SD1
Managing Northern Kentucky's
Wastewater and Storm Water

June 7, 2011

Director of the Division of Enforcement
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
601 D street NW
Washington, DC 20005
DOJ Case No. 90-5-1-1-08591

Chief, Water Program Enforcement Branch
Water Management Division
U.S. Environmental Protection Agency, Region 4
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Re: Consent Decree Case No. 2:05-cv-00199-WOB

To Whom It May Concern:

Pursuant to the above-referenced Consent Decree, Sanitation District No. 1 (SD1) is required to submit an annual report on the implementation of the initial watershed projects identified in Exhibit D of SD1's Consent Decree:

> **37. Initial Watershed Program Project List.** The District shall complete the initial watershed projects identified in ***Exhibit D*** as a requirement of this Consent Decree in accordance with the schedule set forth in ***Exhibit D.*** The District shall provide an annual report within twelve months of entry of this Consent Decree on implementation of these watershed projects. Thereafter and until these projects are complete, the District shall provide an annual report on its implementation progress within sixty days after each anniversary date of the initial report.

A certification as required by the Consent Decree is also enclosed (Consent Decree paragraph 38).

I am confident in the integrity of the enclosed document, and I am certain that its content not only satisfies regulatory requirements, but also helps further the mission and vision of SD1 by demonstrating aggressive, proactive, achievable measures underway in Northern Kentucky to protect water resources and enhance the quality of life.

If you have any questions or concerns, do not hesitate to contact me at 859-578-6762 or by e-mail at mwurschmidt@sd1.org.

Very truly yours,

Mark W. Wurschmidt, P.E., BCEE
Interim Executive Director

MWW/vf
Enclosures

Sanitation District No. 1
June 7, 2011

# Initial Watershed Projects
# 2011 Annual Report

SD1
Managing Northern Kentucky's
Wastewater and Storm Water

## CERTIFICATION

Initial Watershed Projects 2011 Annual Report
Consent Decree Case No. 2:05-cv-00199-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.

Mark W. Wurschmidt, P.E., BCEE
Interim Executive Director

6/2/11
Date

COMMONWEALTH OF KENTUCKY

COUNTY OF Kenton )ss.

The foregoing instrument was acknowledged before me this 2nd day of June ,2011 by Mark W. Wurschmidt, P.E., BCEE, Interim Executive Director of Sanitation District No. 1.

Ina Marie Bonno
NOTARY PUBLIC

Kenton County, Kentucky

My commission expires: 7/6/2014

# INITIAL WATERSHED PROJECTS
# 2011 ANNUAL REPORT

June 7, 2011

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

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# LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| CIP | Capital Improvement Project |
| SD1 | Sanitation District No. 1 |

# SECTION 1. INTRODUCTION

On April 18, 2007, Sanitation District No. 1 (SD1) entered into a Consent Decree with the U.S. Environmental Protection Agency, the U.S. Department of Justice, and the Kentucky Energy and Environment Cabinet to address sanitary sewer overflows and combined sewer overflows in an effort to improve water quality throughout SD1's service area. A significant component to jumpstarting this effort was to identify capital projects that had already commenced or were scheduled to commence while the Consent Decree was still under negotiation that would aid in achieving the overarching goals of the legal agreement. These projects were termed "initial watershed projects," and SD1 committed itself to completing these projects within the time frames specified in Exhibit D of the Consent Decree (see Appendix A). Pursuant to the Consent Decree, SD1 is required to submit annual reports on its implementation of the initial watershed projects until all projects are complete**.** This is SD1's third Initial Watershed Projects Annual Report.

