



KANSAS CITY'S OVERFLOW CONTROL PROGRAM

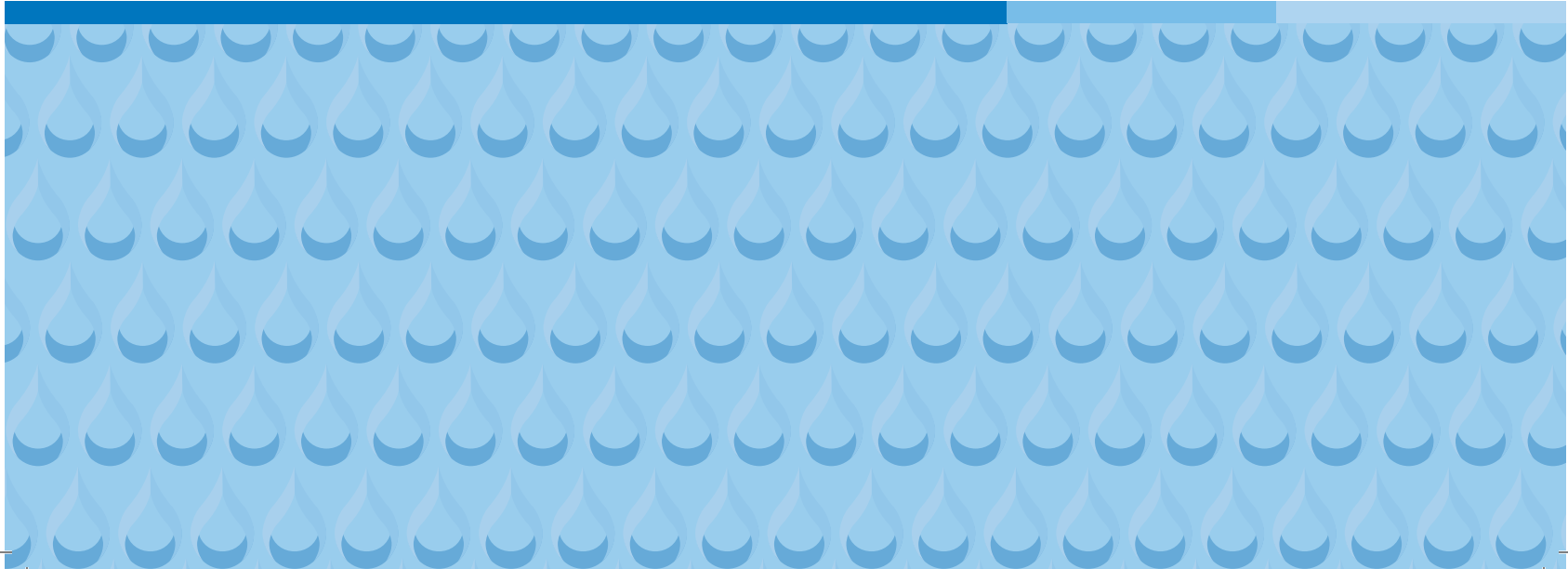
SEMI-ANNUAL REPORT
Reporting Period: January 1, 2016 to June 30, 2016



KANSAS CITY
MISSOURI



KCWATER
SERVICES





KANSAS CITY WATER SERVICES DEPARTMENT OVERFLOW CONTROL PROGRAM 2016 SEMI-ANNUAL REPORT

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September 30, 2016

To the reader:

Please find enclosed the sixth semi-annual report related to Kansas City's Overflow Control Program. This report covers the semi-annual period from January 1, 2016 to June 30, 2014. Pursuant to the Consent Decree, this report has a required submittal date no later than September 30, 2016.

Additionally, and as required by the Consent Decree, any report, plan, or other submission that the City is required to submit, including reports, plans or other submissions as required by its Current NPDES Permits, shall be signed and certified by an official or authorized agent of the City.

By signing below, I certify under penalty of law that the document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted, and that 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.

Thank you for your participation and cooperation in this important program. If you have any questions, please contact the undersigned at (816) 513-0203.

