August 29, 2025

Branch Chief, Water Enforcement Branch
Enforcement and Compliance Assurance Division
Water Enforcement Section
U.S. Environmental Protection Agency

Manager – Surface Water Permits Branch
Kentucky Division of Water
Kentucky Department for Environmental Protection

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Reference DOJ Case No. 90-5-1-1-08591

Re: Amended Consent Decree Case No. 2:05-CV-199-(WOB)

To Whom It May Concern:

Pursuant to the above-referenced Amended Consent Decree, Sanitation District No. 1 (SD1) is required to submit an annual report that demonstrate SD1's compliance with the Amended Consent Decree:

Information contained within the enclosed Annual Report describes SD1's compliance with Amended Consent Decree Case No. 2:05-CV-199-(WOB) for the period of July 1, 2024, through June 30, 2025.

A certification, as required by the Amended Consent Decree (paragraph 70), is also attached.

To the best of my knowledge and belief, the enclosed report is true, accurate, and complete, and further demonstrates SD1's commitment to the mission of protecting and enhancing the water resources and quality of life in Northern Kentucky.

If you have any questions or concerns, please contact Jason Burlage, Regulatory Compliance Manager, at 859-578-6892 or by e-mail at jburlage@sd1.org.

Best regards,

Adam Chaney
Executive Director

AC/jb
Enclosures

Cc: Maryjo Bragan
Dennis Sayre
Jason Hurt
Mark Absher
Mark Cleland

CERTIFICATION

Amended Consent Decree Annual Report No. 7
Consent Decree Case No. 2:05-CV-199-(WOB)

I certify under penalty of law that this document and all attachments were prepared under my 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.

Adam Chaney
Executive Director

8-29-2025
Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Kenton

The foregoing instrument was acknowledged before me this 29th day of August, 20 25 by Adam Chaney, Executive Director of Sanitation District No. 1.

NOTARY PUBLIC Brian M Ellerman (714984)

Campbell County, Kentucky

My commission expires: 6-6-2027

AMENDED CONSENT DECREE ANNUAL REPORT NO. 7

August 29, 2025

Sanitation District No. 1
1045 Eaton Drive
Ft. Wright, KY 41017

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LIST OF ACRONYMS AND ABBREVIATIONS

ACD	Amended Consent Decree
Cabinet	Kentucky Energy and Environment Cabinet
CIPP	Cured In Place Pipe
CSAP	Continuous Sewer Assessment Program
CMOM	Capacity, Management, Operations, and Maintenance
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
District	Sanitation District No. 1
EPA	U.S. Environmental Protection Agency
EQ	Equalization
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
FY	Fiscal Year
GCE	Grease Control Equipment
I/I	Inflow and Infiltration
MG	Million Gallons
MGD	Million Gallons per Day
MH	Manhole
NOV	Notice of Violation
PM	Preventative Maintenance
PS	Pump Station
RTC	Real Time Control
SD1	Sanitation District No. 1
SL-RAT	Sewer Line Rapid Assessment Tool
SIU	Significant Industrial User
SSO	Sanitary Sewer Overflow
TCF	Total Combined Flow
TY	Typical Year
UWSP	Updated Watershed Plan

SECTION 1. INTRODUCTION

This Annual Report fulfills the requirements of Sanitation District No. 1's (SD1) Amended Consent Decree, entered on May 22, 2019. This legal agreement with the U.S. Environmental Protection Agency (EPA) and the Kentucky Energy and Environment Cabinet (Cabinet) aims to address sanitary sewer overflows (SSOs) and combined sewer overflows (CSOs) in SD1's service area, enhancing water quality. Section V Reporting Requirements, state:

> **48. Annual Reports.** The District shall submit each year to the Cabinet/EPA an Annual Report that describes the District's progress in complying with this Amended Consent Decree during the previous fiscal year ending June 30. The Annual Report shall be submitted no later than 60 days after the end of each fiscal year period.

This report covers SD1's compliance with the Amended Consent Decree (Case No. 2:05-CV-199 (WOB)) for Fiscal Year July 1, 2024, through June 30, 2025.

SECTION 2. UPDATED WATERSHED PLAN

The US Environmental Protection Agency (USEPA) and the Kentucky Division of Environmental Protection (KDEP) conducted a review of the Updated Watershed Plan (UWSP) initially submitted by SD1 on April 15, 2020, with revision dated May 13, 2021, and December 3, 2021, as required by Paragraph 41 of the Amended Consent Decree (ACD).

On June 15, 2022, SD1 received USEPA and KDEP approval of the UWSP. Per Paragraph 50 of the ACD, upon this approval the UWSP shall be incorporated into the ACD and shall become an enforceable requirement of the ACD.

The UWSP outlines SD1's program to comply with the CSO and SSO mitigation requirements by the four milestone dates in the ACD. In some cases, the UWSP identifies better alternatives than those in Appendix C of the ACD.

SECTION 3. COMPLETED PROJECTS

The first reporting requirement of the Annual Report per paragraph 48 of the Amended Consent Decree, is to provide:

> **48. (a)** A description of the projects and activities conducted during the previous year to comply with the requirements of the Amended Consent Decree, in Gantt chart or similar format.

3.1 Completed Projects Listed in the Updated Watershed Plan / Amended Consent Decree

Table 3.1 details projects listed in the UWSP that were completed during the reporting period.

NOTE: All project phase completion requirements listed in Appendix C of the Amended Consent Decree had been completed prior to FY2023. See Table 7.1 All subsequent projects and their respective due dates detailed in this report will be in reference to the Updated Watershed Plan.

Table 3.1 Reporting Period Completed Projects Listed in the UWSP

Project Title	Project Description	UWSP FY Completion Date	Completion Date
COMBINED SEWER OVERFLOW PROJECTS			
SR9 Sewer Separation	This project includes sewer separation in Newport, KY along the State Route 9 corridor, separating a total of approximately 32 acres of pervious and impervious area and removing approximately 15 MGs of runoff from the combined system in the typical year. In conjunction with the KYTC State Route 9 Realignment project, approximately 9,700 feet of 15-inch through 66-inch separate storm sewer has already been installed, with the remaining work including installation of approximately 400 feet of 66-inch storm sewer through the earthen levee to discharge separated stormwater to the Licking River.	2029	SR9 Sewer Separation
SEPARATE SEWER OVERFLOW PROJECTS			
US 27/AA Highway PH II	6,200’ of 12” force main and New Rocky View PS. New gravity pipe from Cold Spring Crossing PS to the New Rocky View PS.	2034	US 27/AA Highway PH II

SECTION 4. ACCOUNTING OF TYPICAL YEAR OVERFLOWS

The second reporting requirement of the Annual Report per paragraph 48 of the Amended Consent Decree, is to provide:

> **48. (b)** An accounting, both for the current calendar year and cumulatively, of the reduction in volume and in number of occurrences of SSOs and unpermitted discharges and the volumes of combined sewage in the CSS, including the District's progress towards achieving the requirements for percentage of volumes of combined sewage in the CSS eliminated and/or captured for treatment and the percentage of capacity-related SSO volumes eliminated as set forth in Paragraph 43 of this Amended Consent Decree.

4.1 Typical Year SSOs

As described in the Amended Consent Decree (ACD), SD1's baseline SSO volume of 115.4 MG was established with the October 2017 hydraulic model and the 1970 typical year (TY) rainfall, adjusted with areal reduction factors.

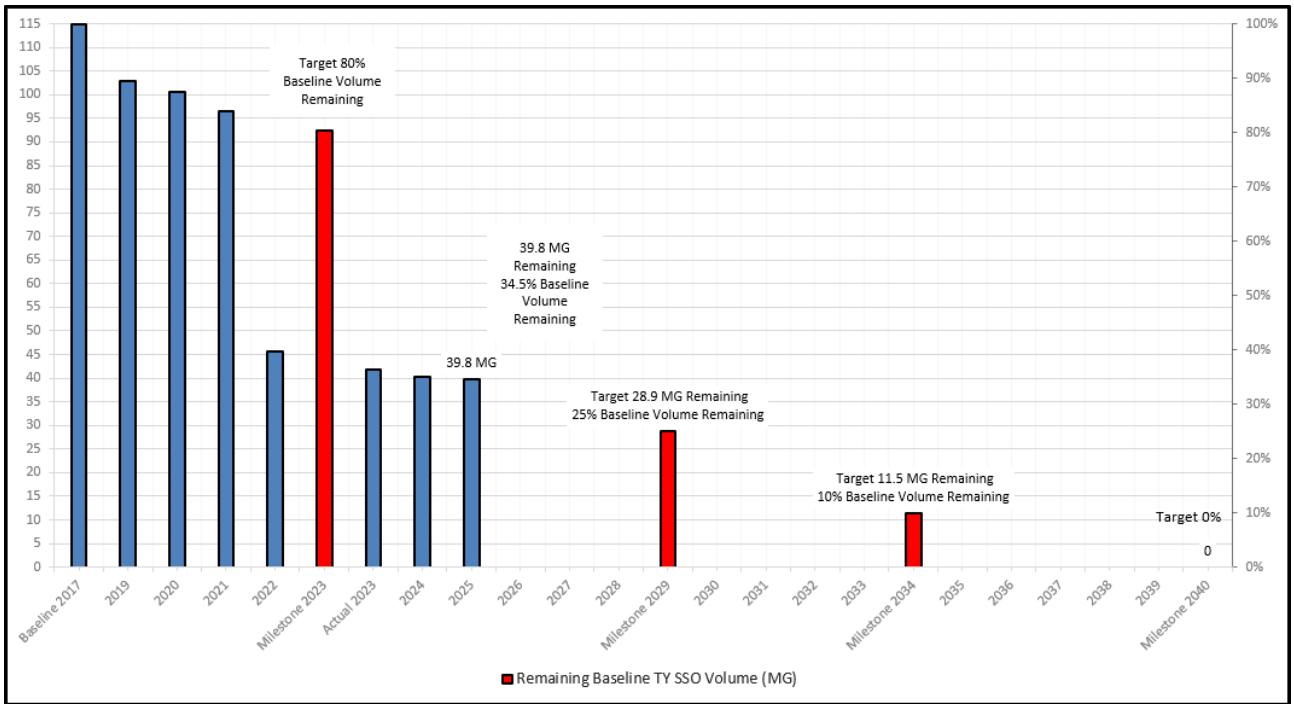
As of August 2025, SD1's hydraulic model calculates a TY SSO volume of 39.8 MG, which is 34.5% of the established baseline. See Table 3.1 for completed projects during the reporting period.

The decrease in SSO volume for the reporting period is mainly due to:

- Calibration refinements of (-0.4) MG.

Figure 4.1 illustrates the current TY SSO volume, and the baseline volume reduction trend toward the milestones established in the ACD.

