



700 West Liberty Street | Louisville, KY 40203-1911
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April 29, 2019

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

EPA - Enforcement and Compliance
Assurance Division
Attn: Mary Jo Bragan
61 Forsyth Street SW, 9725
Atlanta, GA 30303

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Subject: Capital Project Construction Certification
Amended Consent Decree Project No.: S_OR_MF_NB02_S_13_C
MSD Budget ID: NA
DOJ Case No. 90-5-1-1-08254

Attention Director and Chiefs:

The following project was completed in accordance with the Consent Decree as entered in United States District Court, Western Division of Kentucky, Louisville Division.

Leland Road SSO Investigation was completed on December 31, 2012.

I certify under penalty of law that this document and all attached 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.

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

Sincerely,

Angela L. Akridge
MSD Chief Engineer

cc: James A. Parrott
Paula Purifoy
File



700 West Liberty Street | Louisville, KY 40203-1911
Phone: 502.540.6000 | LouisvilleMSD.org

Leland Road SSO Investigation Project Clarification

IOAP Project No. S_OR_MF_NB02_S_13_C

The intent of this memo is to provide background for the Leland Road SSO Investigation IOAP Project (S_OR_MF_NB02_S_13_C) to support the accompanying project certification letter as well as reconcile potential confusion associated with past submittals. No overflows have occurred at the Leland Road location to date during the IOAP monitoring period, fulfilling the intent of the investigation project scope.

2009 IOAP Project Description

The original Leland Road SSO project involved monitoring the SSO (MH96020) during rain events for a period of three years to verify that no overflows occurred. Per the 2009 fact sheet description:

Perform periodic condition assessment for three years and monitor location during rain events. Cleaning/flushing has occurred twice since March 2006 (last documented overflow date) and no additional overflows have been reported since that date. Overflow is believed to be a maintenance issue.

2012 IOAP Modification (Approved 2014)

In the 2012 IOAP modification, both the fact sheet and executive summary of projects reflected the project as 'eliminated'. Per the 2012 fact sheet project description:

The overflow at Leland Road had only been documented to overflow once. The overflow location was monitored for three years and no additional overflows were witnessed. As such, no further action for overflow mitigation will be undertaken.

Two letters were also submitted to EPA prior to the final submittal of the 2012 IOAP modification in 2014. The first, on August 17, 2012, provided notice proposing that the project be eliminated. The second, on October 4, 2012, described the investigation project as a "placeholder" to ensure that follow-up actions were taken if monitoring indicated that mitigation was necessary and clarified that the projects would be certified when complete.

2019 Certification Clarification

Because the project was completed as stated in the original fact sheet, MSD is clarifying that the project has been complete, with certification effective December 31, 2012. The Leland Road SSO has been monitored since 2006, no overflows have occurred, and no additional mitigation efforts are necessary.

Technical Justification

The Leland Road Pump Station was eliminated May 25, 1999. The only historical overflow since the pump station was eliminated was 20 gallons on March 12, 2006 at manhole 96020. Sewers at this location were cleaned and no additional overflows have occurred since that date. When this SSO was reviewed during the IOAP development, MSD believed that it was likely caused by a maintenance issue, as noted on the 2009 fact sheet. However, because the project was reported as 'capacity related', an investigation project was developed for the IOAP in order to monitor the Leland Road SSO for three years according to Sewer Overflow Response Protocol (SORP) methodologies.

Although this location has been maintained as a documented overflow on SSO routes since 2006, no overflows have occurred to date during wet weather or dry weather. This exceeds the three-year post-construction

compliance monitoring (PCCM) requirement as well as the three-year requirement listed on the fact sheet. Zero overflows during the required 6-year monitoring period as well as from 2012 to present (totaling 13 years) provide further support that the initial overflow was due to an isolated maintenance issue and is not a recurring problem. Based on these findings, the project was completed as described on the 2009 fact sheet.

As noted above, the intent of this documentation is to support the certification of the Leland Road SSO Investigation Project as well as reconcile potential confusion that may have been caused by past submittals. As part of a comprehensive compliance library review, contradictory documentation of project "elimination" versus project "completion" were identified as potential sources of confusion relative to this project as summarized in the submittal timeline below.

Below is a summary list of each item submitted, relative to this project:

- June 19, 2009 IOAP – An investigation project was developed for the IOAP with the fact sheet general description being to 'monitor the SSO for three years'
- August 17, 2012 – A modification letter was sent to the EPA providing 'advance notice' that MSD would be **eliminating** this project, with the justification that no project was necessary because the SSO had not overflowed in six years. No action was requested in these letters.
- October 4, 2012 – A letter was sent to the EPA containing clarification for this project as well as the Eden Care Pump Station SSO Investigation. In this letter, MSD clarified that rather than eliminating these projects, MSD would **certify** the projects as complete by the end of the monitoring period with no further action required because the actions listed in the fact sheet were performed.
- 2012 IOAP Modification (May 2014) – Table ES.2 lists the project as **eliminated** with a description that "Only one overflow had been documented at this location. MSD cleaned the sewers in the vicinity and has not documented an overflow in over 3 years. No further action is deemed necessary." The fact sheet also describes the project as eliminated.

