_B_B_4

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
OHIO RIVER TUNNEL	IOAP	CSO056	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO082	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO084	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO118	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO119	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO120	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO121	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO141	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO150	L_OR_MF_155_M_09B_B_B_4
OHIO RIVER TUNNEL	IOAP	CSO153	L_SO_MF_083_M_09B_B_A_8
OHIO RIVER TUNNEL	IOAP	CSO155	L_OR_MF_155_M_09B_B_B_4
PARKVIEW ESTATES I&I INVESTIGATION AND REHABILITATION	IOAP	47250	S_SD_MF_NB03_S_07_C
PORTLAND CSO BASIN	IOAP	CSO019	L_OR_MF_019_S_13_B_A_8
PROSPECT SYSTEM IMPROVEMENTS	IOAP	16455	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	22436	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40870	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40871	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40872	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40879	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	40880	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	42675	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	42680	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46621	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46623	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	46627	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65606	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65610	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65623	S_OR_MF_NB04_M_03_B_B

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65633	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	65635	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	89646	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	89791	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0123-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0183-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0186-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0192-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0193-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0291	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD0292	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD1044-PS	S_OR_MF_NB04_M_03_B_B
PROSPECT SYSTEM IMPROVEMENTS	IOAP	MSD1063-PS	S_OR_MF_NB04_M_03_B_B
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	IOAP	28729-W	S_JT_JT_NB03_M_01_C
RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS	IOAP	MSD0149-PS	S_JT_JT_NB03_M_01_C
RIDING RIDGE PUMP STATION IMPROVEMENTS	IOAP	MSD1060-LS	S_HC_HN_NB01_S_03_C_A
RUNNING FOX PUMP STATION ELIMINATION	IOAP	MSD1080-LS	S_CC_CC_MSD1080_S_01_C
SHAWNEE FLOOD PUMP STATION	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

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
SINKING FORK RELIEF SEWER	IOAP	21103	SINKING FORK RELIEF SEWER
SINKING FORK RELIEF SEWER	IOAP	25012	SINKING FORK RELIEF SEWER
SINKING FORK RELIEF SEWER	IOAP	63319	SINKING FORK RELIEF SEWER
SONNE PUMP STATION I&I INVESTIGATION AND REHABILITATION	IOAP	MSD0042-PS	S_OR_MF_42007_S_07_C
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08426	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08427	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08430	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	08431	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	18654	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30680	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30681	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30701	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30702	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	30704	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	49647	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	63779	SOUTHEASTERN DIVERSION STRUCT
SOUTHEASTERN DIVERSION STRUCTURE AND INTERCEPTOR	IOAP	72571-X	SOUTHEASTERN DIVERSION STRUCT
SOUTHWESTERN PARKWAY CSO BASIN	IOAP	CSO104	L_OR_MF_105_M_13_B_A_0

PROJECT NAME	PROGRAM	ASSET ID	PROJECT ID
SOUTHWESTERN PARKWAY CSO BASIN	IOAP	CSO105	L_OR_MF_105_M_13_B_A_0
SOUTHWESTERN PARKWAY CSO BASIN	IOAP	CSO189	L_OR_MF_105_M_13_B_A_0
ST RENE ROAD PUMP STATION ELIMINATION	IOAP	94187	S_FF_CH_NB01_S_09A_C_A
SUTHERLAND INTERCEPTOR	IOAP	16649	S_SD_MF_NB05_M_01_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	33003	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	65516	S_FF_FF_NB01_S_01_C_A
WOODLAND HILLS PUMP STATION DIVERSION	IOAP	65531	S_FF_FF_NB01_S_01_C_A

Appendix F CSO Flow Monitoring Quality Improvement

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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	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
016	6/30/2017	N/A	TO BE COMPLETED	N/A	TO BE COMPLETED
018	6/30/2017	N/A	9/13/2017	N/A	TO BE COMPLETED
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	TO BE COMPLETED
088	6/30/2017	6/30/2017	8/23/2017	N/A	TO BE COMPLETED
093	6/30/2017	6/30/2017	N/A	N/A	TO BE COMPLETED
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	TO BE COMPLETED	10/17/2017	TO BE COMPLETED
109	6/30/2017	6/30/2017	TO BE COMPLETED	10/13/2017	TO BE COMPLETED
110	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
118	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
121	6/30/2017	6/30/2017	9/12/2017	10/13/2017	TO BE COMPLETED
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	TO BE COMPLETED
127	6/30/2017	N/A	N/A	N/A	N/A
130	6/30/2017	6/30/2017	8/16/2017	N/A	TO BE COMPLETED
132	6/30/2017	6/30/2017	9/8/2017	7/25/2017	9/21/2017
140	6/30/2017	6/30/2017	TO BE COMPLETED	10/13/2017	TO BE COMPLETED
146	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
149	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
154	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
160	6/30/2017	6/30/2017	8/23/2017	9/20/2017	TO BE COMPLETED
166	6/30/2017	6/30/2017	9/12/2017	10/9/2017	TO BE COMPLETED
167	6/30/2017	6/30/2017	9/8/2017	N/A	TO BE COMPLETED
189	6/30/2017	6/30/2017	8/16/2017	N/A	9/21/2017
190	6/30/2017	6/30/2017	TO BE COMPLETED	N/A	TO BE COMPLETED
191	6/30/2017	6/30/2017	TO BE COMPLETED	TO BE COMPLETED	TO BE COMPLETED
206	6/30/2017	6/30/2017	N/A	TO BE COMPLETED	TO BE COMPLETED
210	6/30/2017	N/A	TO BE COMPLETED	N/A	TO BE COMPLETED
211	6/30/2017	6/30/2017	8/16/2017	N/A	TO BE COMPLETED

Table F.2. Phase 2 CSOs

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
019	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
022	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
023	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
027	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
028	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
029	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
031	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
034	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
035	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
038	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
050	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
051	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
052	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
053	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
055	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
056	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
057	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
062	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
082	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
083	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
084	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
091	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
092	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
097	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
111	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
113	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
117	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
119	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
120	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
131	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
137	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
141	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
144	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
148	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED

Table F.2. Phase 2 CSOs

CSO	FINAL SOP COMPLETED	HISTORICAL VOLUME REVISED	PROGRAMMING CHANGES COMPLETED	EQUIPMENT CHANGES COMPLETED	TESTING / VERIFICATION COMPLETED
150	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
151	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
152	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
153	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
155	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
161	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
172	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
178	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
179	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
181	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
193	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
195	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
196	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
197	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
198	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
199	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
200	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
201	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
202	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
203	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
207	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
208	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 142	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 174	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 180	TO BE COMPLETED	N/A	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 182	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 183	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 184	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 185	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 186	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 187	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 188	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED
SBR 205	TO BE COMPLETED	TO BE COMPLETED	TO BE DETERMINED	TO BE DETERMINED	TO BE DETERMINED

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