# SECTION 2. OVERVIEW OF INITIAL WATERSHED PROJECTS

## 2.1 Status Updates

There are a total of 51 initial watershed projects that have start dates as early as 2003 and anticipated completion dates as late as 2013. Out of the 51 projects, 44 are complete, 6 are under construction and 1 is currently on-hold (Western Regional – Richwood project C-039-00). Cumulatively, it is projected that SD1's initial watershed projects will total more than $406.8 million in capital spending. This estimate is based on SD1's FY 2012 CIP budget numbers, which provides the most current actual and projected project cost information. Because of this, the total projected capital spending may be different than previously reported estimates. Appendix B provides the updated schedules, descriptions, impacts on overflow reduction, current costs and status for each of the 51 projects as of June 7, 2011.

Western Regional System Related Projects

Construction is substantially underway on the Western Regional Water Reclamation Facility and conveyance tunnel. The photographs provided in Figures 2.1 and 2.2 highlight the construction activity for both of these projects.

**Figure 2.1 Western Regional Water Reclamation Facility**

In March 2009, work began on the Western Regional Water Reclamation Facility with the mobilization of earthmoving equipment. As of May 2011, the project is 69% complete based on overall expenditures. The current schedule shows the plant construction being 6 months ahead of schedule, with a targeted date of being able to receive flow in March 2012. All major structures have been completed and most major pieces of equipment have been put in place. The majority of work remaining to be completed for the plant includes electrical, plumbing, HVAC and other miscellaneous items.

Once online, the plant will serve the majority of Boone County and portions of western and southern Kenton County. This facility will utilize ultraviolet light disinfection technology and will be designed with a startup capacity of 20 million gallons per day.

**Figure 2.2 Western Regional Conveyance Tunnel**

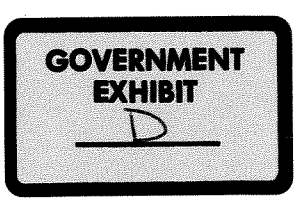

Work began on the Western Regional conveyance tunnel in August 2009. The tunnel boring machine was launched at Shaft 5 where the tunnel will connect to the Western Regional Water Reclamation Facility. In October 2010, the tunnel boring machine broke through the rock at the final shaft. As of Spring 2011, 32,573 feet (100%) of pipe has been installed and 2,476 feet (83%) of all open cut pipe has been laid. All five shafts to this tunnel will be completed in the coming months.

# APPENDIX A:

## *Consent Decree Exhibit D*

# Exhibit D - Initial Watershed Projects

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date |
|---|---|---|---|
| | **North Watershed Projects** | | |
| C-042-00 | Strawberry Pump Station Elimination | 2005 | 2006 |
| C-438-01 | Beechwood Outfall Sewer Replacement | 2006 | 2007 |
| | **East Watershed Projects** | | |
| C-006-00 | Eastern Regional - Design and Construction of Eastern Regional Outfall Sewer | 2005 | 2008 |
| C-054-00 | Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WWTP | 2005 | 2008 |
| C-056-00 | Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek PS | 2005 | 2008 |
| C-073 | U.S. 27 at Summit Assessment | 2005 | 2008 |
| C-075-00 | Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWWTP | 2006 | 2009 |
| C-076-00 | Eastern Regional - Contract 4--Alex Licking Gravity Sewer to Contract 1 | 2006 | 2009 |
| C-077-00 | Eastern Regional - Contract 5--Sunset Force Main and Gravity Sewer, Alex-Licking Force Main | 2006 | 2009 |
| C-078-00 | Eastern Regional - Contract 6--Pond Creek Pump Station | 2005 | 2008 |
| C-079-00 | Eastern Regional - Contract 7--Riley Road #2 Pump Station | 2006 | 2009 |
| C-080-00 | Eastern Regional - Contract 8--Alex-Licking and Sunset Pump Stations | 2006 | 2009 |
| C-081-00 | Parkside Pump Station Relocation | 2005 | 2008 |
| C-426-00 | Eastern Regional Wastewater Treatment Plant | 2004 | 2008 |
| C-414-17 | Highland Heights Pump Station Study | 2005 | 2006 |
| C-620-01 | Wilson/Waterworks Road Relief Sewer Study | 2005 | 2008 |
| C-607-01 | Pinehill/Skyview Terrace Sewer | 2005 | 2006 |



| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date |
|---|---|---|---|
| | **Central Watershed Projects** | | |
| C-014-00 | Banklick Pump Station Screening Facility | 2004 | 2006 |
| C-036-01 | Stevenson Road Relief Sewer Project Phase II | 2004 | 2006 |
| C-040-05 | Latonia Combined Sewer Separation | 2006 | 2009 |
| C-046-00 | Licking River Sewer Crossing Study | 2005 | 2007 |
| C-072-00 | McMillan Pump Station Removal | 2005 | 2006 |
| C-414-16 | Meyer Road Pump Station Rehabilitation | 2006 | 2008 |
| C-414-43 | Macke Pump Station Rehabilitation | 2006 | 2008 |
| C-414-45 | Richwood Pump Station Improvements | 2005 | 2006 |
| C-480-02 | Patton Street Sewer Study | 2005 | 2006 |
| C-615-01 | South Hills Outfall | 2006 | 2008 |
| | **North and East Watershed Projects** | | |
| C-475-00 | Grit Chamber Projects | 2006 | 2010 |
| | **North and Central Watershed Projects** | | |
| S-577-01 | Fort Wright Illicit Discharge Removal | 2004 | 2007 |
| C-040-03 | Fort Wright Sanitary Sewer Rehabilitation | 2004 | 2007 |
| C-458-00 | Fort Wright Outfall Sewer - Phase II | 2003 | 2006 |

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date |
|---|---|---|---|
| | **West Watershed Projects** | | |
| C-001-00 | Western Regional Conveyance System to Western Regional WWTP | 2008 | 2013 |
| C-002-00 | Western Regional - Sunnybrook Sewer | 2008 | 2013 |
| C-003-00 | Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.) | 2010 | 2014 |
| C-004-00 | Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer | 2008 | 2013 |
| C-005-00 | Western Regional - Narrows Road Diversion Pump Station | 2008 | 2013 |
| C-030-00 | Western Regional - KDOT - Turkeyfoot Road Force Main | 2003 | 2006 |
| C-037-00 | Western Regional - Union Sewer (North and South) | 2007 | 2013 |
| C-038-00 | Western Regional - Gunpowder Interceptor Sewer | 2008 | 2013 |
| C-039-00 | Western Regional - Richwood Sewer and Force Main | 2008 | 2013 |
| C-063-00 | Western Regional - Turkeyfoot Industrial Road Force Main | 2007 | 2013 |
| C-414-02 | American Sign Pump Station Rehabilitation | 2006 | 2008 |
| C-424-00 | Western Regional Wastewater Treatment Plant | 2008 | 2013 |
| C-068-00 | Allen Fork Collection System - Phase I Improvements | 2006 | 2009 |
| C-031 | Duncan Drive Assessment Project | 2005 | 2007 |

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date |
|---|---|---|---|
| | **North, East and Central Watershed Projects** | | |
| C-044-00 | Dry Creek Treatment Plant - Grit Removal Modifications | 2004 | 2006 |
| C-024-00 | Large Diameter Sewer Assessment Program - Phase III | 2005 | 2007 |
| C-040-06 | Brookwood Subdivision SSES Study | 2005 | 2006 |
| C-040-08 | Southern Kenton Drainage Study | 2005 | 2007 |
| C-090 | Wilson Road Sewer Assessment Project | 2005 | 2006 |
| C-484 | Apple Drive Outfall Sewer | 2005 | 2006 |
| | **North, East, West and Central Watershed Projects** | | |
| C-480-01 | Bluegrass Swim Club Sewer Separation | 2005 | 2008 |