Sincerely,

Terry Leeds

Director, Kansas City Water Services Department

cc: Troy Schulte, City Manager, City of Kansas City, Missouri
Matthew J. Gigliotti, Assistant City Attorney, City of Kansas City, Missouri

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I. SEMI-ANNUAL REPORT PURPOSE AND SCOPE

On September 27, 2010, The United States District Court for the Western District of Missouri entered a consent decree in the case *U.S. vs. The City of Kansas City, Missouri* (Civil Action No. 4:10-cv-0497-GAF (the “Consent Decree”). The Consent Decree was amended by the parties and approved by the court on January 9, 2015.

In accordance with Section IX.A of the Consent Decree, this Semi-Annual Report provides an update on the efforts of the City of Kansas City, Missouri (City) to implement control measures defined in Section VII and Appendix A of the Consent Decree. The report reflects the status of program implementation that occurred between January 1, 2016 and June 30, 2016.

II. KANSAS CITY'S OVERFLOW CONTROL PROGRAM

Individual elements of the City's Overflow Control Plan (Plan) became part of an enforceable document with the entry of the Consent Decree in United States District Court. The Consent Decree is a culmination of nearly a decade of negotiation between the City, U.S. Environmental Protection Agency (USEPA) and the Missouri Department of Natural Resources (MDNR) related to reducing overflows. The Consent Decree includes requirements for:

- Capital projects targeted at reducing overflows through Combined Sewer Overflow (CSO) Control Measures and Separate Sewer Overflow (SSO) Control Measures;
- Nine Minimum Controls (NMCs) Plan targeted at operationally reducing and addressing combined sewer overflows through a series of minimum control efforts;
- Capacity, Management, Operation and Maintenance (CMOM) Plan targeted at reducing separate sewer system overflows by adequately operating and maintaining the sewer system;
- Post-Construction Monitoring Plan aimed at long-term monitoring and assessment of overflow reduction;
- Supplemental Environmental Project (SEP) Plan which includes the incorporation of best management practices and green infrastructure at two project locations, along with the initial SEP to reduce septic tank use in sewer areas; and
- Implementation of disinfection at all six of the City's wastewater treatment plants.

Through the Consent Decree, the City and its regulatory partners have agreed to meet the objectives over a 25-year period from 2010 through 2035. The Plan involves a list of improvements that are structured to eliminate, or capture for treatment, approximately 88 percent of total wet weather flow in the combined sewer system and sanitary sewer overflows during a five-year, 24-hour rainfall event. This implementation is referred to as the Overflow Control Program (OCP).

The occurrence of sewer overflows is common in combined sewer systems and is authorized in Kansas City pursuant to the terms of two of the City's National Pollutant Discharge Elimination System (NPDES) permits (Westside WWTP and Blue River WWTP). NPDES permits are issued by MDNR to Kansas City and implemented by the Water Services Department at each treatment facility.

III. KANSAS CITY'S SEWER SYSTEM OVERVIEW

More than 150 years ago, Kansas City began building the basic sewer infrastructure that would allow the city to grow and prosper. Some of that infrastructure is still in use today.

Kansas City's overall sanitary sewer system comprises both combined and separate sewer systems totaling approximately 318 square miles.

The combined sewer system consists of 58 square miles, primarily located in the oldest areas of the City. During moderate to heavy rainfall events, the system will reach capacity, overflow, and discharge a mixture of wastewater and rainwater directly into local receiving streams and rivers. By implementing control measures in accordance with the Consent Decree, the occurrence of overflows will be reduced over time.

The remaining 260 square miles of Kansas City's sanitary sewer system are a separate sewer system. A separate sanitary sewer system is only intended to collect and convey wastewater. However, rainwater can enter the system through leaky sewer pipe joints, broken sewer pipes, manholes, and illicit stormwater direct connections causing the system to become overloaded during rainfall events. When this system exceeds its capacity, it too overflows a mixture of wastewater and rainwater from various manholes throughout the system. Kansas City has five constructed sanitary sewer overflows (SSOs), four of which were recently identified during field investigations and have been reported to the EPA. The City is actively working to eliminate these overflows in concert with its ongoing Capacity Management Operation and Maintenance (CMOM) Program and Overflow Control Program.