Figure 4.1 Remaining Baseline Typical Year SSO Volume



4.2 Typical Year CSOs

As described in the Amended Consent Decree (ACD), SD1's baseline CSO volume of 1,516 MG was established with the October 2017 hydraulic model and the 1970 typical year rainfall, adjusted with areal reduction factors.

As of August 2025, SD1's hydraulic model calculates a TY CSO volume of 1,425.6 MG, with a percent capture of 70.6. See Table 3.1 for completed projects during the reporting period.

The decrease in CSO volume for the reporting period is mainly due to:

- Calibration refinements (-17 MG)
- SR9 Stormwater Separation (-13 MG)
- Highland Ave Basin (-8 MG)

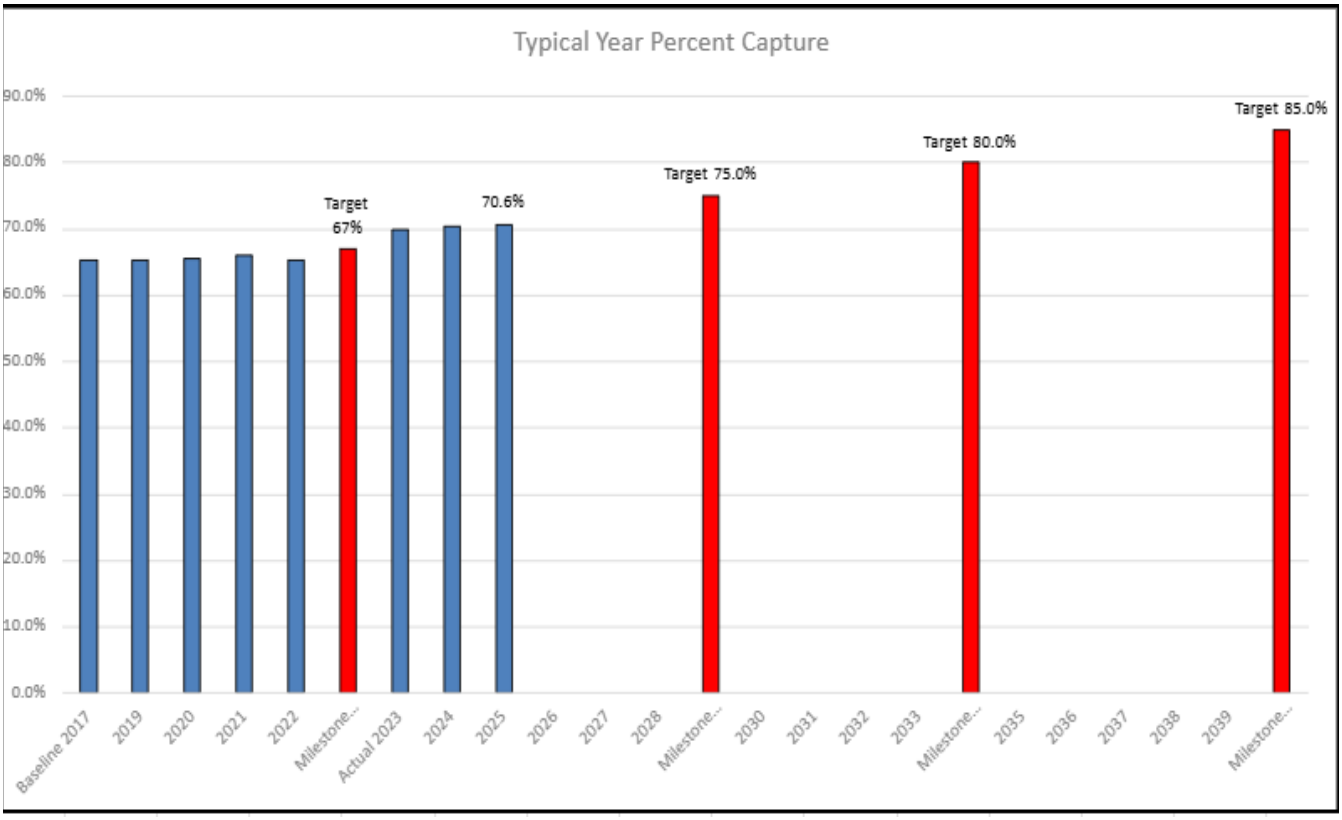
With regard to percentage capture, below is a summary of current conditions versus the previous reporting period.

☐

Category	Previous Typical Year Annual Volume (MG)	August 2025 Typical Year Annual Volume (MG)
Storm water entering combined system	2,886	2,841
Sanitary flow during wet weather	1,988	1,935
Eliminated Flow	62	77
Total Combined Flow (TCF)	4,935	4,853
Untreated CSO (CSO)	1,464	1,426
Percent Capture [(TCF)-(CSO)]/(TCF)	70.3%	70.6%

Figure 4.2 illustrates a timeline of the baseline and current TY percent capture, along with the milestone targets established in the ACD.

Figure 4.2 Increase in Percent Capture of Typical Year Total Combined Flow



SECTION 5. ANTICIPATED PROJECT ACTIVITY IN FY2025

The third reporting requirement of the Annual Report per paragraph 48 of the Amended Consent Decree, is to provide:

> **48. (c)** The anticipated projects and activities that will be performed in the successive calendar year to comply with the requirements of this Amended Consent Decree, in Gantt chart or similar.

Table 5.1 provides updates for ongoing projects that are listed in the Updated Watershed Plan

Table 5.1 Projects Listed in the Updated Watershed Plan that are in Design or Under Construction in FY2026

Project Title	Project Description	UWSP FY Completion Date
COMBINED SEWER OVERFLOW PROJECTS		
Surface Storm Water Detention Basins	Installation of dynamic coordinated controls on 9 detentions basins in the Willow Run sewershed. Automated control logic will throttle an outlet valve by incorporating wet weather forecasting and downstream capacity sensors at the CSO regulators.	2029
Bromley Pump Station Upgrades	The UWSP revised the target pumping capacity to 45 MGD by making upgrades to allow for two large pumps to run concurrently, which would reduce TY CSO by 60 MG. After further alternative analysis in the planning of the upgrades described in the UWSP, it has been determined SD1 can instead upgrade the existing Bromley PS to increase capacity from 40 MGD to 45 MGD and build a diversion structure and second parallel pump station with an additional 30 MGD capacity. Each pump station will utilize the same force main. Therefore, when pumping together, there will be a combined 50 MGD pumping capacity. This major improvement will reduce TY CSO by 114 MG, provide greater operational resiliency in the event of failure, and will potentially allow for some smaller projects identified in the UWSP to be eliminated.	2029
Taylor Creek EQ Tank	The Taylor Creek EQ Tank is a major storage facility that effectively anchors the CSO control program along the upper Ohio River Interceptor. This EQ tank will reduce TY CSO volume of 29.4 MG.	2034

Project Title	Project Description	UWSP FY Completion Date
Taylor Creek Consolidation Piping – Newport Festival / Bellevue Riverfront	Consolidation piping along the Ohio River east of the Licking River to EQ.	2034
Licking River Tunnel	The proposed tunnel would start at a construction shaft near the 4th Street CSO and extend southwest to a drop shaft near the 8th Street CSO. It would then continue south to another drop shaft near the 19th Street CSO, ending at a construction shaft near the James Ave CSO. Along its path, the tunnel would collect additional flow through consolidation piping along the Licking River. Modeling indicates a 12-foot finished diameter tunnel is needed to meet ACD requirements. A dewatering pump station near the 8th Street drop shaft would discharge tunnel flow into the Licking River Interceptor. This location is just downstream of the 8th Street Pump Station discharge.	2040
SEPARATE SEWER OVERFLOW PROJECTS		
LRS Conveyance – Phase 3	This portion of the LRS Conveyance Piping runs along Three Mile Rd and consists of the installation of 36-in through 48-in sanitary sewer that will convey additional flow to the LRS EQ Tank. Coupled with the already complete LRS Conveyance Ph 1, once Ph 3 is complete the SSOs addressed include 0150009, 0150061, 0150063, 0150064, 0150065, 0150198, and 0150399.	2029
Lakeview EQ	The Lakeview EQ tank is an 8.6 million gallon above ground tank designed to store flows exceeding the downstream Lakeview PS capacity. The tank is sized to accommodate additional flow from storage and conveyance projects upstream to be completed by 2040. Flow would be diverted from the Lakeview Interceptor near 1990005 to a 36 MDG wet weather PS, which would pump flow into the tank. This project will reduce TY SSO volume by 6.5 MG.	2029
W6 Pump Station & Force Main	New pump station & force main located in Southern Kenton County along the Banklick Creek. This project will remove approximately 4,000 acres of tributary area to the Lakeview Pump Station and redirect the flow to Western Regional.	2029
CBC Master Plan Phase 1, 2, 3, and 4	This project will be constructed in 5 phases. Phases I & II will construct a new pump station and force main that will tie into the existing tunnel upstream of the Western Regional Reclamation Facility. Phase III & IV will be the construction of approximately 35,000 feet of gravity pipe from the existing Bullittsville Pump Station to the proposed pump station constructed as part of Phase I & II. The 5th and final phase will be the construction of an EQ facility at the site of the proposed pump station. The EQ facility construction will not occur for several years dependent upon development in the area. It is expected this project will eliminate approximately 1 million gallons of SSOs in the typical year and will provide the necessary capacity to prevent SSOs as Boone County continues to develop in the areas along I-275 as well as south of I-275.	2029