# APPENDIX B:

## *Project Summary Spreadsheet*

# Summary of Initial Watershed Projects

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date | Actual Completion Date | Project Description | Impact on Overflow Reduction | Project Cost ($ Millions)[1] | Status |
|---|---|---|---|---|---|---|---|---|
| North Watershed Projects | | | | | | | | |
| C-042-00 | Strawberry Pump Station Elimination | 2005 | 2006 | 2005 | The elimination of this station will help to attenuate the flow throughout the gravity portion which will address surcharging in the system. | See Project Description | $0.2 | Complete |
| C-438-01 | Beechwood Outfall Sewer Replacement | 2006 | 2007 | 2007 | This project will eliminate Infiltration and Inflow (I/I) from the creek and eliminate one SSO and several suspected SSOs. The project will also remove I/I from the downstream combined sewer system. | See Project Description | $2.3 | Complete |
| East Watershed Projects | | | | | | | | |
| C-054-00 | Eastern Regional - Contract 1--Pond Creek Force Main and Gravity Sewer to Eastern Regional WRF | 2005 | 2008 | 2007 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project also eliminates the existing Pond Creek Wastewater Treatment Plant and allows for the immediate removal of the Dairy Mart Wastewater Treatment Plant. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $5.9 | Complete |
| C-056-00 | Eastern Regional - Contract 2--Kahn's Gravity Sewer and Gravity Sewer to the Pond Creek Pump Station | 2005 | 2008 | 2007 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project also eliminates the existing Southern Campbell Count Wastewater Treatment Plant (2330TP1). It will allow for future elimination of package plants in close proximity to the new gravity portions of this sewer. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $4.3 | Complete |
| C-073-00 | US 27 at Summit Assessment | 2005 | 2008 | 2006 | This project extended sanitary sewer service to eliminate 12 failing septic systems from this area. | See Project Description | $0.4 | Complete |
| C-075-00 | Eastern Regional - Contract 3--Riley Force Main and Gravity Sewer to the ERWRF | 2006 | 2009 | 2010 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project along with the Riley Road Pump Station (C-079) will also eliminate a major SSO (2230PS3) from the existing Riley Road No. 1 Pump Station. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $5.7 | Complete |
| C-076-00 | Eastern Regional - Contract 4--Alex Licking Gravity Sewer & Force Main to Contract 1 | 2006 | 2009 | 2008 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project along with the Alex-Licking Pump Station (C-080) will eliminate a major SSO (2200PS1) from the existing Alex-Licking Pump Station. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $4.5 | Complete |
| C-078-00 | Eastern Regional - Contract 6--Pond Creek Pump Station | 2005 | 2008 | 2007 | This project provides wet weather flow pumping capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump station. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $4.2 | Complete |
| C-079-00 | Eastern Regional - Contract 7--Riley Road #2 Pump Station | 2006 | 2009 | 2009 | This project provides wet weather flow pumping capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump station. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2230PS3) from the existing Riley Road. No. 1 and Riley Road No. 2 stations. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $6.6 | Complete |