IV. REPORTING PERIOD ACTIVITY

Critical schedule milestones for the CSO and SSO control measures identified below, as laid forth in Consent Decree Appendices A and D, were met during the reporting period between January 1, 2016 and June 30, 2016. In addition to these milestones, the Water Services Department submitted the 2015 Annual Report to USEPA and MDNR on March 31, 2016.

Work has continued on several other projects that began in previous reporting periods, including the continuation of inflow/infiltration reduction activities in areas north and south of the Missouri River. To date, all current Consent Decree schedule milestone dates have been met.

1. Appendix A – Performance Measures

Northeast Industrial District Basin

- Neighborhood Sewer Rehabilitation
 - Consent Decree Required Start Date – 2017
 - Actual Start Date – January 2016

Westside Wastewater Treatment Plant

- Wet Weather Treatment Improvements – Phase 1
 - Consent Decree Required Start Date – 2017
 - Actual Start Date – March 2016

South of the Missouri River Separate Sewer System

- Round Grove Pumping Station Capacity Improvements
 - Consent Decree Required Start Date – 2016
 - Actual Start Date – April 2016

2. Appendix D – Post Construction Monitoring Program

Flow monitoring was performed in accordance with the revised CSS Metering Plan approved by USEPA in December 2015.

- Outfall BR032 (suspended)
- Outfall BR033 (suspended)
- Outfall BR056 (continued)

Flow metering equipment was not installed at any additional outfalls during the reporting period. Flow metering equipment will not be installed at additional outfalls until early 2017 in accordance with the revised CSS Metering Plan.

V. IMPLEMENTATION OF SEWER SYSTEM REMEDIAL MEASURES AND POST-CONSTRUCTION MONITORING

1. Post-Construction Monitoring Program

a. WATER QUALITY TESTING

Since April 2011, the Water Services Department has conducted large river water quality monitoring of the Kansas River at one location and the Missouri River at two locations. Additional sampling and field measurements were conducted by the Water Services Department at 20 locations on Missouri River tributaries, including Brush Creek, Town Fork Creek, Blue River, Penn Valley Lake, Mill Creek, and Indian Creek. All analyses were conducted by the Water Services Department laboratory. Water quality sampling and analyses activities for the 2016 recreation season are being conducted according to the methods prescribed in the Water Quality Monitoring Program (LimnoTech, December 28, 2010) and the associated Quality Assurance Project Plan (LimnoTech, 2005, revised 2010).

b. FLOW MONITORING PROGRAM

1. Short-Term Flow Monitoring

Short-term flow monitoring was conducted by the City's OCP Program Management team for seven I/I reduction projects listed below beginning in April 2016 for approximately 90 days. Monitoring occurred to provide data for the identification and quantification of I/I sources.

- Blue River Central Area 1 Project
- Blue River North Project
- Blue River South Area 4 Project
- Blue River South Area 5 Project
- Line Creek/Rock Creek Basins Area 1 Project
- Little Blue River Area 1 Project
- Little Blue River Area 2 Project

Eight (8) rain gauges were also installed in the project areas to supplement coverage provided by the City's existing ALERT gauging system.

In addition, pre-construction flow and rainfall monitoring was performed for 90 days at three locations in the Town Fork Creek Neighborhood Sewer Rehabilitation Project area to provide quantification of system flows prior to rehabilitation.

2. Long-Term Flow Monitoring

During the reporting period, long-term flow monitoring was performed according to the revised CSS Metering Plan. Long-term flow monitoring was suspended in 2016 at Outfall BR032, and Outfall BR033. Flow monitoring continued for Outfall BR056 as summarized in Table 1.

