



June 7, 2012

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).

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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 859-578-7465 or by e-mail at drager@sd1.org.

Best regards,



David E. Rager
Executive Director

DER/jlh
Enclosures

Sanitation District No. 1
June 7, 2012

Initial Watershed Projects 2012 Annual Report



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CERTIFICATION

Initial Watershed Projects 2012 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.



David E. Rager
Executive Director



Date

COMMONWEALTH OF KENTUCKY

)ss.

COUNTY OF Benton

The foregoing instrument was acknowledged before me this 1 day
of June, 2012 by David E. Rager, Executive Director of Sanitation
District. No. 1.



NOTARY PUBLIC
Benton County, Kentucky

My commission expires: 9-15-15



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INITIAL WATERSHED PROJECTS 2012 ANNUAL REPORT

June 7, 2012



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

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LIST OF ACRONYMS AND ABBREVIATIONS

CIP	Capital Improvement Project
WRWRF	Western Regional Water Reclamation Facility
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 fourth 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, 49 are complete, 1 is under construction and 1 is currently on-hold (Western Regional – Richwood project C-039-00). A request to remove the Richwood Pump Station Project as an initial watershed project was included in the revised Integrated Watershed Plan submitted on March 31, 2011. Formal approval is still pending. Cumulatively, it is projected that SD1's initial watershed projects will total more than \$402.4 million in capital spending. This estimate is based on SD1's FY 2013 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, 2012.

Western Regional System Related Projects

Flow from the Gunpowder Pump Station was diverted to SD1's new six mile long conveyance tunnel on April 21, 2012 and was released from Shaft 5 into the new Western Regional Water Reclamation Facility (WRWRF) on April 23, 2012.

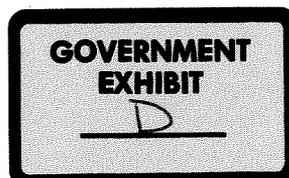
WRWRF treats an estimated average of 6 million gallons per day (MGD) of wastewater, with the capacity to treat up to 20 MGD as demand increases. The facility incorporates state-of-the-art wastewater treatment and odor control technologies. Instead of using chlorine, water released from WRWRF is disinfected using ultraviolet light and odor is controlled using an innovative biofilter. The photographs provided in Appendix C highlight the completed WRWRF.

APPENDIX A:
Consent Decree Exhibit D

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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

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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 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.	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 at 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

¹The project costs represent the future and spent dollars for each project as of June 7, 2012.

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	2013	2012	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 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.	\$130.2	Complete
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	2014	2012	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.	\$5.7	Complete
C-004-00	Western Regional - South Fork Gunpowder Interceptor Sewer and Rosetta Sewer	2008	2013	2012	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.	\$15.3	Complete
C-005-00	Western Regional - Narrows Road Diversion Pump Station	2008	2013	2012	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.	\$11.5	Complete
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							Requested Removal as Initial Action Project - Awaiting Approval (see Watershed Plans)
C-063-00	Western Regional - Turkeyfoot Industrial Road Force Main	2007	2013	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	2013	2012	The new Western Regional Treatment Plant will receive and treat diverted flow from the Lakeview Pump Station 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.	\$90.2	Complete
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

¹The project costs represent the future and spent dollars for each project as of June 7, 2012.

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 intercept 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 bring 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 off 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							\$402.4	

¹The project costs represent the future and spent dollars for each project as of June 7, 2012.

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APPENDIX C:

Western Regional Water Reclamation Facility Photos

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SD1

Managing Northern Kentucky's
Wastewater and Storm Water



Western Regional Water Reclamation Facility

Site View



Barscreens



Aeration Tank



Belt Filter Press



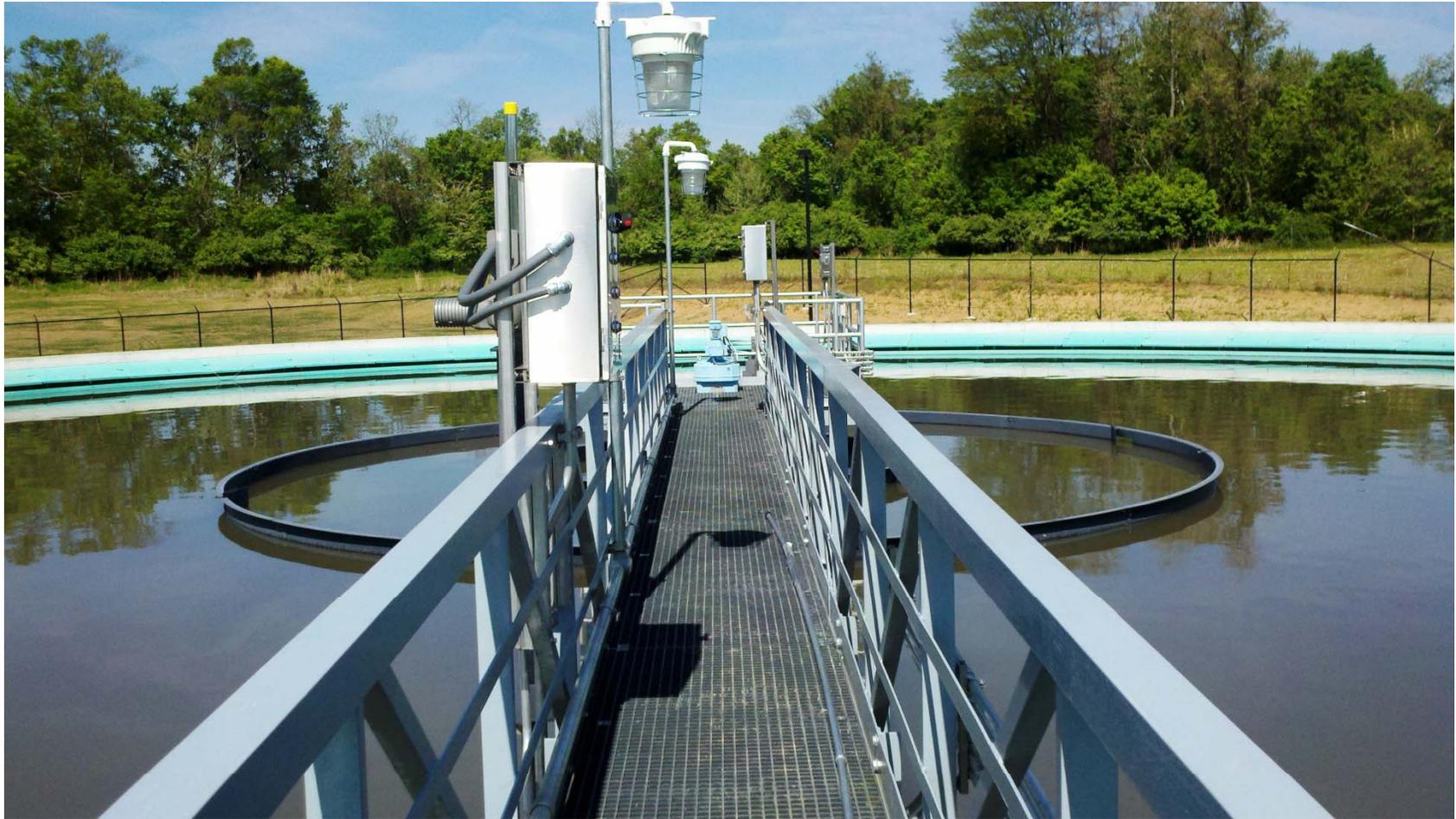
Sludge Holding Tank



Biofilter



Clarifier



Effluent Channel



UV Disinfection System



Outfall to Ohio River



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