| C-080-00 | Eastern Regional - Contract 8A--Alex-Licking Pump Station | 2006 | 2009 | 2009 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers and providing a new pump stations. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2200PS1) from the existing Alex-Licking Pump Station. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $2.1 | Complete |
| C-081-00 | Parkside Pump Station Relocation | 2005 | 2008 | 2007 | This project allows for the elimination of the existing Southern Campbell County Wastewater Treatment Plant (2330TP1). It will allow for future elimination of package plants in close proximity to the new gravity portions of this sewer. | See Project Description | $0.9 | Complete |
| C-426-00 & 01 | Eastern Regional Water Reclamation Facility | 2004 | 2008 | 2008 | This project consists of a new wastewater treatment plant to treat dry and wet weather flows from the collection system. This project will receive flow from the new collection system serving to eliminate SSOs in the Eastern Regional collection system. The design concept of "Transport and Treat" is being built to include equalization a this new treatment plant. The elimination of four treatment plants plus the new infrastructure will accommodate the future elimination of many smaller package treatment plants in the Eastern Regional system. This project will also accommodate the future elimination of many failing septic systems in this region. The end result is improvement of water quality in the local streams. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $42.9 | Complete |
| C-414-17 | Highland Heights Pump Station Study | 2005 | 2006 | 2006 | This study will evaluate the redirection of flows from parts of the separate sewer and combined sewer systems to areas of the system with available capacity. This project will identify potential solutions to bring CSOs in the area into compliance with the 1994 CSO policy and reduce the activity of the downstream CSOs. This project will also identify potential solutions to at least three known SSOs and several suspected SSOs. | See Project Description | $0.3 | Complete |
| C-414-93 | Sunset Pump Station and Forcemain Improvements | 2010 | 2010 | 2010 | This project provides wet weather flow capacity to eliminate sanitary sewer overflows in the collection system by upsizing the existing force main and making pumping modifications to increase the pump station capacity. The design concept of the entire Eastern Regional System is around "Transport and Treat" with equalization at the new treatment plant. The intent is to eliminate SSOs in that system improving water quality in the local streams. This project will eliminate a major SSO (2450PS2) from the existing Sunset Pump Station. | The sewer improvements and new treatment plant in the Eastern Regional system will eliminate all overflows throughout this system in a typical year. | $0.3 | Complete |
| C-620-01 | Wilson/Waterworks Road Relief Sewer Study | 2005 | 2008 | 2007 | This study will evaluate alternatives to increasing wet weather capacity in the existing sanitary and combined sewers in order to reduce the activity of one known CSO, eliminate at least one SSO, current basement backups, and several suspected SSOs. | See Project Description | $0.07 | Complete |
| C-607-01 | Pinehill/Skyview Terrace Sewer | 2005 | 2006 | 2005 | This project was completed to replace a failing sewer in a landslide behind several houses. The project eliminated broken pipe that was leaking sewage in the backyards. | See Project Description | $0.3 | Complete |