Project Title	Project Description	UWSP FY Completion Date
Waterworks Road Conveyance Phase 2 & 3	This project consists of 11,020 feet of 10-inch through 24-inch and 1,450 feet of 42-inch sanitary sewer upsizing. This conveyance upsizing will convey additional flow to the combined system and the planned Taylor Creek EQ tank downstream. The downstream combined system solution has been configured to accommodate the additional flow. This project will reduce TY SSO by 1 MG and eliminate TY SSOs at 0370001, 0380005, 0400002, 0400034, 0410037, and 0410039.	2029
Brookwood SSO	Project consists of 4,200 L.F. of 12" pipe to replace the 8" existing line. The 12" will run from M.H. 2030144 to M.H. 2030034, then there will be 900 L.F. of 15" ran from M.H. 20230034 to M.H. 2030030. The last leg of pipe will follow from M.H. 2030030 to 2040006; this will be the remaining 8" pipe that would tie directly into the Trunk Line. Project completion will address TY SSO at 2030144 and 2030031	2029
Surface Storm Water Detention Basins – Riverspointe, Grant, Twin Oaks	3 of 7 dynamic coordinated controls on detentions basins alone the Licking and Ohio Rivers. Automated control logic will throttle an outlet valve by incorporating wet weather forecasting and downstream capacity sensors at the CSO regulators.	2034
Bromley Crescent Springs Conveyance Phase 2 – Sleepy Hollow / Ludlow Theme Park	10in through 30in conveyance upsizing in this sewershed will direct additional flow to the Bromley Pump Station, which has sufficient capacity based on the combined system's storage and RTC strategy. Part of the improvements will be completed through the Bromley Crescent Springs Conveyance project outlined in the 2029 improvements.	2034
Lakeview PS EQs – Leathers, Keavey, Meadow Lane	Regional EQ facilities Keavy Rd, Leathers Rd and Meadow Lane are surface storage tanks that store flows exceeding local conveyance capacities, as well as the current capacity of the Lakeview pump station, and will be drained following the storm event to be treated at the Dry Creek WWTP. These EQs tanks will require small additional storage (< 50,000 gallons) to address SSOs in wet weather.	2034
Lakeview EQ Tank 1	Lakeview EQ 1 is a strategically located EQ facility to address remaining SSOs in the Lakeview Sewershed. Lakeview EQ Tank 1 will reduce TY SSOs by 3.7 MG.	2034
Lakeview EQ Tank 8 – KY17 Corridor Tunnel	1 of several projects designed to address the SSOs in a typical year at the Lakeview PS drainage basin. Project is comprised of a new 7,300 ft micro-tunnel along KY17 from Howard Litzler to Lakeview PS.	2034
Lakeview Conveyance – Madison Gravity Upsize	Construction of 7,800 ft of sanitary sewer south of the Lakeview PS consisting of 10 in through 54 in upsizing. This is one of multiple projects to address SSOs in the Lakeview sewershed. The completion of this project will eliminate future SSOs 1980001 and 1990032.	2034

Project Title	Project Description	UWSP FY Completion Date
Taylor Creek Rd Conveyance – Waterworks Rd Ph 4	Construction of sanitary sewer from Marine to Mayfield consisting of 10 in through 15 in upsizing. This is one of multiple projects to address SSOs in the Taylor Creek sewershed. The completion of this project will eliminate SSOs 0410115, 0410019, 1010002, 1010025, 1010027, and 0410010.	2034
Taylor Creek Rd Conveyance – Monmouth St Newport Rd	Construction of sanitary sewer from Monmouth St to Newport Rd consisting of 10 in through 54 in upsizing. This is one of multiple projects to address SSOs in the Taylor Creek sewershed. The completion of this project will eliminate SSOs 0490035, 0490137, and 0500047.	2034
Taylor Creek Rd Conveyance – Newport Shopping Center Sewer	Construction of sanitary sewer at Newport Shopping Center consisting of 12 in upsizing. This is one of multiple projects to address SSOs in the Taylor Creek sewershed.	2034
Taylor Creek Rd Conveyance – Lafayette SSO	Construction of sanitary sewer consisting of 24 in upsizing. This is one of multiple projects to address SSOs in the Taylor Creek sewershed.	2034
Western Conveyance – W6 Gravity Sewer	Construction includes 15-in through 36-in gravity sewer to the W6 PS. Completion of the gravity lines will address future SSOs 2280004, 2280010, 2280011, 2280016, and 2280023	2034
Wolpert PS & FM Redirect	3,900’ of 12” force main, 3,400’ of 12” gravity sewer, and upgrade Wolpert PS capacity and new force main and gravity pipe from the Wolpert PS to Cold Springs Crossing site.	2034
Banklick EQ / Conveyance	To address SSOs within Banklick sewershed, limited conveyance to a storage tank just upstream of the Banklick pump station was identified as the solution. A 2.6-million-gallon surface-storage tank is proposed to store flows above the pump station capacity. This facility has been sized to also receive flow from the Church Street combined system area and will reduce CSO volume at the Church Street CSO. SSOs addressed include 1850140, 1850141, 1870018, and 1860108.	2034
LRS Conveyance – Phase 2	Construction of sanitary sewer from MH0150009 through 1930093 consisting of 10in through 24in upsizing. This is one of multiple projects to address SSOs in the Licking River Siphon sewershed. The completion of this project will eliminate SSOs 0150024, 1930008, 1930009, and 1930010.	2040
Dry Creek Conveyance – Interceptor	The project consists of conveyance improvements that include the construction of 3,580 feet of 48-in sewer that will replace the existing Dry Creek interceptor and will convey flow to the Dry Creek WWTP. This portion of conveyance will address SSO 2130027.	2040

Project Title	Project Description	UWSP FY Completion Date
Dry Creek Conveyance – Fitzgerald Ph 2	Construction of sanitary sewer along MHs 1190023-1230034, 1230028-1260045, 1240013-1260044 consisting of 10-in through 18-in upsizing. This is one of multiple projects to address SSOs in the Dry Creek sewershed. This portion of conveyance will address SSOs 1190012, 1190001, 1230028, 1230019, and 1240008,	2040
LRS Conveyance – Phase 8	Construction of sanitary sewer from MH0270026 through 0270103 and 0270102 through 0270014 consisting of 8 – 10 in upsizing. This is one of multiple projects to address SSOs in the Licking River Siphon sewershed. The completion of this project will eliminate SSOs 0150024, 1930008, 1930009, and 1930010.	2040
Lakeview Conveyance – Fowler Creek Rd / Oliver Rd	Construction of conveyance improvements to downstream EQ facilities. These improvements would fully utilize the EQ facilities constructed by 2029 and 2034 and will eliminate the remaining SSOs in the Lakeview sewershed in the typical year. Project will consist of 10in – 36 in upsizing.	2040
Lakeview Conveyance – Fowler Creek Rd	Construction of conveyance improvements to downstream EQ facilities. These improvements would fully utilize the EQ facilities constructed by 2029 and 2034 and will eliminate the remaining SSOs in the Lakeview sewershed in the typical year. Project will consist of 10in – 36 in upsizing.	2040
Lakeview Conveyance – Eastern Ave Cluster	Construction of conveyance improvements to downstream EQ facilities. These improvements would fully utilize the EQ facilities constructed by 2029 and 2034 and will eliminate SSOs (2100081, 2100156, 2100126, and 2100057) upon its completion.	2040
Lakeview Conveyance – Fowler Creek Rd / Oliver Rd	Construction of conveyance improvements to downstream EQ facilities. These improvements would fully utilize the EQ facilities constructed by 2029 and 2034 and will eliminate the remaining SSOs in the Lakeview sewershed in the typical year. Project will consist of 10in – 36 in upsizing.	2040

SECTION 6. CMOM UPDATES

The fourth reporting requirement of the Annual Report per paragraph 48 of the Amended Consent Decree, is to provide:

> **48. (d)** A summary of the CMOM and asset management program implementation shall be included in the fiscal year report, including a

comparison of actual performance measures that have been established in those programs.

6.1 CMOM Introduction

SD1 received regulatory approval for its Capacity, Management, Operations, and Maintenance (CMOM) programs on May 14, 2008, and has provided annual reporting since 2009. This report covers significant CMOM activities related to capacity assurance and asset management during the reporting period.

6.2 Major Components of SD1's Collection and Treatment Systems

SD1's service area spans approximately 190 square miles for sanitary services and 170 square miles for storm services, catering to 112,868 sanitary accounts and 81,137 stormwater accounts. The system serves over 347,717 residents, comprising:

- 43,079 SD1 owned sanitary MHs
- 1,444 SD1 owned catch basins and inlets in the CSS
- 1,720 miles of SD1 owned and operated gravity sewer lines and force mains
- 133 miles of Florence owned sewer lines and force mains
- 505 miles of SD1 owned and operated separate storm water lines
- 129 (126 SD1 Owned 3 SD1 Maintained) pump stations
- 97 floodgate structures
- 16 flood pump stations
- 10 (SD1 owned 4 SD1 Maintained 6) small wastewater treatment plants
- 3 regional water reclamation facilities

Throughout the current reporting period, SD1 acquired approximately 43,180 feet of privately developed sewer and 234 new MHs, all meeting SD1's technical specifications and construction standards.

6.3 Capacity Assessment & Assurance

SD1's Capacity Assessment and Assurance Program aims to understand the system's capacity and identify problem areas lacking adequate wet-weather capacity. This

comprehensive understanding allows for better management and design of the systems.

6.3.1 Overflow Inspections and Hydraulic Modeling

CSO inspections are conducted after storms that produced more than half an inch of rain and dry-weather inspections at sites susceptible to blockages. SSO inspections and clean-ups are conducted after qualifying rain events at known recurring or suspected wet-weather SSO locations. These inspections help verify overflow activity, assess causes, and initiate proper containment and cleanup procedures. SD1 conducted approximately 3,955 CSO diversion inspections during the reporting period. Approximately 2,450 wet-weather CSO inspections were performed within 48 hours of a storm that produced at least half an inch of rain, or after a high-river event. Approximately 379 routine dry-weather CSO inspections were also performed. Additionally, SD1 performed approximately 82 inspections following at least one inch of rain at recurring SSO locations during the reporting period.

6.3.2 Flow Monitoring and Hydraulic Modeling

SD1 utilizes remote-sensing devices, such as flow meters, levels sensors, and rain gauges to collect data in targeted areas of the collection system. These data are used to understand wet weather impacts on the collection system, continuously improve model confidence, identify and confirm areas that are suspected of high inflow and infiltration (I/I), inform reservation of capacity decisions, and quantify the benefits of completed capital projects.

Flow meters are used to gather detailed information on system response to varying antecedent moisture conditions and weather patterns. The data collected with the flow meters address specific conveyance analyses related to the reservation of capacity and the construction of capital improvements, which may alter the system capacity enough to warrant calibration of the models. SD1’s flow metering program ensures that SD1’s collection system models are continuously verified and up to date.

Figure 6.1 identifies the locations that were monitored with flow meters and Figure 6.2 illustrates the related hydraulic model calibrations that were completed during the reporting period.