Because an overflow mitigation project is not ultimately necessary for the Leland Road SSO, either approach for project elimination or certification could be effective. However, since MSD performed monitoring and investigation work as described in the 2009 IOAP fact sheet, it is appropriate to clarify that this project was completed with a certification letter submittal for IOAP documentation purposes.

For your reference, a copy of the August 2012 project elimination letter along with project fact sheets and maps from the 2009 IOAP is included in Attachment A. The October 2012 project clarification letter is provided in Attachment B. The 2012 IOAP Modification (May 2014) SSDP summary Table ES.2 and project fact sheet have been provided in Attachment C.

Leland Road SSO Investigation Project Clarification

Attachment A

August 2012 Project Elimination Letter

2009 IOAP Project Fact Sheet and Map



Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org

August 17, 2012

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U.S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Jeff Cummins, Acting Director
Division of Enforcement
Department of Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Water Programs Enforcement Branch
Water Management Program
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: Leland Road SSO Investigation
Project Elimination
IOAP Project No. S_OR_MF_NB02_S_13_C
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Directors:

MSD is providing advanced notification of a proposed minor project modification to eliminate the Leland Road Sanitary Sewer Overflow (SSO) Investigation project (IOAP Project No. L_SO_MF_018_S_03_A_A). This modification is part of an overall adaptive management review of the approved 2009 IOAP that will be documented in the proposed 2012 IOAP Modification to be formally submitted in 2013. No action is requested at this time.

2009 IOAP Project Description

The Leland Rd SSO Investigation Project included performing periodic condition assessments for three years and monitoring the location during rain events.

Proposed Project Modification

MSD has been monitoring the Leland Rd manhole number 96020 over the past three years during wet weather and determined that overflows do not occur at this location. The condition assessment has been performed under the SORP and CMOM programs according to the 2009 IOAP. As a result, under the Sewer Overflow Response Protocol (SORP), MSD is no longer required to monitor the location and no remedial project is necessary.



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These modifications are part of an overall adaptive management review of the approved 2009 IOAP. Additional sewer system monitoring, hydraulic modeling recalibration and enhancements to the physical representation of the sewer system resulted in a redistribution of the flow in individual sewer lines, thus affecting project approach and sizing in some cases. Each proposed change will be justified in detail through minor modification letters. Detailed benefits, costs and program implementation refinements to the overflow abatement program will be documented in proposed 2012 IOAP Modification to be submitted in 2013. No action is requested at this time.

Technical Justification

The relief sewer solution alternative originally developed for the 2009 IOAP (IOAP Project No. S_OR_MF_NB02_S_13_C), consisted of constructing 325 LF of 8-inch diameter relief sewer. This solution is not necessary based on monitoring according to SORP protocols at Leland Rd. The only historical overflow documented at Leland Rd (manhole 96020) related to system capacity was 20 gallons on March 12, 2006. Sewers at this location have been cleaned and no additional overflows have occurred since that date six years ago. The overflow is believed to have occurred due to a maintenance issue.

Table 1 – Recorded overflows at Leland Rd MH# 96020

ID	Overflow Date	Cause	Volume (gal)
96020	3/12/2006	Capacity	20

Given these results, MSD proposes to eliminate the Leland Rd project. For your reference, the original project fact sheet and map from the IOAP are in Attachment A.

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.

If you have any questions or need additional information, please contact Ms. Angela Akridge, Project WIN Program Manager, or myself at (502) 540-6000.

Sincerely,



W. Brian Bingham
Regulatory Services Director

Cc: G. Heitzman P. Purifoy

Attachment

MSD

Metropolitan Sewer District

ATTACHMENT

A



SSO SSDP Project Fact Sheet



SSO Project Number: S_OR_MF_NB02_S_13_C

Project Name: Leland Rd. SSO Investigation

Modeled Area: ORFM

Branch or SSO ID: NB02

Project Type: Condition Assessment

Receiving Stream: Cherrywood Creek

Project Description: Perform periodic condition assessment for three years and monitor location during rain events.

Reason for Overflow: Hydraulic bottleneck - Suspected Blockage

Design Assumptions: Cleaning/flushing has occurred twice since March 2006 (last documented overflow date) and no additional overflows have been reported since that date. Overflow is believed to be a maintenance issue.