[1]The project costs represent the future and spent dollars for each project as of June 7, 2011.

# Summary of Initial Watershed Projects

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date | Actual Completion Date | Project Description | Impact on Overflow Reduction | Project Cost ($ Millions)[1] | Status |
|---|---|---|---|---|---|---|---|---|
| West Watershed Projects | | | | | | | | |
| C-001-00 | Western Regional Conveyance System to Western Regional WRF | 2008 | 2012 | n/a | This project diverts flow from the existing Lakeview Pump Station sewer service area, which experiences sanitary sewer overflows at the station and from manholes upstream and addresses current SSOs upstream of the existing Gunpowder Pump Station. The diverted flow will be conveyed and stored within a new approximately 8.5 feet diameter tunnel to the new Western Regional Treatment Plant. The Lakeview Pump Station service area pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributar to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $133.3 | Under Construction |
| C-002-00 | Western Regional - Sunnybrook Sewer | 2008 | 2013 | 2010 | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $7.5 | Complete |
| C-003-00 | Western Regional - Frogtown Interceptor Sewer (from Sunnybrook Dr. to Frogtown Rd.) | 2010 | 2012 | n/a | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $5.6 | Under Construction |
| C-004-00 | Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer | 2008 | 2012 | n/a | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $16.9 | Under Construction |
| C-005-00 | Western Regional - Narrows Road Diversion Pump Station | 2008 | 2012 | n/a | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. It also eliminates two known SSOs and several suspected SSOs. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $11.4 | Under Construction |
| C-030-00 | Western Regional - KDOT - Turkeyfoot Road Force Main | 2003 | 2006 | 2005 | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $1.0 | Complete |
| C-037-00 | Western Regional - Union Sewer (North and South) | 2007 | 2013 | 2008 | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $6.9 | Complete |
| C-038-00 | Western Regional - Gunpowder Interceptor Sewer | 2008 | 2013 | 2010 | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. It also addresses current overflows from the existing Gunpowder Pump Station (Manhole 2380001). Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $15.4 | Complete |
| C-039-00 | Western Regional - Richwood | | | | | | | The Watershed Plans provides for a delay of this project and the removal of this project as an Initial Watershed Project. Currently awaiting approval. |
| C-063-00 | Western Regional - Turkeyfoot Industrial Road Force Main | 2007 | 2012 | n/a | Diverts flow from the Lakeview Pump Station service area, which experiences overflows at the station and from manholes upstream. Lakeview also pumps both combined and separate flows to a combined system so this project will: (1) free up capacity at the Dry Creek Treatment Plant; and (2) increase capacity in the conveyance system tributary to Lakeview, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $3.1 | Phases 1, 2 & 3 are complete. Phase 4 is under construction. |
| C-414-02 | American Sign Pump Station Rehabilitation | 2006 | 2008 | 2008 | This project constructs a new pump station to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate a constructed sewer bypass upstream and will provide back-up power to the pump station via an onsite engine generator. | The new pump station is sized to provide additional wet weather capacity to eliminate a constructed sewer bypass upstream. | $0.5 | Complete |
| C-424-00 | Western Regional Water Reclamation Facility | 2008 | 2012 | n/a | The new Western Regional Treatment Plant will receive and treat diverted flow from the Lakeview Pump Statio and Gunpowder Pump Station service areas, which experience overflows at the stations and from manholes upstream. The treatment plant is being sized initially to treat 20 mgd dry weather flow and 30 mgd peak wet weather flow. Flows above this peak flow will be stored in the upstream tunnel (project C-001). Future upgrades to the treatment plant will allow treatment capacity up to 45 mgd dry weather flow and 60 mgd peak wet weather flow. The existing Lakeview Pump Station service area pumps both combined and separate flows to the collection system so this project will: (1) free up capacity at the Dry Creek Treatment Plant, thereby allowing additional CSO area flows to be treated; and (2) increase capacity in the conveyance system tributary to Lakeview and the Gunpowder Pump Stations, decreasing overflows in this system. | Western Regional Sewer Improvements will reduce total volume of Consent Decree listed overflows by approximately 60 MG in a typical year based on SD1's calibrated and verified hydraulic model. | $90.1 | Under Construction |
| C-068-00 | Allen Fork Collection System - Phase I Improvements | 2006 | 2009 | 2007 | This project provides wet weather flow sanitary sewer capacity to eliminate sanitary sewer overflows in the collection system by upsizing existing sewers. This project also constructs a new pump station to intercept flows and provide additional dry and wet weather pumping capacity in order to reduce upstream and downstream SSOs. This project will address two known SSOs and several suspected SSOs in the Burlington area. | This project will reduce Consent Decree listed overflow volumes upstream of Allen Fork PS by approximately 85% in a typical year based on SD1's calibrated and verified hydraulic model. | $7.3 | Complete |

[1]The project costs represent the future and spent dollars for each project as of June 7, 2011.