Figure 6.1 Flow Monitoring Locations

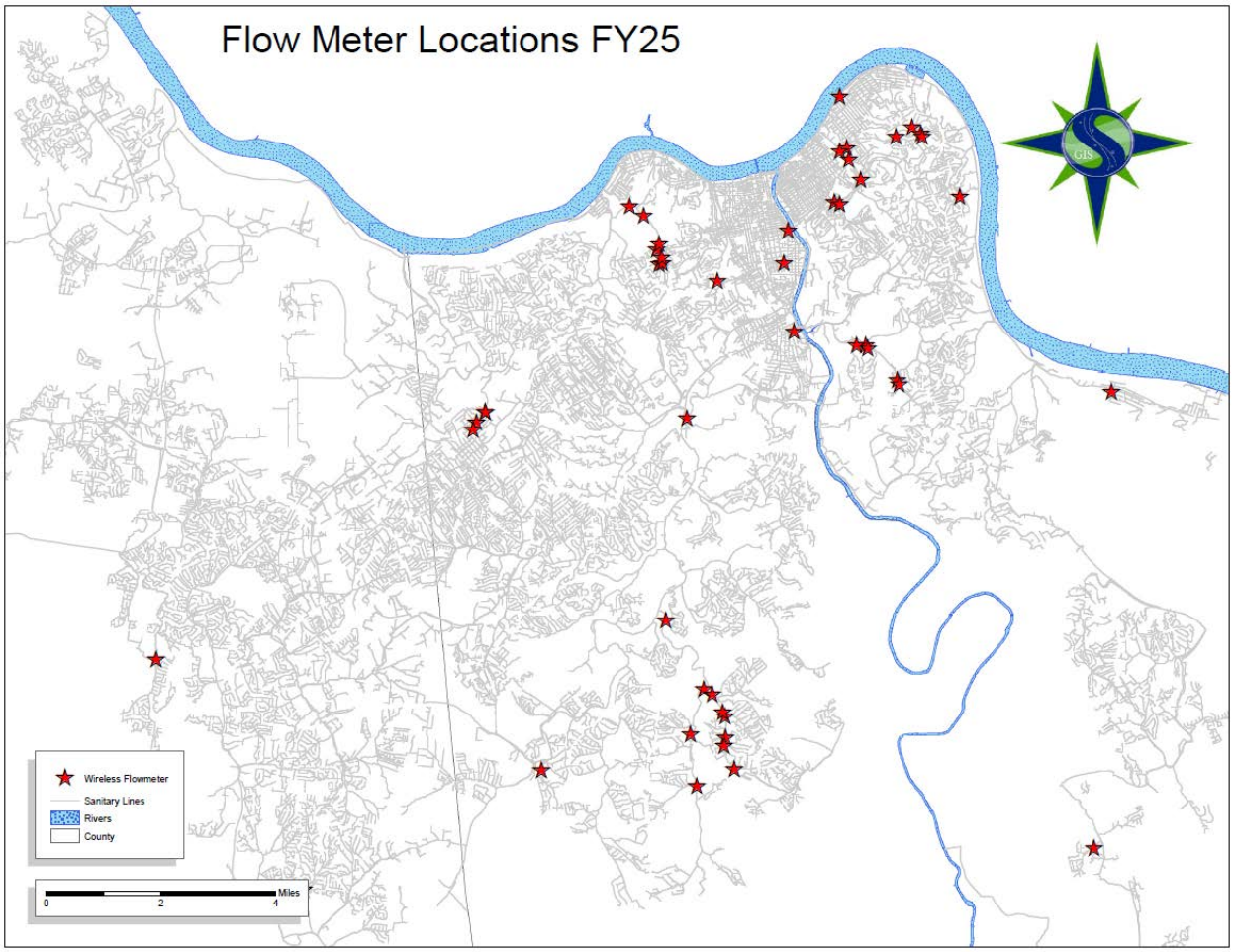
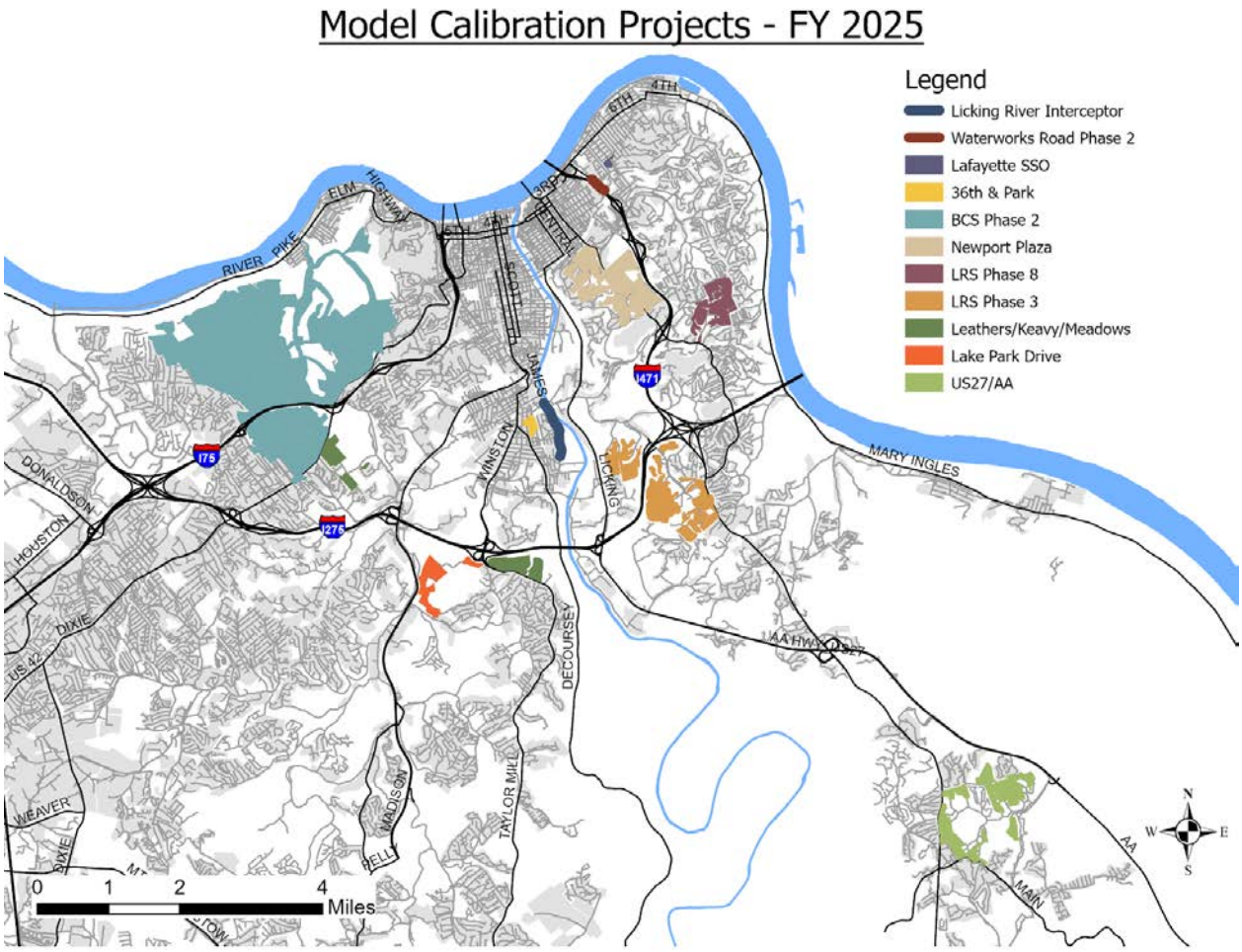


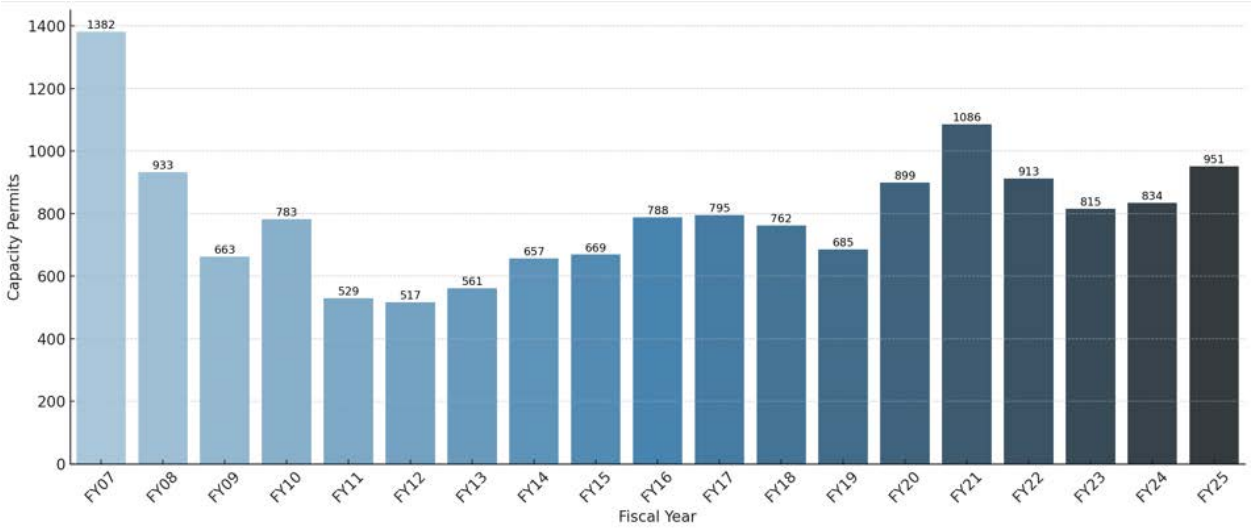
Figure 6.2 Completed Model Calibrations



6.3.3 Reservation of Capacity

Developers must submit a formal request for the reservation of sanitary sewer capacity, reviewed and approved by SD1's Board of Directors. A sewer capacity connection permit is then required before connecting to the system. Figure 6.3 shows the number of annual capacity connection permits issued by SD1 since entering into the original Consent Decree in 2007. SD1 issued 951 capacity connection permits throughout this reporting period.

Figure 6.3 Capacity Connection Permits Issued



6.4 Call Before You Dig

SD1's Call Before You Dig Program protects underground assets by marking the location of SD1 lines before construction activities. Throughout this reporting period SD1 responded to 2,364 external requests, generating 1,322 work orders and marking 4,477 sanitary assets.

Table 6.1 provides SD1 line location details for the current reporting period.