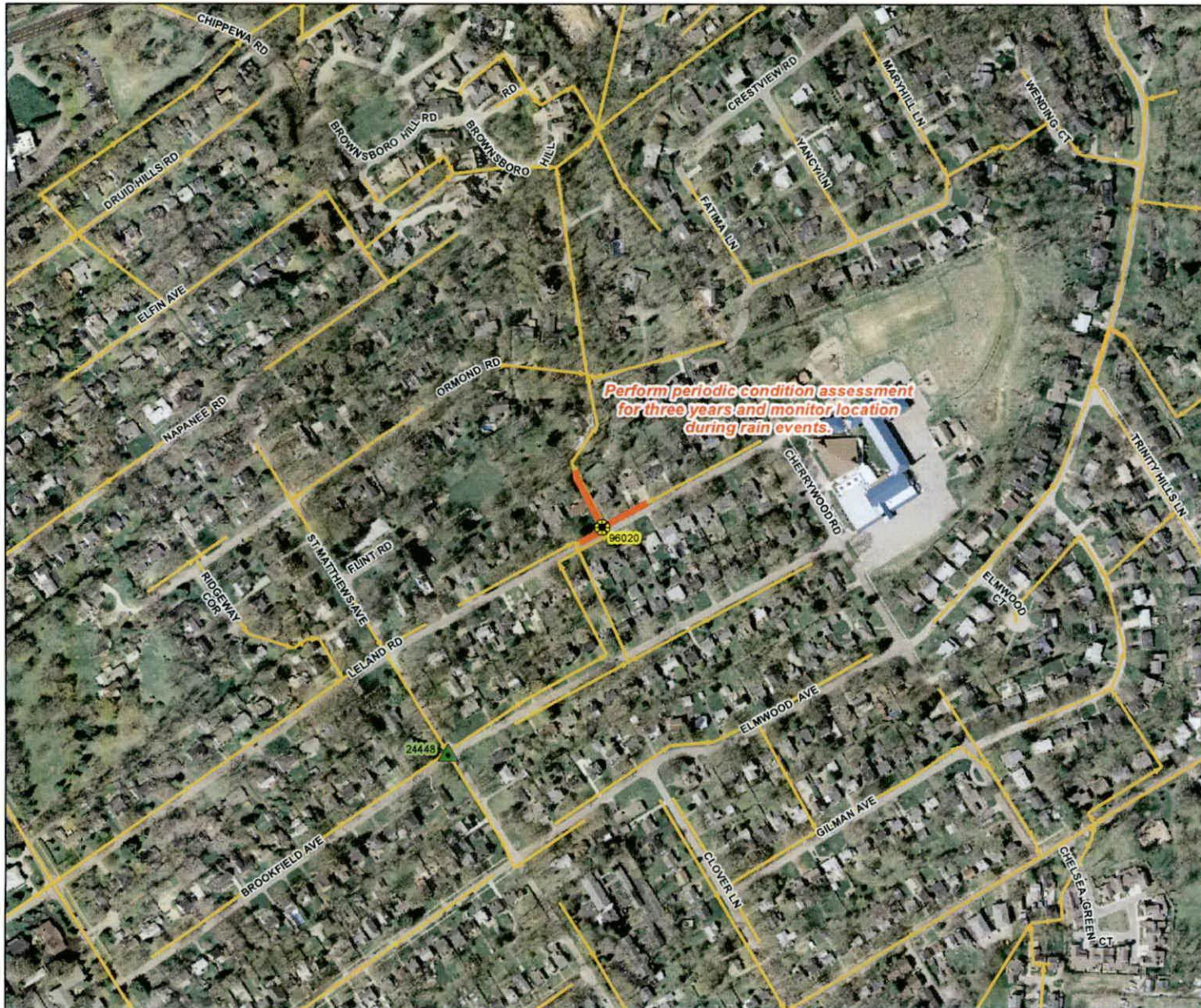
Project Constraints: None

Estimated Capital Cost (2008 dollars): This work will be performed under the SORP/CMOM programs

Weighted Benefit/Cost Ratio (Present Worth): --

Overflow Points Addressed:

<u>SSO</u>	<u>SSO Name</u>	<u>Service Area</u>	<u>Overflow Type</u>	<u>Discharge To</u>	<u>Average Overflow / Incident (gallons)</u>
96020	Leland Road	Morris Forman	Manhole	Ground	20



Integrated Overflow Abatement Plan
Vol. 3 - Sanitary Sewer Discharge Plan
 Ohio River Force Main Sewershed
 Solution ID # S_OR_MF_NB02_S_13_C
 Leland Rd SSO Investigation

Preliminary - For Budget Development Only
Legend

- Documented SSO
- Suspected SSO
- Haul Operation
- Proposed Pump Station Solution
- Pump Station
- WWTTP
- Proposed Pipe Solution
- Force Main
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- Proposed Off-line Storage
- Road
- Streams
- Floodway
- Small WWTTP Service Area
- Large WWTTP Service Area
- CSO Area
- Metro Parks

General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch equals 300 feet
 Scalable when printed on 11" X 17" paper



Some boundaries are uniquely symbolized within the map.