Table 1: Current Long-Term Monitoring Location Information (2016)

Site ID	Project Area	Manhole Number	Monitored Line	Year Implemented	Number of Sensors
BR056	Middle Blue River	S097-095	Inflow to Diversion Structure	2015	1

2. Green Infrastructure

a. ADDITIONAL GREEN INFRASTRUCTURE PILOT PROJECT

Conceptual planning began in 2014 for up to three additional green infrastructure pilot projects in Lower Blue River (LBR) Basin and the Northeast Industrial District/Gooseneck Creek Basin (NEID/GN) basins. Overall, these pilot projects will demonstrate collaboration achieved through public-private partnerships. These projects have completed conceptual design of green infrastructure improvements at the following three locations:

- East High School (NEID/GN Basins)
- Veterans Hospital and Linwood Green Park (LBR Basin)
- Avenues of Life Mattress Recycling Center (LBR Basin)

Green infrastructure improvements at the Veterans Hospital and Avenues of Life sites are currently in preliminary design phase and will proceed into final design for the preparation of construction contract documents. Green infrastructure improvements at East High School are also currently in preliminary design phase, but final design will be postponed to coordinate with the schedule of other site improvements planned by the Kansas City, Missouri School District and the Kansas City, Missouri Parks and Recreation Department.

In June 2016, a kick-off meeting was held with the Veterans Administration and Avenues of Life stakeholders to update them on the concept designs, and receive input on design and future site plans and/or improvements. Preliminary design plans are currently being developed and final design plans are forecast to be complete in March 2017.

b. CONSENT DECREE GREEN INFRASTRUCTURE PILOT PROJECTS

In May 2016 the City issued a Notice to Proceed to the design consultant chosen for the Consent Decree-required green infrastructure pilot project located in the Turkey Creek/Central Industrial District basins to commence preliminary design.

The City is currently negotiating a design professional services agreement with the design consultant chosen for the Consent Decree-required green infrastructure pilot project in the Northeast Industrial District basin and anticipates issuing a Notice to Proceed in September 2016.

See *Table 2* that starts on page 10 for more information about these two projects.

VI. COMBINED SEWER OVERFLOW CONTROL MEASURES

The combined sewer system (CSS) makes up approximately 58 square miles running from the Missouri River on the north, 85th Street on the south and the Blue River on the east, and the Missouri/Kansas state line on the west. The area served by the CSS is subdivided into six principal basins: Brush Creek, Lower Blue River, Middle Blue River, Northeast Industrial District/Gooseneck Creek, Town Fork Creek, and Turkey Creek/Central Industrial District.

Field investigation activities for two neighborhood sewer rehabilitation projects are currently being completed through a Water Services Department OCP Program Management contract and a City-Wide Sewer Cleaning and Closed Circuit Television (CCTV) Inspection contract. The work consists of sewer system network characterization and manhole inspections, sewer cleaning, and CCTV inspection of sewers in the NEID and Lower Blue River combined sewer system basins. Field investigation activities are also currently being completed in the separate sewer system basins to support the implementation of I/I reduction projects.

The City's 25-year Overflow Control Program is being implemented utilizing multiple strategies to effectively and efficiently invest in the City's wastewater system and maximize the benefits to customers. During early stages of the program, efforts will focus on addressing flow obstruction problems to improve collection system performance by making repairs to the existing sewer systems, and pilot projects focused on developing and evaluating green infrastructure solutions. During intermediate stages of the program, efforts will focus on maximizing the use and capacity of the existing system and increasing conveyance capacity through select sewer separation, relief sewers, and lift station improvements, and analyzing the results of source volume reductions and green infrastructure pilot projects. The final stages of the program will focus on capacity improvements to the City's wastewater treatment plants, including high rate treatment facilities, and wet-weather storage facilities which are currently planned as deep storage tunnels and associated dewatering pump stations.

The status of the projects in the combined sewer system basins is summarized in *Table 2*. The combined sewer system has 18 active projects. One (1) project is currently in pre-design with the development of a Request for Proposal/Qualifications from Design Professionals underway. Eight (8) projects are currently in design, and nine (9) projects are bidding construction contracts or construction is currently underway as shown.