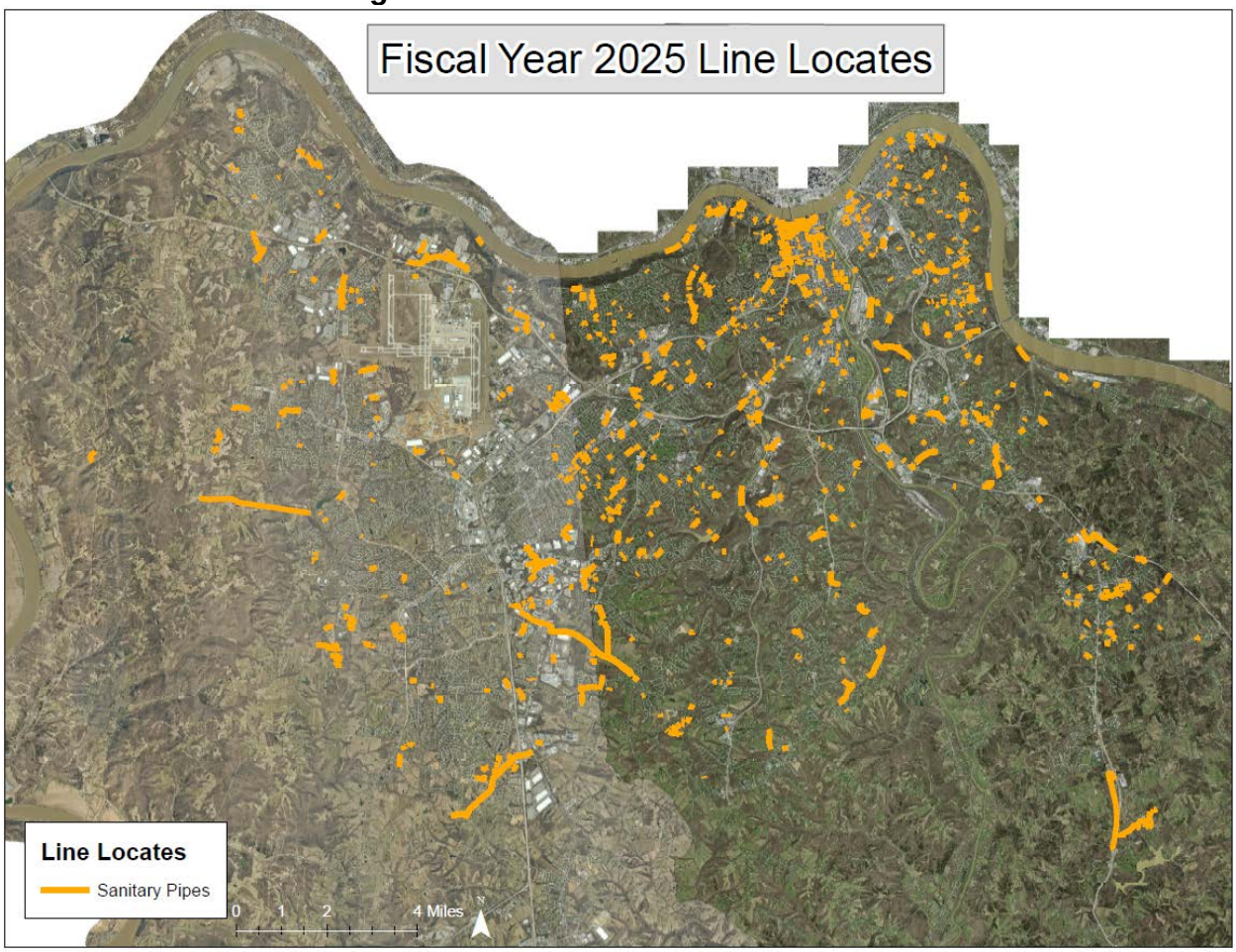
Figure 6.4 illustrates the sanitary assets, in orange, that were marked during the current reporting period.

Table 6.1 Line Locations

Fiscal Year	Work Orders Completed	Assets Marked
FY2011	688	1,220
FY2012	1,194	2,722
FY2013	955	2,520
FY2014	966	2,226
FY2015	1,465	2,701

Fiscal Year	Work Orders Completed	Assets Marked
FY2016	1,698	2,065
FY2017	1,794	2,045
FY2018	1,202	1,716
FY2019	1,027	1,099
FY2020	1,191	794
FY2021	1,504	1,494
FY2022	1,459	4,400
FY2023	1,670	4,175
FY2024	1,210	4,490
FY2025	1,447	4,477
Total	**14,894**	**30,144**

Figure 6.4 Lines Located and Marked



6.5 Connection Tap-In

SD1's Connection Tap-in Program is to ensure standard policies and procedures are in place to approve and perform connections to the sanitary and storm sewer systems. The objectives of this program are to:

- Accommodate economic development throughout the Northern Kentucky region.
- Eliminate the number of illegal and improper taps made throughout the collection system.
- Ensure all connection fees are paid, and all new connections are put on billing.
- Maintain the integrity of the sanitary sewer system by reducing the amount of I/I that can enter the system through bad taps or improper abandonment of service laterals.
- Protect the integrity of the sanitary and storm sewer systems by enforcing the use of proper materials.
- Provide an avenue for SD1 to keep certified tappers informed about changes to the Rules and Regulations or specifications for tapping the system.
- Provide supplemental training on other critical SD1 programs, such as FOG, illicit discharge and confined space entry safety.

6.5.1 Certified Tapper Program

SD1's formal Certified Tapper Program ensures that connections to the sanitary and storm sewer system are approved by SD1 personnel and are performed accurately based upon written specifications and procedures. Plumbers interested in becoming certified are required to attend training and pass an exam. In addition, Certified Tappers must complete a recertification class offered by SD1 every three years. SD1 currently has Certified Tappers representing 126 plumbing companies.

6.5.2 Loss of Certification & Administrative Fine

When improper or illegal taps are installed and not corrected, certification may be revoked for a period of not less than one year and certification will only be reissued after successful completion of the training program.

Fines may be levied against individuals and/or companies that do not comply with SD1's Rules and Regulations and complete a sewer tap without the required certification. Those responsible will be liable for resulting damages and fines shall be levied as detailed on the SD1 Fee Schedule.

SD1 issued 8 violations with fines totaling $4,000 during the current reporting period.

Table 6.2 provides the total amount of documented violations and fines issued for unpermitted connections since FY2009.

Table 6.2 Capacity Connection Violations and Fines

Fiscal Year	Total Violations	Total in Fines
FY2009	6	$3,000
FY2010	8	$5,250
FY2011	9	$5,500
FY2012	7	$2,000
FY2013	19	$10,500
FY2014	23	$15,250
FY2015	3	$1,500
FY2016	7	$3,500
FY2017	14	$8,250
FY2018	10	$5,000
FY2019	0	$0
FY2020	6	$3,000
FY2021	4	$2,000
FY2022	0	$0
FY2023	15	$7,750
FY2024	17	$8,750

FY2025	8	$4,000
Total	**141**	**$85,250**

6.6 Lateral Repair Program

Adopted in 2016, this program assists homeowners with rehabilitating failed service laterals in the public right-of-way. A full summary of the legal authority, the community's need for this program, and the program eligibility requirements were documented in the CMOM FY2016 Annual Report.

Table 6.3 lists the reviewed and repaired laterals since the program's inception.

Table 6.3 SD1 Repairs of Failed Private Laterals in the Public Right-of-Way

Fiscal Year	Lateral Repairs Approved
FY2016	94
FY2017	45
FY2018	61
FY2019	55
FY2020	53
FY2021	67
FY2022	62
FY2023	55
FY2024	54
FY2025	32
Total	**523**

6.6.1 Continuous Sewer Assessment

The Continuous Sewer Assessment Program (CSAP) aims to provide a proactive and coordinated approach to managing SD1's infrastructure. This program focuses on assessing the condition and life cycle of the sewer system, ensuring cost-effective rehabilitation and replacement.

By implementing CSAP, SD1 can prioritize and carry out system inspections, cleanings, and necessary repairs or replacements more effectively and proactively.

CSAP uses the Sewer Condition Risk Evaluation Analysis Model™ (SCREAM) to classify pipes, generating structural and maintenance scores for each inspected pipe. These scores help determine appropriate schedules for next actions, such as re-inspection, cleaning, repair, rehabilitation, or replacement.

The following sections summarize the progress of various SD1 operations and maintenance programs in achieving the performance goals and projected targets of the CSAP.

6.6.2 Collection System Condition Assessment

Sewer Inspections

Table 6.4 details the extent of the collection system assessed since the implementation of the Continuous Sewer Assessment Program (CSAP) through the end of the current reporting period. It shows the footage of pipes inspected, both initially and in follow-up inspections, during the consent decree period. Initial inspections represent the amount of the system inspected for the first time. Follow-up inspections cover pipes that have already undergone initial inspection and were identified as needing maintenance, requiring subsequent inspections to assess post-maintenance conditions.

Table 6.4 Sewer Inspection Footage

Fiscal Year	Initial Inspection Footage	Follow-Up Inspection Footage	Total Cumulative Footage
FY2008	374,068	46,898	420,966
FY2009	1,340,874	498,113	1,838,987
FY2010	421,130	589,519	1,010,649
FY2011	600,306	583,389	1,183,695
FY2012	501,160	483,494	984,654
FY2013	622,585	788,311	1,410,896
FY2014	716,278	629,179	1,345,457
FY2015	1,070,089	623,860	1,693,949
FY2016	1,304,103	450,934	1,755,037

Fiscal Year	Initial Inspection Footage	Follow-Up Inspection Footage	Total Cumulative Footage
FY2017	475,850	654,491	1,130,341
FY2018	53,048	813,171	866,219
FY2019	56,132	995,717	1,051,848
FY2020	49,660	816,250	865,910
FY2021	104,362	832,881	937,243
FY2022	52,164	575,660	627,825
FY2023	56,701	591,114	647,815
FY2024	73,454	765,353	838,808
FY2025	45,977	895,455	941,432
Total	**7,917,941**	**11,633,789**	**19,551,731**

Sewer Line Rapid Assessment Tool (SL-RAT)

The Sewer Line Rapid Assessment Tool (SL-RAT) is a portable, efficient device used for assessing pipes 12 inches or less in diameter. It consists of a transmitter and a receiver that sends, receives, and interprets acoustic signals to detect blockages. Each assessment typically takes less than three minutes.

In FY2016, SD1 started using the SL-RAT to manually adjust the automated maintenance schedules determined by the CSAP. This method is more efficient than using conventional, resource-intensive, and time-consuming CCTV crews. Since FY2018, SL-RAT inspection records have been incorporated into the CSAP logic to enhance the automation of maintenance scheduling based on acoustic scores

Table 6.5 provides approximate annual footages of the acoustic inspections that are used to confirm or adjust CSAP next actions.

Table 6.5 SL-RAT Inspections

Fiscal Year	Footage of SL-RAT Acoustic Inspections
FY2016	290,000
FY2017	267,087

FY2018	256,570
FY2019	312,032
FY2020	681,957
FY2021	349,100
FY2022	496,618
FY2023	358,942
FY2024	262,906
FY2025	341,508
Total	**3,616,720**

CSS Catch Basin and Manhole Inspections

SD1 continually reviews its collected inspection data to adjust maintenance strategies. In the past, SD1 aimed to inspect all public CSS catch basins at least once per year, as recommended in the Nine Minimum Controls Guidance. With continuous data analysis, SD1 can now confidently target catch basins for inspections and cleanings where there are known recurring maintenance issues, without performing annual inspections of all catch basins. Catch basins that are known to not experience recurring maintenance issues are now inspected on a less frequent schedule.

Table 6.6 summarizes the number of catch basins and MHs inspected since the onset of CSAP.