Map Revision
 May 7, 2009

Aerial Date: 2006



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MSD

Metropolitan Sewer District

ATTACHMENT

B

**Project Eliminated
or Combined with Another**

No Attachment B

Leland Road SSO Investigation Project Clarification

Attachment B

October 2012 Project Clarification Letter



Louisville and Jefferson County Metropolitan Sewer District
700 West Liberty Street
Louisville Kentucky 40203-1911
502-540-6000
www.msdlouky.org

October 4, 2012

Chief, Environmental Enforcement Section
Environmental and Natural Resources Division
U. S. Department of Justice
Post Office Box 7611
Washington, DC 20044-7611

Jeffrey A. Cummins, Acting Director
Division of Enforcement
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601

Chief, Water Programs Enforcement Branch
Water Management Program
U. S. EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: 2012 Integrated Overflow Abatement Plan (IOAP) Modification
DOJ Case No. 90-5-1-1-08254
Clarification of September 20, 2012, submittal

Attention Director and Chiefs:

As part of the adaptive management approach outlined in the approved 2009 Integrated Overflow Abatement Plan (IOAP), the Louisville and Jefferson County Metropolitan Sewer District (MSD) previously submitted information documenting proposed modifications to the approved plan. This submittal included letters requesting review and approval of minor modifications to the plan and also informational letters providing advance notification of proposed changes that will be address in a proposed 2012 IOAP Modification. The purpose of this letter is to clarify the status of two of the project letters provided "for information" that have more immediate impact on MSD's Amended Consent Decree compliance activities.

The Eden Care Pump Station SSO Investigation and the Leland Road SSO Investigation are projects developed in response to SSOs documented one time, at one location each. At the time of the IOAP submittal MSD believed both of these documented SSOs had been eliminated as a result of sewer cleaning. In accordance with the approved SORP, however, MSD is required to monitor documented SSOs for a period of three years with no further SSO events before the SSO can be considered eliminated. The projects related to these two locations were "placeholders" to ensure follow-up actions were taken if the SSOs were found to not be eliminated as a result of the project monitoring.

Both these projects have a completion date of December 31, 2012, in the approved IOAP. Since no SSOs have occurred at either location during the project monitoring period, MSD will certify these projects as complete at the end of the monitoring period, and no further action will be required. The "information



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Clarification of 2012 IOAP Modifications
October 4, 2012
Page 2 of 2

only" letters referred to the projects as being eliminated, when in fact the projects will be considered complete with no further action required.

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.

If you have questions or need additional information, please contact Ms. Angela Akridge, Project WIN Program Manager, or myself at (502) 540-6000.