Table 2: Project Status - Combined Sewer System Basin (through June 30, 2016)

COMBINED SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016		Planned Completion Date	
Brush Creek Basin					
Neighborhood Sewer Rehabilitation	Due to the size of the basin, neighborhood sewer rehabilitation work in the Brush Creek Basin has been split into two projects. These projects are being implemented to improve the reliability and performance of the combined sewer collection system and reduce basement backups. These projects involve identification of sewer system defects and the preparation of construction contract documents to rehabilitate sewer pipes that are 12-inches and smaller in diameter.	100%	<u>25%</u> May 2017	Dec. 2019	12/31/2020
Middle Blue River Basin					
Distributed Storage: Outfall 059	Green infrastructure solutions are being implemented to reduce combined sewer overflows at Outfall 059. Three construction contracts have been issued for completion of the work. <i>*Construction for Phase 1 is 65% complete; Phase 2 is 35% complete; and Phase 3 is 10% complete.</i>	100%	<u>100%</u> Sept. 2015	* Nov. 2017	12/31/2017
Distributed Storage: Outfall 069	Green infrastructure solutions are being implemented to reduce combined sewer overflows at Outfall 069. Three construction contracts have been issued for completion of the work. <i>**Construction for Phase 1 is 80% complete; Phase 2 is 50% complete; and Phase 3 is 5% complete.</i>	100%	<u>100%</u> Oct. 2015	** Nov. 2017	12/31/2017
Neighborhood Sewer Rehabilitation	This project is being implemented to improve the reliability and performance of the combined sewer collection system and reduce basement backups. Two construction contracts were issued for rehabilitation of manholes and sewer pipes that are 12-inches and smaller in diameter. The first construction contract was completed in 2015.	100%	<u>100%</u> Jan. 2015	<u>75%</u> July 2017	12/31/2017

COMBINED SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Middle Blue River Basin, continued</i>					
Sewer Consolidation: Outfall 063	The project involves the consolidation of piping, disconnection of inlets from the combined sewer system, and elimination of 15 of 18 diversion structures. The overall goal is to eliminate typical year overflows at Outfall 063 and to reduce the number of overflows at Outfall 064. The project scope has been expanded to achieve full separation of storm inlets and sanitary sewers and integration of water main replacement work. Due to the size of the project, it has been broken up into two phases to facilitate construction. Phase 1 design is 100 % complete. Phase 2 design is 80% complete. WSD has held initial discussions with EPA Region 7 regarding a time extension for this project due to the expanded scope of the project to integrate water main and full sewer separation work.	100%	<u>100%</u> April 2016	<u>0%</u> Dec. 2017	12/31/2017
Sewer Separation: Outfalls 066 and 067	Design documents are being prepared for separation of approximately 270 acres of the combined system. The Consent Decree does not mandate separation of combined sewers upstream of Outfall 066; however, this 10-acre area was added to the project because of its proximity to Outfall 067, its small size, and the relatively small number of known stormwater inflow connections. Upon completion of separation work, both outfalls will become stormwater outfalls.	100%	<u>65%</u> Jan. 2017	<u>0%</u> May 2019	12/31/2019
Sewer Separation: Diversion Structure 099	Design documents are being prepared for separation of 50 acres of combined sewers upstream of Diversion Structure 099. Green infrastructure best management practices (BMPs) have been incorporated to improve water quality of the separated stormwater flows. As a result of this project, Diversion Structure 099 will be eliminated. This project has been combined with the adjacent Sewer Consolidation: Outfall 063 project.	100%	<u>100%</u> April 2016	<u>0%</u> Dec. 2017	12/31/2017

COMBINED SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Middle Blue River Basin, continued</i>					
Relief Sewer: Diversion Structure 068 to Blue River	The project is being designed to reduce combined sewer overflows by eliminating typical year overflows at Outfall 068. A conceptual alternatives evaluation was performed and it was recommended to proceed with development of an open storage basin in lieu of the planned sewer relief. Preparation of preliminary design and construction contract documents has been initiated. WSD has held initial discussions with EPA Region 7 regarding this proposed alternative control measure.	100%	<u>50%</u> Jan. 2017	<u>0%</u> Sept. 2018	12/31/2018
<i>Northeast Industrial District Basin</i>					
Sewer Separation: Diversion Structure 006	The project involves separation of 260 acres of combined sewer system by constructing approx. 12,600 feet of new sanitary sewers and eliminating Diversion Structure 006. The project will eliminate typical year overflows at Outfall 006. This project now requires a pump station and force main and has been separated into three (3) design bid projects: 1) Sewer Separation; 2) Private Sewer Separation; and 3) Pump Station and Force Main. WSD has held initial discussions with EPA Region 7 regarding a time extension for this project due to the addition of the pumping station and force main.	100%	<u>100%</u> April 2016	<u>Bidding</u> Oct. 2017	12/31/2017
Green Infrastructure Pilot Project	The green infrastructure pilot project will be designed to reduce combined sewer overflows and provide aesthetic, social and economic enhancements within the Northeast Industrial District. The design will include a tiered extended detention facility with wetland vegetation, permeable pavement, bioswales and open channel for conveyance.	100%	<u>0%</u> Oct. 2017	<u>0%</u> April 2020	12/31/2020
Gooseneck Arch Sewer Gates and Pump Station Improvements	The project consists of the design of an adjustable gate inside a new gate structure situated over the 18 ft. by 21 ft. arch sewer to provide in-line storage of a combined sewer flow utilizing a real-time control (RTC) system and a new 4-MGD submersible pump station. The pump station will deliver the stored volume to the Blue River Interceptor through a new force main.	100%	<u>30%</u> Apr. 2017	<u>0%</u> Aug. 2018	12/31/2018