# Summary of Initial Watershed Projects

| CIP Code | CIP Title | Anticipated Start Date | Anticipated Completion Date | Actual Completion Date | Project Description | Impact on Overflow Reduction | Project Cost ($ Millions)[1] | Status |
|---|---|---|---|---|---|---|---|---|
| C-031-00 | Duncan Drive Assessment Project | 2005 | 2007 | 2006 | This project extended sanitary sewer service to eliminate 35 failing septic systems from this area. | See Project Description | $1.0 | Complete |
| **Central Watershed Projects** | | | | | | | | |
| C-014-00 | Banklick Pump Station Screening Facility | 2004 | 2006 | 2005 | This project installed a new bar screen to remove solids and floatables that were clogging the pumps and preventing the pump station from running properly during wet weather. The pump station can now run continuously without clogging, reducing the frequency of suspected SSOs and known CSOs upstream. | See Project Description | $1.2 | Complete |
| C-036-01 | Stevenson Road Relief Sewer Project Phase II | 2004 | 2006 | 2006 | This project was constructed to increase the wet weather capacity in the Lakeview Pump Station service area collection system to reduce the frequency and volume of two known SSOs and several suspected SSOs. | See Project Description | $2.0 | Complete |
| C-040-05 | Latonia Combined Sewer Separation | 2006 | 2009 | 2007 | This project provides sewer separation through the construction of a new storm sewer to separate and intercep storm water flow to keep it out of the combined sewers in Latonia. This project will eliminate existing basement backups in this area and reduce the overflow volume from downstream CSOs. | Eliminate existing basement backups & bring one CSO into compliance with control policy. | $2.4 | Complete |
| C-046-00 | Licking River Sewer Crossing Study | 2005 | 2007 | 2007 | This study will evaluate alternatives and identify potential cost-effective solutions to increasing wet weather capacity in the existing sanitary and combined sewer service areas in order to eliminate 10 SSOs, several suspected SSOs, and CSOs and known basement backups. | See Project Description | $0.2 | Complete |
| C-072-00 | McMillan Pump Station Removal | 2005 | 2006 | 2005 | This project provided increased dry and wet weather sewer capacity by constructing a new sewer to eliminate an existing maintenance intensive pump station and to eliminate resulting upstream sanitary sewer overflows. | The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream. | $0.7 | Complete |
| C-414-16 | Meyer Road Pump Station Rehabilitation | 2006 | 2008 | 2008 | This project constructs a new pump station and force main to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream and will provide back-up power to the pump station via an onsite engine generator. | The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream. | $0.3 | Complete |
| C-414-43 | Macke Pump Station Rehabilitation | 2006 | 2008 | 2008 | This project constructs a new pump station to replace an existing high maintenance intensive pump station. The new pump station is sized to provide additional wet weather capacity to eliminate a constructed bypass and will provide back-up power to the pump station via an onsite engine generator. | The new pump station is sized to provide additional wet weather capacity to eliminate sanitary sewer overflows upstream. | $0.4 | Complete |
| C-414-45 | Richwood Pump Station Improvements | 2005 | 2006 | 2005 | Provided additional dry and wet weather pumping capacity at the pump station to reduce the frequency of overflows upstream. This project also eliminated odor complaints by installing a new oxygen-based odor control system to reduce hydrogen sulfide in the waste stream and the resulting odors. | See Project Description | $0.3 | Complete |
| C-480-02 | Patton Street Sewer Study | 2005 | 2006 | 2006 | This study will evaluate alternatives within the Patton Street Pump Station combined sewer service area to brin four CSOs into compliance with the 1994 CSO control policy, eliminate river water intrusion into the combined sewers and interceptors during high river levels, rehabilitate existing deteriorated rock sewers, and examine pilot project alternatives to provide floatable capture and control from the CSOs. | See Project Description | $0.9 | Complete |
| C-615-01 | South Hills Outfall | 2006 | 2008 | 2007 | This project constructs a new 24-inch sewer via horizontal directional drilling on grade (first in the country of this size and slope) to eliminate a CSO at a street intersection. This new sewer will divert combined sewer flows of of the Lakeview Pump Station service area and into the Bromley Pump Station combined sewer service area, thereby consolidating flows within the combined system and reducing overflows upstream of the Lakeview Pump Station. This project also eliminates a failing sewer located within a landslide area that has resulted in past sanitary sewer overflows. | Eliminate one CSO and decrease Lakeview Pump Station bypass overflows approximately 20% within a typical year based on SD1's calibrated and verified hydraulic model. | $3.1 | Complete |