Table 6.6 Catch Basin Inspections

Fiscal Year	Sanitary Catch Basin Inspections	Manhole Inspections
FY2008	986	2,050
FY2009	1,774	7,238
FY2010	4,168	1,933
FY2011	3,401	1,783
FY2012	4,019	901
FY2013	4,247	889
FY2014	3,745	824
FY2015	3,569	208
FY2016	986	0

FY2017	1,937	0
FY2018	1,103	0
FY2019	1,160	59
FY2020	25	0
FY2021	1	918
FY2022	14	794
FY2023	4	1,241
FY2024	4	2,017
FY2025	12	1,245
Total Inspections	**31,141**	**22,100**

6.6.3 Collection System Maintenance

Cleaning is essential for maintaining the sewer system's capacity and preventing overflows. SD1's prioritization process ensures cleaning activities are carried out cost-effectively and only on pipes that need it. The cleaning program uses SCREAM™ maintenance scores to classify pipes and determine appropriate schedules for re-inspections, cleaning, and evaluating the need for permanent solutions to recurring maintenance issues.

Table 6.7 provides an overview of the total length of pipe cleaned, in accordance with the CSAP cleaning program logic.

Table 6.7 Sewer Cleaning Footage

Fiscal Year	Footage of Pipe Cleaned
FY2008	113,695
FY2009	439,191
FY2010	737,613
FY2011	382,352
FY2012	370,296
FY2013	632,825
FY2014	568,551
FY2015	600,302
FY2016	325,798

FY2017	347,030
FY2018	368,108
FY2019	364,570
FY2020	298,795
FY2021	405,011
FY2022	283,890
FY2023	309,199
FY2024	319,378
FY2025	245,521
Total Feet Cleaned	**7,112,125**

Catch Basin and Grit Pit Cleaning

In January 2009 SD1 began tracking the amount of debris removed during catch basin and grit pit cleanings. Throughout the current reporting period, SD1 removed approximately 9 cubic yards of debris from catch basins and 6 cubic yards of debris from grit pits.

Table 6.8 provides the estimated total cubic yards of debris removed from the collection system since 2009.

Table 6.8 Cubic Yards of Debris Removed from Catch Basin & Grit Pit Cleanings

Fiscal Year	Cubic Yards Removed from Catch Basins	Cubic Yards Removed from Grit Pits	Total Cubic Yards of Grit Removed
FY2009	149	237	386
FY2010	433	362	795
FY2011	629	330	959
FY2012	527	400	927
FY2013	367	468	835
FY2014	455	355	810
FY2015	486	210	696
FY2016	985	33	1,018
FY2017	315	20	335
FY2018	246	94	340

FY2019	93	225	318
FY2020	585	86	671
FY2021	112	147	259
FY2022	6*	92	98
FY2023	10	185	195
FY2024	9	6	15
FY2025	10	7	22
Total	**5,416**	**3,407**	**8,833**

6.7 Rehabilitation and Replacement

The Asset Renewal group within the SD1 Collection Systems Department oversees internal construction crews and external maintenance contractors responsible for repair, replacement, and rehabilitation work. The work schedule is determined based on various criticality factors and asset scoring procedures. Pipes needing emergency work are prioritized for immediate repairs upon discovery. Other considerations that may accelerate the rehabilitation schedule include:

- Proximity to known building backups
- Proximity to recurring overflows
- Lack of hydraulic capacity
- Proximity to other assets in need of repair
- High consequence of failure

Table 6.9 outlines the rehabilitation and replacement activities carried out by SD1's internal construction crews and contractors from the start of the CSAP through the end of the current reporting period. These activities exclude capital improvements managed by SD1's Engineering Division and O/M activities related to MS4 assets.

Table 6.9 Rehabilitation & Replacement Activities

Fiscal Year	Feet of Sewer Lines Repaired or Replaced	Feet of Sewer Lines Rehabbed (CIPP)	Number of Manhole Repairs	Number of Manhole Replacements	Number of New Manhole Installations	Number of CSS Catch Basin Repairs	Number of CSS Catch Basin Replacements	Number of New CSS Catch Basin Installs
FY2008	11,608	1,081	548	35	16	68	81	0
FY2009	17,944	3,204	370	63	53	115	209	4
FY2010	29,239	12,872	317	80	40	71	203	2
FY2011	19,500	64,715	321	60	36	209	116	3

FY2012	18,508	65,757	774	89	57	292	100	3
FY2013	21,051	38,129	299	33	34	21	54	3
FY2014	6,122	43,026	258	19	14	56	28	6
FY2015	6,371	28,237	154	10	9	63	23	0
FY2016	6,893	41,185	277	22	30	65	13	0
FY2017	7,168	58,232	263	10	21	84	15	2
FY2018	9,877	44,788	241	15	21	35	9	1
FY2019	8,383	49,078	206	6	29	21	20	0
FY2020	6,052	29,077	224	15	23	23	15	3
FY2021	4,331	30,139	206	21	10	16	7	0
FY2022	1,823	38,312	355	4	9	5	11	0
FY2023	1,031	10,129	198	6	5	3	22	0
FY2024	965	30,822	189	5	12	5	6	0
FY2025	1,297	38,282	302	6	11	2	10	1
Total	**178,163**	**627,065**	**5,502**	**499**	**430**	**1,154**	**942**	**28**

6.8 Pump Station Operations

The purpose of SD1's Pump Station Operations program is to ensure reliable operations of pump stations across the service area. Routine inspections and preventative maintenance are conducted to maximize efficiency at all stations.
SD1 regularly performs operational inspections and preventative maintenance at all pump stations, flood stations, and associated facilities within the service area.

6.8.1 Pump Station Inspections

Throughout the current reporting period, SD1 completed approximately 3,456 pump station operational inspections and 157 flood station operational inspections. The frequency of these inspections can vary based on the station's size, odor control chemical feed systems, and backup power plans. Operational inspections include the following tasks:

- **Data Collection:** Inspect and record information on inspection forms for equipment, pumps, and facilities. This includes pump run time, flow meter readings, chemicals remaining, and amp and voltage readings.
- **Building, Grounds, and Security:** Conduct general inspections and cleaning of facilities and grounds, including valve pits, vactor pits, and wet wells.

- **Critical Systems Checks:** Perform physical inspections of equipment such as valves, bar screens, gates, motors, level control, trash baskets, HVAC systems, and telemetry systems.
- **Backup Power:** Inspect and record information on inspection forms for generators and backup pumps, including fuel gauges, coolant, and oil levels, as well as the condition of belts, cables, and batteries.
- **Odor Control:** Inspect the odor control chemical feed system to ensure proper operation

6.8.2 Pump Station Preventative Maintenance

Throughout the current reporting period, SD1 completed approximately 3,726 mechanical and electrical preventative maintenance work orders on pumps and equipment. These work orders follow the manufacturer's recommended maintenance guidelines. Pump station preventative maintenance includes, but is not limited to:

- Generator assessments
- Stand-by pumps
- Heating, ventilation, air conditioning
- Electrical components
- Air release valves, gate valves, plug valves
- Motors and motor controls
- Wet wells
- Pneumatics and bubblers
- Float switches for level control
- Telemetry equipment associated with SCADA

6.9 Compliance

The purpose of SD1's Compliance Program is to identify and manage residential, commercial, and industrial sources of flow that could negatively impact the collection system. This program includes both the Industrial Pretreatment Program and the Grease Control Program. It ensures adherence to the Clean Water Act pretreatment regulations and complies with the National Pollution Discharge Elimination System (NPDES) permit

6.9.1 Permitting

The Compliance Program implements the necessary measures to permit and monitor discharges from commercial and industrial users that may cause corrosion or blockages in the collection system. At the conclusion of the current reporting period, SD1 had a total of 53 permitted Significant Industrial Users (SIU) in its collection system.

6.9.2 SIU Monitoring & Enforcement

The purpose of the Industrial Pretreatment Monitoring Program is to oversee discharges from industrial users within the service area to ensure compliance with Section 500 of SD1's Sanitary Rules and Regulations. This program aims to protect SD1's sanitary sewer system, treatment plants, employees, and receiving waters. All permitted industries undergo, at a minimum, annual inspections and semi-annual monitoring, with additional inspections and sampling as necessary. Throughout the current reporting period, a total of 47 inspections were conducted.

SD1 has an Enforcement Response Plan to address violations. The first Notice of Violation (NOV) is typically verbal, followed by a written notice for the second NOV. Subsequent NOVs include fines ranging from $500 to $1,000, depending on the violation. Persistent problems result in placing the industry on a compliance schedule. In FY2025, SD1 issued 47 NOVs with fines totaling $21,250.

6.9.3 Food Service Establishments and Grease Control Equipment

The purpose of SD1's Grease Control Program is to prevent the introduction of fats, oils, and grease (FOG) into the sanitary sewer system thereby reducing sewer overflows, maximizing sewer capacity and decreasing sewer maintenance costs. In addition, this program is intended to increase awareness of operators of local food service establishments (FSE) and homeowners about measures they can take to limit or prevent the introduction of FOG into the drains and sanitary sewer system.

SD1's permit requires that all discharges containing grease & oil pass through Grease Control Equipment (GCE) before entering the sanitary sewer. GCE refers to any equipment that removes FOG from wastewater, such as a grease trap which is installed inside the building, or a grease interceptor which is usually installed outside the building

and is larger in size. GCE must be well-maintained and in proper operating condition at all times. GCE sizing determination will be made by FSE's engineer, architect or contractor based on criteria such as, but not limited to, flow rate, discharge rate, fixture ratings and wastewater retention time. The design criteria for approved devices are defined in SD1's FOG Management Policy and are enforced with deadlines for installation with SD1's Sanitary Rules and Regulations, which were updated on July 19, 2022.

A recent improvement initiative—featuring online permit applications, Lucity tracking, and an updated permitting workflow—has introduced a more automated process, enabling permits to be issued upon receipt of plumbing plans. This change eliminated the backlog created under the previous workflow, which delayed permit issuance until a facility opened for business. By issuing permits at the time of application, the risk of unpermitted facilities is reduced, and timelier, more comprehensive permit coverage is ensured.

66 plans for GCE installations were reviewed and 115 new permits were issued by SD1 during the current reporting period.

Table 6.10 provides an annual summary of plans reviewed and permits issued since the effective date of the FOG Management Policy.