COMBINED SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Northeast Industrial District Basin, continued</i>					
Neighborhood Sewer Rehabilitation	This project is being implemented to improve the reliability and performance of the combined sewer collection system and reduce basement backups. This project involves field investigations to identify and quantify sewer system defects and the preparation of construction contract documents to rehabilitate sewer pipes 12-inch and smaller in diameter.	100%	<u>0%</u> Mar. 2018	<u>0%</u> May 2020	12/31/2020
<i>Town Fork Creek Basin</i>					
Neighborhood Sewer Rehabilitation	This project is being implemented to improve the reliability and performance of the combined sewer collection system and reduce basement backups. This project involves identification of sewer system defects and the preparation of construction contract documents to rehabilitate sewer pipes 12-inch and smaller in diameter.	100%	<u>100%</u> May 2016	<u>0%</u> June 2018	12/31/2018
<i>Turkey Creek/Central Industrial District Basin</i>					
Turkey Creek Pump Station Modifications	This project entails modifications to the pump station, which includes removal of five existing pumps and appurtenances; installation of three new pumping systems, including pumps to provide a firm capacity of 30 MGD; 480-volt motors and variable frequency drives; piping; and other mechanical and electrical controls and equipment. In addition, new bar screens and a new debris removal system (rock box) will be constructed.	100%	100%	<u>95%</u> Oct. 2016	12/31/2016
CID In-Line Gates at Santa Fe Pump Station	The project is being performed to modify existing sluice gates at the Santa Fe Pump Station as necessary to facilitate the storage of wet weather flows in the existing upstream combined sewer system and to reduce the number of combined sewer overflows from Outfall 003 to the Missouri River. Construction documents have been prepared to modify the in-line gates, including the addition of real-time SCADA control capabilities and establishment of gate operational criteria.	100%	<u>100%</u> May 2016	<u>Bidding</u> May 2017	12/31/2017

COMBINED SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Turkey Creek/Central Industrial District Basin, continued</i>					
Green Infrastructure Pilot Project	The green infrastructure pilot project will be designed to reduce combined sewer overflows and to provide aesthetic, social and economic enhancements within the Central Industrial District. The design will include conceptual, preliminary, and final design, preparation of construction contract documents, bid phase services, and the preparation of opinions of probable cost.	100%	<u>5%</u> Oct. 2017	<u>0%</u> April 2020	12/31/2020
In-Line Storage: OK Creek Gates	This project entails the design of a new gate structure, with automatic control from water-level sensors upstream of the structure, to store up to 20 million gallons of combined sewer flow in the existing 17 ft. high x 18 ft. wide double-box culvert.	100%	<u>60%</u> Sept. 2016	<u>0%</u> July 2018	12/31/2018
<i>Westside WWTP</i>					
Westside Wastewater Treatment Plant	The RFQ/P for Phase 1 of the Wet Weather Treatment Facilities for the Westside WWTP has been advertised for design professionals. The City is planning to expand the scope of this project to include facility planning and other plant improvements, including grit removal and fine screening, aeration equipment replacement, biosolids handling and disposal, and SCADA system upgrade along with wet-weather treatment and disinfection sized for a wet weather flow of 32 MGD.	RFQ/P to be issued Summer 2016	<u>0%</u> Feb. 2018	<u>0%</u> June 2020	12/31/2020