Sincerely,



W. Brian Bingham
Regulatory Services Director

cc: G. Heitzman P. Purifoy,

Leland Road SSO Investigation Project Clarification

Attachment C

2012 IOAP Modification (May 2014) Table ES.2 and Project Fact Sheet

Table ES.2 2012 SSDP Final Project Suite

ACD Project Number	Project Name	Receiving Stream	Overflows Controlled	2009 Level of Control Depth (ft)	2009 Level of Control Storm	2009 Size (MG)	2009 Cost	2012 Level of Control Depth (ft)	2012 Level of Control Storm	2012 Revised Size (MG)	2012 Revised Cost (in 2008 dollars)	2009 Completion Date	Proposed Completion Date	Explanation for Proposed Revisions or Comments
CEDAR CREEK AREA														
S_CC_CC_70158_M_09A_C	Idlewood In-line Storage	CEDAR CREEK	28998, 28984, 63094, 63095, 70158	1.82	2-Year, 3-Hour	N/A	\$2,317,000	1.82	2-Year, 3-Hour	N/A	\$2,317,000	12/31/2023	12/31/2023	
S_FF_CC_81316_M_03_C_A	Fairmount Road Pump Station Off-Line Storage	BIG RUN	Fairmount Road PS (81316 & 97362)	N/A	N/A (New Project)	N/A	N/A	1.82	2-Year, 3-Hour	3.4 MG	\$13,439,000	N/A	12/31/2015	Project needed to accommodate flows from eliminated Jeffersontown WQTC and acknowledge capacity at Cedar Creek WQTC.
S_CC_CC_67997_M_01_C	Little Cedar Creek Interceptor Improvements	LITTLE CEDAR CREEK	67997, 67999, 86423, 86424, 89195, 89196, 89197	1.82	2-Year, 3-Hour	Pipe Upgrades	\$1,875,000	1.82	2-Year, 3-Hour	N/A	\$1,875,000	12/31/2024	12/31/2024	
S_CC_CC_MSD1025_S_03_B	Bardstown Rd. PS Improvements	BIG RUN	88545	2.25	5-Year, 3-Hour	N/A	\$281,000	2.25	5-Year, 3-Hour	N/A	\$281,000	12/31/2021	12/31/2021	
S_CC_CC_MSD1080_S_01_C	Running Fox PS Elimination	LITTLE CEDAR CREEK	MSD1080-LS	1.82	2-Year, 3-Hour	N/A	\$96,000	1.82	2-Year, 3-Hour	N/A	\$77,000	12/31/2010	12/31/2010	Project Completed
HITE CREEK AREA														
S_HC_HC_MSD1082_S_09A_C	Meadow Stream Pump Station & Force Main Upgrade	FLOYDS FORK, SOUTH FORK HARRODS CREEK	Meadow Stream PS (91087, MSD1082-PS)	1.82	2-Year, 3-Hour	0.5	\$974,000	2.60	10-Year, 3-Hour	3.89 MGD PS & New 18" Force Main	\$974,000	12/31/2016	12/31/2012	Project changed from a small storage basin to a pump station upgrade and new force main due to the capacity needs of Crestwood. The City paid the additional costs beyond MSD's overflow control commitment. Project Completed - Monitoring Ongoing
S_HC_HC_MSD1086_M_07_C_A	Floydberg Rd. SSES, Rehabilitation and Pump Station Upgrade	FLOYDS FORK	Floydberg Road (MSD1086-PS, 90776, 108956, 108957, 108958)	1.82	2-Year, 3-Hour	N/A	\$57,000	1.82	2-Year, 3-Hour	N/A	\$57,000	12/31/2010	12/31/2010	Project Completed - Monitoring Ongoing
S_HC_HC_MSD1085_S_03_A	Kavanaugh Rd. PS Improvements	HITE CREEK	Kavanaugh Rd (MSD1085-PS)	2.60	10-Year, 3-Hour	N/A	\$1,110,000	2.60	10-Year, 3-Hour	N/A	\$1,110,000	12/31/2024	12/31/2024	
FLOYDS FORK AREA														
S_FF_FF_NB01_S_01_C_A	Woodland Hills PS Diversion	POPE LICK	33003, 65531	1.82	2-Year, 3-Hour	N/A	\$20,000	1.82	2-Year, 3-Hour	N/A	\$20,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing
S_FF_FF_NB02_S_13_C	Eden Care PS SSO Investigation	FLOYDS FORK	Eden Care PS (MSD1105-PS)	N/A	N/A (Monitor)	N/A	N/A	N/A	N/A	N/A	\$0	N/A	Eliminated	Only one overflow had been documented at this location. MSD cleaned the sewers in the vicinity and has not documented an overflow in over 3 years. No further action is deemed necessary.
S_FF_FF_NB03_M_01_C_A	Ashburton PS Improvements & Diversion	FLOYDS FORK	Olds Copper Court PS (MSD0165-PS), Ashburton PS (MSD0166-PS)	1.82	2-Year, 3-Hour	N/A	\$118,000	1.82	2-Year, 3-Hour	N/A	\$118,000	12/31/2021	12/31/2021	Project Completed
JEFFERSON TOWN AREA														
S_FT_FT_NB01_M_01_C_A	Jeffersontown WQTC Elimination	CHENOWETH RUN	28390, 28391, 28392, 28395, 28551, 31733, Jeffersontown WQTC (28173 & 64505 & MSD0255 & IS028-S1)	1.82	2-Year, 3-Hour	N/A	\$23,737,000	1.82	2-Year, 3-Hour	N/A	\$23,737,000	12/31/2015	12/31/2015	
S_FT_FT_NB01A_M_03_C	Chenoweth Hills WQTC Elimination & PS Improvements	CHENOWETH RUN	Chenoweth Run PS (MSD0196-PS & 86052 & 64096), Chippewa PS (92061), Chenoweth Hills WQTC PS (MSD0263A-PS), Chenoweth Hills WQTC (MSD0263)	1.82	2-Year, 3-Hour	N/A	\$3,140,000	1.82	2-Year, 3-Hour	N/A	\$3,140,000	12/31/2015	12/31/2015	
S_FT_FT_NB02_M_01_C	Dell Rd & Charlene Project Flow Interceptor	BEATTY BROOK	Charlene Flow (28250, 28249, 28340, 28336, 104289), Dell Rd (28413, 28414, 28415, 28416, 28417)	1.82	2-Year, 3-Hour	Pipe Upgrades	\$917,000	1.82	2-Year, 3-Hour	N/A	\$917,000	12/31/2022	12/31/2022	
S_FT_FT_NB03_M_01_C	Balentine & Marlan Ct PS Eliminations and Pipe Upgrades (2 Phases)	BEATTY BROOK	28719, 28711, Marlan Court PS (28729), Balentine PS (MSD0149-PS)	1.82	2-Year, 3-Hour	N/A	\$1,005,000	1.82	2-Year, 3-Hour	N/A	\$1,005,000	12/31/2021	12/31/2021	
S_FT_FT_NB04_M_01_A	Monticello PS Elimination	FERN CREEK	Monticello Place PS (MSD0151-PS & 27969)	2.60	10-Year, 3-Hour	N/A	\$207,000	2.60	10-Year, 3-Hour	N/A	\$207,000	12/31/2022	12/31/2022	