Table 6.10 GCE Plans Reviewed & Permits Issued

Fiscal Year	Plans Reviewed	Permits Issued
FY2012	10	23
FY2013	53	52
FY2014	45	58
FY2015	36	50
FY2016	29	30
FY2017	26	4
FY2018	9	15
FY2019	46	11
FY2020	41	0
FY2021	37	24

Fiscal Year	Plans Reviewed	Permits Issued
FY2022	44	1
FY2023	36	28
FY2024	54	51
FY2025	66	115
Total	**532**	**462**

6.9.4 Grease Trap Disposal

All individuals or companies hauling waste to the Dry Creek Wastewater Treatment Plant must apply for and obtain a Domestic Holding Tank Waste Hauler Discharge Permit. These permits are issued annually and must be adhered to at all times. Mobile waste haulers disposing of Grease Control Equipment (GCE) waste at the treatment plant are required to submit a Domestic Holding Tank Waste Hauler Manifest, detailing each load on their truck. Additionally, all Food Service Establishments (FSEs) within SD1's jurisdiction must have a certified grease waste hauler complete a grease interceptor certification annually. SD1 monitors the disposal method and location of grease removed from approved grease control devices through the grease hauler manifest.

In FY2025, SD1 received and disposed of 23,150 gallons of grease. The significant grease disposal difference between FY25 and years prior to FY24 is attributed to more haulers discharging their grease waste at Cincinnati MSD disposal facility.

Table 6.11 Grease Disposed at Dry Creek Wastewater Treatment Plant

Fiscal Year	Gallons of Grease
FY 2008	555,833
FY 2009	43,649
FY 2010	108,300
FY 2011	161,150
FY 2012	234,210
FY 2013	185,575
FY 2014	194,325
FY 2015	163,645

Fiscal Year	Gallons of Grease
FY 2016	203,400
FY 2017	171,250
FY 2018	158,105
FY 2019	183,005
FY 2020	388,795
FY 2021	228,304
FY 2022	127,985
FY 2023	105,370
FY2024	23,100
FY2025	23,150
Total	**3,259,051**

6.9.5 FSE Compliance Inspections

SD1 conducts an annual inspection of any Food Service Establishments (FSEs) that may contribute to the buildup of fats, oils, and grease (FOG) in the collection system. These inspections are conducted randomly to ensure compliance with both the permit and SD1's Rules and Regulations. Additionally, SD1 requires permitted FSEs to report proof of service or cleaning of their Grease Control Equipment (GCE). All documentation must be submitted within 30 days of the actual cleaning and hauling of grease.

Throughout the current reporting period, SD1 issued permits to 115 new FSEs, while 13 existing FSEs closed, bringing the total number of permitted FSEs to 371. No violations for non-compliance were issued during the current reporting period.

6.9.6 Public Communication

SD1 uses various communication methods throughout the year to inform and educate private residences and commercial customers about the harmful effects of FOG on sewers and the proper techniques for handling grease. This information is distributed through direct mailings, bill inserts, SD1's website, community newsletters, and newspapers. Using observations from CCTV inspections and overflow responses, SD1 targets its public education efforts in areas showing signs of grease problems and tailors the communication strategy to fit each situation.

FOG Letters

Throughout the current reporting period, no residential grease-related overflows were reported eliminating the need for residential FOG correspondence.

6.9.7 Grease Control Performance Indicators

Table 6.12 provides a summary of the performance indicators that SD1 has been tracking in relation to its implementation of its formal Grease Control Program.

Table 6.12 Grease Control Program Performance Indicators

Performance Indicator	Pipe Footage on PM Cleaning List due to Grease	Number of SSOs due to Grease	Number of Building Backups due to Grease
FY2008	82,000	4	2
FY2009	4,326	17	5
FY2010	4,336	10	7
FY2011	4,892	7	7
FY2012	4,945	5	7
FY2013	5,465	4	6
FY2014	7,656	6	4
FY2015	13,721	12	8
FY2016	7,958	7	6
FY2017	3,981	7	1
FY2018	6,554	8	1
FY2019	0	2	1
FY2020	0	2	1
FY2021	10,851	0	3
FY2022	12,972	3	5
FY2023	13,552	4	0
FY2024	7,853	0	3
FY2025	12,561	0	1
Total	195,770	98	68

SD1 has routinely cleaned pipes prone to grease buildup with targeted PM cleanings on set schedules less than or equal to 1 year. In 2018, significant updates were made to

the CSAP logic, automating prescribed maintenance actions for collection system assets based on their historical performance. This enhancement utilized extensive condition assessment data and work order history, refining the automated logic to determine appropriate maintenance actions and schedules for each assessed sewer. New technologies, such as SL-RAT acoustic inspections, were fully integrated into the automated CSAP logic, improving maintenance scheduling's effectiveness and efficiency.

Throughout the current reporting period, SD1 recorded 0 SSOs due to grease blockages. CSAP logic implemented in 2018 aids in predicting where maintenance is needed before most blockages form. Pipes susceptible to grease blockage requiring cleaning less than or equal to 1-year intervals are placed on a PM schedule, while the CSAP database produces pipe inspection frequencies greater than one-year intervals. This performance indicator will continue to evaluate the CSAP's ability to identify blockage risks and achieve the desired results of predictive maintenance

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SECTION 7. COMPLETED PROJECTS

The fifth reporting requirement of the Annual Report per paragraph 48 of the Amended Consent Decree, is to provide:

> **48. (e)** Any additional information necessary to demonstrate that the District is adequately implementing its Updated Watershed Plans.

SD1 began completing projects included in the original Watershed Plan in 2005, well before formal Watershed Plan approval in 2014. As a result, SD1 has already completed over 10 years of targeted improvements, with an associated reduction in CSO and SSO overflow volume. Completed improvements, prior to the Updated Watershed Plan (UWSP), had focused on initial high-impact projects such as:

- Initial Watershed Program (IWSP) projects as set out in Exhibit D of the original CD.
- System-wide projects from the IWSP (i.e. original WSP) Five-Year Program
- Specific basin projects from the IWSP Five-Year Program.
- Pump station upgrades as set out in Exhibit E of the original CD.

- CSO Diversion adjustments associated with the Inline Storage Program and the Solids and Floatables Control Program.
- Additional Projects for CSO and SSO Control

Many of the completed improvements described above were an important commitment of the original WSP, and as intended their results have informed selection of projects in the UWSP.

The result of the improvements through 2017 is that SD1 has eliminated approximately 155 MG of typical year CSO discharges and approximately 124 MG of typical year SSO volume, relative to overflow levels that existed before the original CD.

In addition to the eliminated discharges described above, completed projects from 2017 through the current reporting period have resulted in further elimination of approximately 90 MG of typical year CSO discharges and approximately 75 MG of typical year SSO volume relative to the established 2017 baseline volume established in the ACD.

7.1 Completed Project Summary

On the following pages, Table 7.1 details the completed projects from the ACD and Table 7.2 details the completed projects from the UWSP through the current reporting period.

Table 7.1 Amended Consent Decree Appendix C Completed Projects

Project Title	Project Description	ACD Completion Date	Completion Date
River Water Intrusion Program Phase I	Outfall flap gates or gated chambers at 7 locations. This project will reduce CSOs on the Ohio River west of the Licking River. CSO diversions to receive RWI protection are: 1730008,1730029, 1710084, 1710098, 1490027, 1470052, and 1440053.	12/31/20	12/31/20
Jacob Price Sewer Separation	2,700' of 12" thru 30" pipe. This project will install new pipe on 9th and 10th Streets in Covington from Greenup to the Licking River. This project will reduce CSOs along the Licking River by approximately 8 million gallons (MG) in the typical year.	12/31/19	06/30/19

Project Title	Project Description	ACD Completion Date	Completion Date
Aqua on the Levee Sewer Separation	1,500' of 48" and 30" pipe sewer separation and direct flow to the Ohio River. Pipe installation is primarily on Washington Street. This project will reduce CSOs on the Ohio River east of the Licking River by approximately 5 MG in the typical year.	12/31/20	1/15/19
Church Street Sewer Separation	Approximately 2,000' sewer separation. New pipe on Gail, Janet, Valley View, Primrose, and sunset Streets. This project will reduce CSOs along the Banklick Creek near the Licking River, by approximately 5 MG in the typical year.	03/31/19	10/25/18
Lakeside Park Sewer Capacity Upgrade	2,500' of 24" and 18" pipe installation on Hudson Ave from Dixie Hwy to the dead end of Hudson. Improvement is expected to address deteriorated infrastructure.	06/30/19	04/30/19
Bullitsville Force Main Capacity Upgrade Phase I & II	2000' of existing 12" force main will be replaced (PH I) and10,000' of existing force main will be cleaned on the interior (PH II) to increase flow capacity. Improvements address deteriorated infrastructure.	12/31/19	PH I: 07/05/19
Elsmere Corridor Capacity Upgrade	8,700' of 30", 24", and 18" pipe installation. This project is located in Kenton County upstream of the Narrows Rd Pump Station. Gravity upgrade of existing infrastructure will eliminate 3.41 MG of TY SSO and multiple Recurring SSO locations: 2100106, 2100129, 2100002, 2070019, 2090063, 2090008, and 2110001.	12/31/20	6/1/20
Wilder Pump Station Upgrade	Increase capacity of existing pump station and replace deteriorated infrastructure. Replace pumps to increase total pumping capacity from 1.1 MGD to 1.7 MGD.	12/31/20	6/30/19
Allen Fork Pump Station Upgrade	Increase capacity of existing pump station. Replace pumps to increase total pumping capacity from 3.2 MGD to 4 MGD. Project impacts MH 2390002. Reduction of TY SSO volume of 0.01MG.	12/31/20	10/1/18
US 27/AA Highway PH I	9,600' of 12" and 14" force main, 7,000' of 18" gravity sewer, Centerplex PS capacity upgrade. Initial phase along AA Hwy from Centerplex PS to the Riley Rd PS.	12/31/20	6/21/21