VII. SEPARATE SANITARY SEWER SYSTEM OVERFLOW CONTROL MEASURES

Kansas City’s Separate Sanitary Sewer (SSS) system comprises nine drainage basins covering 260 square miles of the City. The four SSS basins north of the Missouri River are the Northern and Northwestern watersheds and the Line Creek/Rock Creek and Birmingham/Shoal Creek basins. The five SSS system basins south of the Missouri River are the Blue River North, Blue River Central, Blue River South, Little Blue River, and Round Grove basins.

The early projects and program strategy in the separate sanitary sewer basins involve reducing the amount of inflow and infiltration (I/I) entering the SSS to reduce overflows from the system. This reduction in I/I is achieved by reducing or eliminating points of direct rainwater inflow into the system and/or reducing groundwater infiltration through collection system defects. A combination of wet weather storage and treatment will be utilized to address system needs as outlined in the City’s Overflow Control Plan and the Consent Decree.

The status of the projects in the separate sanitary sewer system basins is summarized in *Table 3*. The separate sewer system has 11 active projects. One (1) project is currently in pre-design with the development of a Request for Proposal/Qualifications from Design Professionals underway. Eight (8) projects are currently in design and two (2) projects are currently under construction as shown.

Table 3: Project Status – Separate Sanitary Sewer System Basin (through June 30, 2016)

SEPARATE SANITARY SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016		Planned Completion Date	
<i>Line Creek/Rock Creek</i>					
I/I Reduction Area 1	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations of Infiltration and Inflow (I/I) Reduction in Project Area 1 of the Line Creek/Rock Creek Basin.	100%	<u>60%</u> Jan. 2017	<u>0%</u> Dec. 2018	12/31/2023
I/I Reduction Area 2	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations of Infiltration and Inflow (I/I) Reduction in Project Area 2 of the Line Creek/Rock Creek Basin.	100%	<u>60%</u> Oct. 2016	<u>0%</u> Apr. 2018	12/31/2023
<i>Blue River North Basin</i>					
I/I Reduction	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in the Blue River North Basin.	100%	<u>90%</u> Sept. 2016	<u>0%</u> March 2018	12/31/2018

SEPARATE SANITARY SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Blue River Central Basin</i>					
I/I Reduction Area 1	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in Project Area 1 of the Blue River Central Basin.	100%	<u>75%</u> Sept. 2016	<u>0%</u> Sept. 2018	12/31/2018
I/I Reduction Area 2	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in Project Area 2 of the Blue River Central Basin.	100%	<u>50%</u> Nov. 2016	<u>0%</u> June 2018	12/31/2018
<i>Blue River South Basin</i>					
87th Street Pump Station Rehabilitation	The project consists of rehabilitation of the pump station to restore capacity to 85 MGD. Work being performed includes replacement of bar screens; duty pumps and motors; controls; and multiple structural, mechanical, and electrical modifications to the pump station.	100%	<u>100%</u> Feb. 2015	<u>65%</u> Dec. 2016	12/31/2017
I/I Reduction - Areas 1 and 2	The project consists of the construction of approximately 5,000 feet of sewer replacement, installation of approximately 45,000 linear feet of CIPP, 800 feet of point repairs, 750 lateral connections, 16,000 feet of service line CIPP, 2 new manholes, and manhole rehabilitation. Construction of the rehabilitation measures will reduce Infiltration and Inflow (I/I) Reduction in Project Areas 1 and 2 of the Blue River South Basin.	100%	<u>100%</u> April 2015	<u>65%</u> June 2017	12/31/2021
I/I Reduction Area 3	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in Project Area 3 of the Blue River South Basin.	100%	<u>90%</u> Aug. 2016	<u>0%</u> Aug. 2017	12/31/2021
I/I Reduction Area 4	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in Project Area 4 of the Blue River South Basin.	100%	<u>30%</u> July 2017	<u>0%</u> May 2019	12/31/2021