Table ES.2 2012 SSDP Final Project Suite

ACD Project Number	Project Name	Receiving Stream	Overflows Controlled	2009 Level of Control Depth (ft)	2009 Level of Control Storm	2009 Size (MG)	2009 Cost	2012 Level of Control Depth (ft)	2012 Level of Control Storm	2012 Revised Size (MG)	2012 Revised Cost (in 2008 dollars)	2009 Completion Date	Proposed Completion Date	Explanation for Proposed Revisions or Comments
MIDDLE FORK AREA														
S_MI_SF_NB01_M_01_C_A1	Middle Fork Relief Interceptor, Wet Weather Storage, and Upper Middle Fork LS Diversion (2 Phases)	MIDDLE FORK BEARGRASS CREEK	02932, 02933, 02935, 08537, 23211, 22212, 27005, 51180, 51221, 51160, 51161, 45835, 47583, 47593, 47596, 47603, 47604, 90700, IS021A-SL, Middle Fork at Brockmridge (08935-SM)	1.82	2-Year, 3-Hour	1.6	\$26,333,500	1.82	N/A	N/A	\$26,333,500	12/31/2013, 12/31/2023	12/31/2013, 12/31/2023	
S_MI_SF_NB04_M_03_B	Goose Creek PS Improvements & Wet Weather Storage (2 Phases)	GOOSE CREEK	Devonide PS (21628-W), Goose Creek PS (40491, 62418, 62420, 91629, 91630, 105936), Saret PS (43472)	2.25	5-Year, 3-Hour	0.5	\$7,558,000	2.25	5-Year, 3-Hour	N/A	\$7,558,000	12/31/2024	12/31/2024	
S_MI_SF_NB06_M_01_A_A-1, S_MI_SF_NB06_M_01_A_A-2	Anchor Estates PS Elimination (2 Phases)	MIDDLE FORK BEARGRASS CREEK	Varnab PS (01106), Anchor Estates #1 PS (00746 & 00056-W), Anchor Estates #2 PS (MSD0057-LS)	2.60	10-Year, 3-Hour	N/A	\$1,909,000	2.6	10-Year, 3-Hour	N/A	\$1,909,000	12/31/2013, 12/31/2016	12/31/2013, 12/31/2016	Phase 1 Completed - Varnab PS Eliminated
S_MI_SF_NB07_S_07_C	Hartbourne UI Investigation & Rehabilitation	HURSTBOURNE CREEK	01793	1.82	2-Year, 3-Hour	N/A	\$536,000	1.82	2-Year, 3-Hour	N/A	\$536,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing
SOUTHEAST DIVERSION AREA														
S_SD_SF_NB01_S_07_C	Parkview Estates UI Investigation & Rehabilitation	SOUTH FORK BEARGRASS CREEK	47250	1.82	2-Year, 3-Hour	N/A	\$285,000	1.82	2-Year, 3-Hour	N/A	\$285,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing
S_SD_SF_NB04_S_01_B_A	Klondike Interceptor	SOUTH FORK BEARGRASS CREEK	25676 (Alcona), 26650, 26651	2.25	5-Year, 3-Hour	Pipe Upgrades	\$558,000	2.25	5-Year, 3-Hour	N/A	\$558,000	12/31/2015	12/31/2015	
S_SD_SF_NB05_M_01_A	Sutherland Interceptor	SOUTH FORK BEARGRASS CREEK	Sutherland (16649)	2.60	10-Year, 3-Hour	Pipe Upgrades	\$412,000	2.60	10-Year, 3-Hour	N/A	\$412,000	12/31/2023	12/31/2023	
S_SD_SF_NB06_S_13_C	Beargrass Interceptor Rehab Ph. 2	SOUTH FORK BEARGRASS CREEK	51594	1.82	2-Year, 3-Hour	N/A	\$57,000	1.82	2-Year, 3-Hour	N/A	\$57,000	12/31/2010	12/31/2010	Monitoring Ongoing
POND CREEK AREA														
S_PO_WC_PC01_M_01_C	Charlewood Interceptor Extension	FISHPOOL CREEK	25477, 25478, Cooper Chapel PS (25480 & MSD0130-PS)	1.82	2-Year, 3-Hour	Pipe Upgrades	\$601,000	1.82	2-Year, 3-Hour	N/A	\$1,600,000	12/31/2022	12/31/2022	
S_PO_WC_PC04_M_01_C	Cinderella PS Elimination	FISHPOOL CREEK	Cinderella PS (60679 & MSD1013-PS), 53309	1.82	2-Year, 3-Hour	N/A	\$2,205,000	1.82	2-Year, 3-Hour	N/A	\$2,205,000	12/31/2023	12/31/2023	
S_PO_WC_PC05_M_07_C	Lantana PS UI Investigation & Rehabilitation	PENNSYLVANIA RUN	Lantana Drive #1 PS (25484 & 93719 & MSD0101-PS)	1.82	2-Year, 3-Hour	N/A	\$20,000	N/A (SSES/Rehab)	N/A (SSES/Rehab)	N/A	\$20,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing
S_PO_WC_PC06_M_01_C	Government Center PS Elimination	PENNSYLVANIA RUN	Government Center PS (MSD0180-PS)	1.82	2-Year, 3-Hour	N/A	\$1,225,000	1.82	2-Year, 3-Hour	N/A	\$1,225,000	12/31/2024	12/31/2024	Project Completed - Monitoring Ongoing
S_PO_WC_PC07_M_01_A	Avanti PS Elimination	LITTLE CEDAR CREEK	Avanti PS (21229-W)	2.60	10-Year, 3-Hour	N/A	\$31,000	2.6	10-Year, 3-Hour	N/A	\$31,000	12/31/2010	12/31/2010	Project Completed - Monitoring Ongoing
S_PO_WC_PC08_M_01_C	Lex Ann Way System Improvements	FERN CREEK	19360, 19369, 29933, 29948, 29943, 31083, 31084, 79076, Lex Ann Way PS (MSD1010-PS)	1.82	2-Year, 3-Hour	Pipe Upgrades	\$827,000	1.82	2-Year, 3-Hour	Additional Pipe Upgrades	\$827,000	12/31/2015	12/31/2015	Additional overflows have been occurring in recent years. Therefore, additional sewer inspection and rehabilitation are underway. Contingency plans have been developed and are dependent upon the efficacy of rehabilitation of wet weather flows.
S_PO_WC_PC09_M_09B_C	Outer Loop Wet Weather Storage	FISHPOOL CREEK	70212, 17724	1.82	2-Year, 3-Hour	1.42	\$4,280,000	2.60	10-Year, 3-Hour		\$0	12/31/2034	Eliminated	Due to improvements in the Pond Creek hydraulic model calibration, this storage basin is no longer necessary.
S_PO_WC_PC09_M_09B_C	Caven Ave Pump Station Elimination	FISHPOOL CREEK	27116, Caven Ave PS (MSD0133-PS)	1.82	2-Year, 3-Hour	0.21	\$731,000	2.60	10-Year, 3-Hour	PS Elimination	\$1,800,000	12/31/2024	12/31/2016	Recent new pipeline constructed to eliminate a nearby package treatment plant makes the elimination of the pump station the most cost effective overflow solution.
S_PO_WC_PC10_M_01_C	Leven PS Elimination	PENNSYLVANIA RUN	Leven PS (36419 & MSD1019-PS)	1.82	2-Year, 3-Hour	N/A	\$376,000	1.82	2-Year, 3-Hour	N/A	\$376,000	12/31/2022	12/31/2022	
S_PO_WC_PC11_M_07_C	Edel PS UI Investigation & Rehabilitation	FERN CREEK	Edel PS (92098 & MSD1048-PS)	1.82	2-Year, 3-Hour	N/A	\$367,000	1.82	2-Year, 3-Hour	N/A	\$367,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing

Table ES.2 2012 SSDP Final Project Suite

ACD Project Number	Project Name	Receiving Stream	Overflows Controlled	2009 Level of Control Depth (ft)	2009 Level of Control Storm	2009 Size (MG)	2009 Cost	2012 Level of Control Depth (ft)	2012 Level of Control Storm	2012 Revised Size (MG)	2012 Revised Cost (in 2009 dollars)	2009 Completion Date	Proposed Completion Date	Explanation for Proposed Revisions or Comments
ORFM AREA														
S_OR_MF_NB01_M_01_B	Melwood PS and Forcemain Improvements, System Improvements & PS Eliminations (2 Phases)	MUDDY FORK BEARGRASS CREEK	26752, 41374, 41416, Mockingbird Valley PS (MSD0007-PS), Winton PS (MSD0010-PS), Melwood Avenue PS (24471 & MSD0013-PS), Canoe Lane PS (24152-W & MSD0024-PS)	2.25	5-Year, 3-Hour	N/A	\$3,055,000	2.25	5-Year, 3-Hour	N/A	\$3,055,000	12/31/2012, 12/31/2024	12/31/2012, 12/31/2024	Phase 1 Project Completed - Monitoring Ongoing
S_OR_MF_NB02_S_13_C	Leland Road SSO Investigation	CHERRYWOOD CREEK	96020	N/A	N/A	N/A	N/A	N/A (Rehab & Monitoring)	N/A (Rehab & Monitoring)	N/A	\$0	N/A	Eliminated	Only one overflow had been documented at this location. MSD cleaned the sewers in the vicinity and has not documented an overflow in over 3 years. No further action is deemed necessary.
S_OR_MF_NB03_S_07_C	Derington Ct. PS UI Investigation & Rehabilitation	GOOSE CREEK	Derington Court PS (MSD0095-PS)	1.82	2-Year, 3-Hour	N/A	\$265,000	1.82	2-Year, 3-Hour	N/A	\$265,000	12/31/2012	12/31/2012	Project Completed - Monitoring Ongoing
S_OR_MF_NB04_M_03_B_B	Project WQTC Eliminations, Harrods Creek PS, and ORFM System Improvements (3 Phases)	LITTLE GOOSE CREEK	40870, 40871, 40872, 89644, Harbor Lane PS (42680, 65633, 65635, MSD0192-PS), West Goose Creek PS (22436 & MSD0123-PS), Phoenix Hill PS (MSD1044-PS), Glenview Hills PS (MSD1013-PS), New Market PS (MSD0593-PS), Deep Creek PS (MSD1063-PS), Hunting Creek South WQTC (MSD0292)	2.25	5-Year, 3-Hour	N/A	\$31,368,000	2.25	5-Year, 3-Hour	N/A	\$31,368,000	12/31/2015, 12/31/2016	12/31/2015, 12/31/2016	
MILL CREEK AREA														
S_MC_WC_NB01_M_01_A	Shively Interceptor	LYNNVIEW DITCH	04498, 04542, Pioneer PS (01114-W), Fern Lane PS (MSD0043-PS), Gier's Lane PS (MSD0030-PS)	2.60	10-Year, 3-Hour	Pipe Upgrades	\$16,419,000	2.6	10-Year, 3-Hour	N/A	\$16,419,000	12/31/2014	12/31/2014	Project Completed - Monitoring Ongoing
S_MC_WC_NB02_S_03_C	East Rockford PS Relocation	MILL CREEK	East Rockford PS (04899-W)	1.82	2-Year, 3-Hour	N/A	\$1,044,000	1.82	2-Year, 3-Hour	N/A	\$1,044,000	12/31/2021	12/31/2021	Project Completed
SMALL WQTC AREA														
S_FF_BT_NB01_S_09A_C_A	Lucas Ln. PS Inflow Storage	GOOSE CREEK	Lucas Lane PS (MSD0199-LS)	1.82	2-Year, 3-Hour	N/A	\$183,000	1.82	2-Year, 3-Hour	N/A	\$183,000	12/31/2021	12/31/2021	