| **North & East Watershed Projects** | | | | | | | | |
| C-475-00 | Grit Chamber Projects | 2006 | 2010 | 2008 | This project constructs three grit chambers to capture grit and other debris within the main sewer interceptors along the Ohio and Licking Rivers to maximize flows in the collection system and to the Dry Creek Treatment Plant. One has already been installed just upstream from our Bromley Pump Station and is working effectively to capture grit and other debris for removal and to maximize flow to the pump station and treatment plant. | See Project Description | $2.6 | Complete |
| **North & Central Watershed Projects** | | | | | | | | |
| S-577-01 | Fort Wright Illicit Discharge Removal | 2004 | 2007 | 2006 | This program assists us in addressing both SSOs and CSOs by developing sewer separation projects to remove storm water from the sanitary and combined sewers. | Eliminated three illicit discharges and reduced private source I/I by 30%. | $1.5 | Complete |
| C-040-03 | Fort Wright Sanitary Sewer Rehabilitation Phase 1 | 2004 | 2007 | 2006 | This project was a result of the above project and installed new sanitary and storm sewers to separate sanitary and storm flows in this area. This project resulted in eliminating sewage from getting into existing storm sewers and the local creeks and reduced the wet weather flow tributary to the Lakeview Pump Station service area, thereby reducing overflows downstream. | Eliminated three illicit discharges and reduced private source I/I by 30%. | $1.6 | Complete |
| C-458-00 | Fort Wright Outfall Sewer - Phase II | 2003 | 2006 | 2006 | This project constructed a new sanitary sewer to remove the existing sanitary sewer from the creek, thereby reducing I/I from storm and creek water into the sanitary sewer. | Eliminated three illicit discharges and reduced private source I/I by 30%. | $1.1 | Complete |
| **North, East & Central Watershed Projects** | | | | | | | | |
| C-044-00 | Dry Creek Treatment Plant - Grit Removal Modifications | 2004 | 2006 | 2005 | This project was constructed to increase the treatment capacity of the preliminary treatment system at the Dry Creek Treatment Plant. This, along with diverting flows from Lakeview Pump Station service area, will help maximize flows to the Dry Creek plant. | See Project Description | $2.7 | Complete |
| C-024-00 | Large Diameter Sewer Assessment Program - Phase III | 2005 | 2007 | 2006 | This program helped us prioritize and evaluate the condition of the combined and separate sewer systems in order to maximize flows in our system and identify areas that need rehabilitation and/or replacement with the goal of reducing and addressing the frequency of overflows from our CSOs and SSOs. This program was integrated into the CSAP for future phases. | See Project Description | $2.9 | Complete |
| C-040-06 | Brookwood Subdivision SSES Study | 2005 | 2006 | 2006 | This study evaluated the sanitary sewer and storm sewers in the Brookwood subdivision to identify locations of storm water I/I into the separate sanitary sewer system in order to identify projects to be performed to remove this identified I/I. Flows from this area are tributary to the Lakeview Pump Station service area. This project will reduce I/I, which will result in reducing the frequency and overflow volumes of downstream SSOs. | See Project Description | $0.1 | Complete |
| C-040-08 | Southern Kenton Drainage Study | 2005 | 2007 | 2006 | This study will evaluate alternatives and identify potential cost-effective solutions to increasing wet weather capacity in the existing sanitary sewer portion of the Lakeview Pump Station service area in order to eliminate the Lakeview Pump Station bypass and the upstream SSOs. | See Project Description | $0.2 | Complete |
| C-090-00 | Wilson Road Sewer Assessment Project | 2005 | 2006 | 2005 | This project extended sanitary sewer service to eliminate six failing septic systems from this area. | See Project Description | $0.1 | Complete |
| C-484-00 | Apple Drive Sewer Outfall | 2005 | 2006 | 2006 | This project extended sanitary sewer service to remove a package treatment plant. | See Project Description | $0.5 | Complete |
| **North, East, West & Central Watershed Projects** | | | | | | | | |
| C-480-01 | Bluegrass Swim Club Sewer Separation | 2005 | 2008 | 2007 | This project will separate existing storm water connections to our sanitary sewers in Fort Wright, thereby reducing wet weather flows in our sanitary sewer system. This project will reduce the frequency and volume of downstream SSOs and CSOs. | Eliminate one CSO and decrease Lakeview Pump Station bypass overflows approximately 20% within a typical year based on SD1's calibrated and verified hydraulic model. | $1.0 | Complete |
| | | | | | | **Total Project Costs** | **$406.8** | |

[1]The project costs represent the future and spent dollars for each project as of June 7, 2011.