Table 7.2 Updated Watershed Plan Completed Projects

Project Title	Project Description	2040 Overflow Eliminated (MG)	Overflows Addressed
COMBINED SEWER OVERFLOW SOLUTIONS			
Targeted Sewer Separation	SD1 completed six opportunistic sewer separation projects in the combined system as part of the 2023 improvements. Jacob Price Phase 2, Church Street Phase 2, Water's Edge, Aqua on the Levee and RiverCenter separation projects separated approximately 65 acres of pervious and impervious area. The Washington/Saratoga will separate approximately 6 acres of pervious.	7	0610071, 0620077, 0640090, 0770096, 1420142, 1470093, 1850158, 1870193, 1880090, 1880091
Ash Street EQ Tank	Construction of a 0.41 MG buried tank and gravity diversion in the City of Silver Grove to store CSO exceeding the downstream sewer capacity. The tank dewaters through a controlled drain vault at a rate of 0.25 MGD.	1.5	0010220
River Water Intrusion Program Phase I & II	Outfall flap gates or gated chambers at 21 locations. This project will reduce CSOs on the Ohio River west of the Licking River. CSO diversions to receive RWI protection are: 1480103, 1480097, 1480108, 1480012, 1480116, 0910064, 1420028, 0880017, 0930041, 0930014, 0930075, 0980036, 0880004, 1420032, 0910005, 0930026, 0960032, 1720005, 1710003, 1710068, 1440156.	116	0880081, 0880082, 0910065, 0910068, 0930105, 0960063, 1420142, 1440206, 1440209, 1470093, 1480187, 1490132, 1710116, 1710119, 1710121, 1710124, 1720109, 1730259
River Water Intrusion Program Phase III	Outfall flap gates or gated chambers at 21 locations. This project will reduce CSOs on the Ohio River east of the Licking River. CSO diversions to receive RWI protection are: 0820001, 0820001, 0640081, 0790015, 0650084, 0620031, 0770006, 0610006, 0630001	107	0790086, 0570089, 1480187, 1440206, 1470093, 1710116, 1710119, 1710121, 1710124, 1720109, 0610071, 0620075, 0640090, 0650090, 0790084, 0840112
Ohio River Gray Components - Diversion Weir Adjustment	Strategic diversion weir adjustments at several diversions consisting of raising the overflow elevation to provide CSO volume reduction.	6.2	0960064, 0980081, 1440206, 1490132, 1870193

Project Title	Project Description	2040 Overflow Eliminated (MG)	Overflows Addressed
Willow Run Detention Basin 5 of 9	Installation of dynamic coordinated controls on 9 detentions basins 9 in the Willow Run sewershed. Automated control logic will throttle an outlet valve by incorporating wet weather forecasting and downstream capacity sensors at the CSO regulators.	154 Upon Completion of Final Basin	1480187
SR9 Sewer Separation	This project includes sewer separation in Newport, KY along the State Route 9 corridor, separating a total of approximately 32 acres of pervious and impervious area and removing approximately 15 MGs of runoff from the combined system in the typical year. In conjunction with the KYTC State Route 9 Realignment project, approximately 9,700 feet of 15-inch through 66-inch separate storm sewer has already been installed, with the remaining work including installation of approximately 400 feet of 66-inch storm sewer through the earthen levee to discharge separated stormwater to the Licking River.	10	0730129, 0790084, 0790086, 0840111, 0840112, 0840116
SEPARATE SEWER OVERFLOW SOLUTIONS			
Vernon Lane RDII Removal	Vernon Lane II Removal is located in the upstream portion of the Licking River Siphon sewershed. This project included both public and private source RDII removal over a 67-acre area and included removal of numerous direct connections from downspouts and area drains. The project included the installation of approximately 2,600 feet of 8-inch to 18-inch sanitary sewer, approximately 650 feet of 6-inch lateral piping, and approximately 1,300 feet of 12-inch to 24-inch storm sewer.	4.4	260002
Elsmere Corridor Capacity Upgrade	Gravity upgrade of existing infrastructure includes 8,700' of 30", 24", and 18" pipe installation. This project is located in Kenton County upstream of the Narrows Rd Pump Station.	3.5	2070019, 2090008, 2090063, 2100002, 2100036, 2100106, 2100129, 2110001, 2110002
Richwood Pump Station & Force Main	Richwood pump station and force main redirects flows away from the capacity limited Southern Kenton Interceptor and towards the Western Regional Union Sewer. This project was designed to maximize the investment SD1 made in the Western Regional WRF and associated conveyance tunnel which was designed to accommodate these diverted	3.6	2280023

Project Title	Project Description	2040 Overflow Eliminated (MG)	Overflows Addressed
	flows. The project consisted of a new 7.5 mgd (firm-capacity) pump station and approximately 18,600 feet of 20-inch through 24-inch force main.		
Allen Fork Pump Station Upgrade	Allen Fork pump station upgrades were completed to address persistent maintenance issues and provide additional capacity. The pump replacements were designed to increase the station's firm capacity from 2.5 mgd to 3.4 mgd.	0.01	2390002
Highland Heights -Silver Grove EQ Tanks	Construction of an above ground 1.4 MG EQ tank at the Highland Heights PS and an above ground 1.6 MG EQ tank at the Silver Grove PS to contain typical year SSOs that are a result of flows that exceed the pumping capacity of the stations. Each facility utilizes a wet weather pump station to pump excess flows to the EQ tanks, which have controlled gravity lines back to the collection system.	22	0020006, 0020007, 0020008, 0020032
Licking River Double Siphon	Construction of a second 12-inch siphon under the Licking River to the combined system with horizontal directional drilling. The parallel siphon is required to accommodate future conveyance improvements in the Licking River Siphon sewershed and will work in conjunction with the Licking River Siphon EQ tank.	42	860001
Licking River Siphon EQ Tank	Construction of an above ground 7.3 MG EQ tank near Andrews Way and Three Mile Creek to store flows in excess of the Licking River Siphon downstream. The project works with the Licking River double siphon project by lowering the hydraulic grade line in the existing sewers, mitigating CSO impacts, and eliminating the LRS SSO. The tank is sized to accommodate additional flow from conveyance projects upstream to be completed by 2040.	5	860001
Bromley Crescent Springs Conveyance	This conveyance upsizing is a multi-phase project that addresses ongoing maintenance and safety issues by preventing displacement of manhole covers in the roadway due to system surcharge. The project consists of 6,050 feet of 30-inch through 42-inch sanitary sewer upsizing. The upsizing would begin at manhole 1730027 and would extend upstream to manhole 1790092.	1.3	1730084, 1730085, 1730086

Project Title	Project Description	2040 Overflow Eliminated (MG)	Overflows Addressed
• BCSC Phase 1	The completed BCSC Phase 1 of this project includes upsizing from MH1730087 – MH1730027.		
Waterworks Road Conveyance Phase II	This multi-phase project consists of 11,020 feet of 10-inch through 24-inch and 1,450 feet of 42-inch sanitary sewer upsizing. The 10-inch through 24-inch upsizing would begin at manhole 0530121 and would extend upstream to manholes 0380005 and 0400034. The 42-inch upsizing extends between manhole 0650097 and 0650022 and discharges to the recently constructed 54-inch sewer along Riveria Drive. This conveyance upsizing will convey additional flow to the combined system and the planned Taylor Creek EQ tank downstream. The downstream combined system solution has been configured to accommodate the additional flow.	3.0	See Phase Breakdown Below
• WRC Phase 1	The completed WRC Phase 1 of this project includes upsizing from MH0410115 – MH0400034.		0370001, 0400002, 0400034, 0410037, 0410039
• Strathmore / Memorial Parkway	This completed phase consisted of conveyance upsizing to 30-inch sewers at Strathmore & Rosemont, as well as, conveyance upsizing along Memorial Parkway.		0380005
2034 Lakeview Conveyance	The Lakeview 2034 solution includes the impact of redirected flow to Western Regional from the Richwood PS/FM project and the W6 pump station to be constructed by 2029. These projects relieve significant flows to the Lakeview system.	1.3	See Phase Breakdown Below
• Highland Pike HDD Gravity	This completed project consisted of the installation of approximately 2,300 feet to 20-inch HDD gravity sewer along Highland Pike from MH1940039 – MH1940263.		1940038, 1940039
2029 LRS Conveyance Piping	6,050 ft of 24-in through 48-in sanitary sewer upsizing which will convey additional flow to the LRS EQ Tank and is sized for additional upstream improvements to be constructed by 2040.	5	See Phase Breakdown Below

Project Title	Project Description	2040 Overflow Eliminated (MG)	Overflows Addressed
• Phase 1	Completion of Phase 1 includes the portion consisting of MHs 0860110-0150066 & 0150319-0150009		NA
2040 Dry Creek Conveyance	Current and projected SSO locations in the Dry Creek sewershed are proposed to be addressed via conveyance improvements and targeted I/I removal to address SSOs in upstream portions of the system	1.4	See Phase Breakdown Below
• Fitzgerald Phase 1	18" Sanitary sewer upsizing between MH2130029 – 2130028 in the City of Erlanger. This project is one phase of the DC Conveyance project which once completed will address SSOs in they DC Sewershed by increased conveyance to the DCWWTP.		NA
US 27/AA Highway PH II	6,200' of 12" force main and New Rocky View PS. New gravity pipe from Cold Spring Crossing PS to the New Rocky View PS.		NA

SECTION 8. SD1 PROJECT SPOTLIGHT – STATE ROUTE 9 SEWER SEPERATION

In addition to the six opportunistic sewer separation projects in the combined system identified as part of the 2023 improvements, SD1 identified the SR9 sewer separation project as another strategic opportunity. This project, completed during the previous reporting period, included sewer separation in Newport, KY along the State Route 9 corridor, separating approximately 32 acres of pervious and impervious area and removing approximately 15 million gallons of runoff from the combined system in a typical year. In conjunction with the Kentucky Transportation Cabinet's (KYTC) State Route 9 Realignment project, approximately 9,700 feet of 15-inch through 66-inch separate storm sewer was installed, along with the final 400 feet of 66-inch storm sewer through the earthen levee to discharge separated stormwater to the Licking River. The completion of this project has resulted in a 13 MG CSO overflow reduction (typical year); 3 MGs more than the original planned project summary. All planned work for this project has been completed.

Figure 6.5 details the areas of separation along with a list of CSOs addressed by this project.

Figure 6.5 SR9 Separation Project

Project Summary Sheet

2029 CSO Solution

SR9 Sewer Separation

Project Status: Conceptual Planning

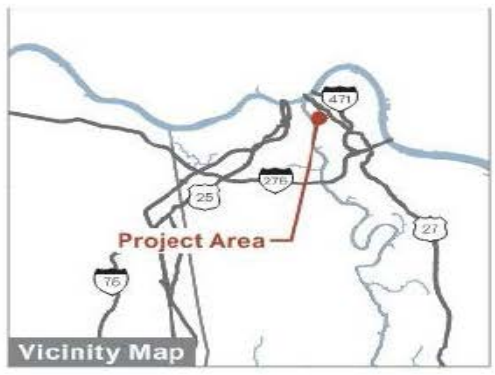
Estimated Capital Cost: $1,850,000

Primary Improvement

Sewer Separation ☒ EQ Storage ☐ PS and Force Main ☐

Project Metrics

Estimated Overflow Reduction (Typical Year): 10 MG
Cost Per Gallon Removed (Typical Year): $0.19



NOTES:

1. ***CSO benefit is as of the current 2029 model and includes only the overflows listed in this subsection. Confirmation of overflow metric compliance is summarized at the end of this section.***
2. ***Costs are based on preliminary planning level capital cost estimates in 2019 dollars.***

List of CSOs Addressed by SR9 Sewer Separation

CSO ID

0730129, 0790084, 0790086, 0840111, 0840112, 0840116