SEPARATE SANITARY SEWER SYSTEM		Pre-Design	Design	Construction	CD Due Date
Project Name	Description	Percent Complete through 06/30/2016 Planned Completion Date			
<i>Blue River South Basin, continued</i>					
I/I Reduction Area 5	The project consists of field investigations, data analysis, and preparation of construction contract documents for the implementation of rehabilitation recommendations for Infiltration and Inflow (I/I) Reduction in Project Area 5 of the Blue River South Basin.	100%	<u>25%</u> Apr. 2017	<u>0%</u> Aug. 2018	12/31/2021
<i>Round Grove Basin</i>					
Round Grove Pump Station Upgrade	Increase pumping capacity of the Round Grove Pump by 12 MGD and increase firm capacity through addition of stand-by pumps.	95%	<u>0%</u> Oct. 2016	<u>0%</u> TBD	12/31/2018

a. Private Inflow/Infiltration Reduction Program

The Water Services Department is currently implementing a private I/I reduction program in conjunction with public sewer I/I reduction projects. The focus of the program is to disconnect illicit private I/I sources when it is cost-effective due to the excessive I/I flows into the separate sanitary sewer system. Approximately 55,000 properties are targeted for private I/I evaluation in the City's SSS area.

In March 2016, a notice to proceed was issued to three design professional firms to commence work within I/I reduction project areas in the following basins: Birmingham, Blue River Central, Blue River South, Line Creek/Rock Creek, Middle Blue River (small pilot area), and Round Grove (small pilot area). Training sessions and kick-off meetings were held in April 2016 with staff members. Building plumbing evaluations of properties began in late April and early May and are expected to continue through the remainder of 2016.

Significant public outreach efforts are currently underway to educate residents about the voluntary program and encourage eligible property owners to participate in building plumbing evaluations. Public meetings have been held and project team members have made presentations at neighborhood association meetings. In addition, door-to-door outreach has been conducted along with personal phone calls. Through June 30, 2016, approximately 12 public meetings and neighborhood association presentations have taken place and more than 2,700 properties have received door-to-door outreach or a phone call.

KC Water is currently in the process of approving "indefinite delivery/indefinite quantities (ID/IQ) facility maintenance" contracts to 14 plumbing contractors to perform private I/I source disconnection work. Disconnection work on cost-effective I/I sources is anticipated to begin in August 2016 and continue through the end of 2016.

VIII. SCHEDULED ACTIVITIES FOR THE NEXT REPORTING PERIOD

The activities listed below are expected to occur during the next reporting period between July 1, 2016 and December 31, 2016.

- Requests for Qualifications/Proposals for the following OCP project will be developed and advertised for selection of design professionals:
 - Westside Wastewater Treatment Plant – Phase 1
- Requests for construction bids will be advertised for selection of construction contractors for the following projects:
 - Blue River Central I/I Reduction Area 1 Project
 - Blue River North I/I Reduction Project
 - Blue River South I/I Reduction Area 3 Project
 - CID In-line Gates at Santa Fe Pump Station – Turkey Creek/Central Industrial District Basins
 - 063/099 Project--Phase Two
- A Request for Qualifications/Proposal will be advertised for selection of a design professional for the following projects:
 - Neighborhood Sewer Rehabilitation – Northeast Industrial District Basin
 - Neighborhood Sewer Rehabilitation – Lower Blue River
- The Water Services Department will issue a Notice to Proceed to design professionals or construction contractors for the following OCP projects that are currently being advertised or are undergoing contract negotiations:
 - Round Grove Pump Station Upgrade- Round Grove Basin (design)
 - Green Infrastructure Pilot Project – Northeast Industrial District Basin (design)
 - Sewer Consolidation: Outfall 063 and Sewer Separation: Diversion Structure 099 Phase 2– Middle Blue River Basin (construction project)
 - Sewer Separation: Diversion Structure 006– Northeast Industrial District Basin(3 construction contracts)
 - Neighborhood Sewer Rehabilitation – Town Fork Creek Basin (construction)
- Work will continue on the projects shown in *Table 2* and *Table 3*.
- Flow monitoring will continue in accordance with the revised CSS Metering Plan.
- Private I/I Reduction Program activities will continue.





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