S_HC_HN_NB01_S_03_C_A	Riding Ridge PS Improvements	HARRODS CREEK	Riding Ridge PS (MSD1060-LS)	1.82	2-Year, 3-Hour	N/A	\$27,000	1.82	2-Year, 3-Hour	N/A	\$27,000	12/31/2014	12/31/2014	
S_HC_HN_NB02_S_09A_C_B	Gunpowder PS Inflow Storage	HARRODS CREEK	Gunpowder PS (MSD1055-LS)	1.82	2-Year, 3-Hour	N/A	\$176,000	1.82	2-Year, 3-Hour	N/A	\$176,000	12/31/2021	12/31/2021	
S_HC_HN_NB03_S_09A_A_A	Fox Harbor Inflow Storage	HARRODS CREEK	Fox Harbor #1 and #2 PS (62789)	2.60	10-Year, 3-Hour	N/A	\$328,000	2.60	10-Year, 3-Hour	N/A	\$328,000	12/31/2021	12/31/2021	
S_HC_HS_NB01_S_03_C_A	Fairway View PS Improvements	HARRODS CREEK	Fairway View PS (MSD1065-PS)	1.82	2-Year, 3-Hour	N/A	\$87,000	1.82	2-Year, 3-Hour	N/A	\$167,000	12/31/2014	12/31/2014	
S_FF_LF_NB01_S_13_C_A	Lake Forest PS SBO Investigation	CHENOWETH RUN	Lake Forest PS (MSD1169-LS)	N/A	N/A	N/A	N/A	N/A (Monitoring)	N/A (Monitoring)	N/A	\$77,000	12/31/2012	12/31/2012	Monitoring Ongoing
S_FF_CH_NB01_S_09A_C_A	St. Rene Rd. PS Inflow Storage	CHENOWETH RUN	94187	1.82	2-Year, 3-Hour	N/A	\$30,000	1.82	2-Year, 3-Hour	N/A	\$30,000	12/31/2021	12/31/2021	
ISS AREA														
S_OR_MF_42007_S_07_C	Some PS UI Investigation	PADDY RUN	Some Avenue PS (MSD0043-PS)	1.82	2-Year, 3-Hour	N/A	\$265,000	1.82	2-Year, 3-Hour	N/A	\$265,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing
S_SF_MF_30917_M_09_A	Camp Taylor System Improvements (Four Phases)	MUDDY FORK BEARGRASS CREEK	08717, 13931, 13943, 36765, 44396, 44397, 66349, 104223, 104231	2.60	10-Year, 3-Hour	Pipe Upgrades	\$28,279,000	2.60	10-Year, 3-Hour	Pipe Upgrades	\$28,279,000	Dec 31, 2012, 2013, 2017 & 2024	Multiple (Same as 2009)	Project approach is similar to 2009, but the project area targeted for inspection and rehabilitation is larger.
S_MC_MF_55665_S_07_C	Hardwood PS UI Investigation & Rehabilitation	MANSLECK BRANCH	Hardwood PS (55665)	1.82	2-Year, 3-Hour	N/A	\$173,000	1.82	2-Year, 3-Hour	N/A	\$173,000	12/31/2011	12/31/2011	Project Completed - Monitoring Ongoing

Table ES.2 2012 SSDP Final Project Suite

ACD Project Number	Project Name	Receiving Stream	Overflows Controlled	2009 Level of Control Depth (in)	2009 Level of Control Storm	2009 Size (MG)	2009 Cost	2012 Level of Control Depth (in)	2012 Level of Control Storm	2012 Revised Size (MG)	2012 Revised Cost (in 2008 dollars)	2009 Completion Date	Proposed Completion Date	Explanation for Proposed Revisions or Comments
*EXTRIM SDDP														
HIKES LANE INTERCEPTOR HIGHGATE SPRINGS PS	Hikes Lane Interceptor and Highgate Springs	SOUTH FORK BEARGRASS CREEK AND WEDGEWOOD DITCH	18134, 18298, 18302, 18434, 18471, 18483, 18505, 18595, 49224, 49236, 49672, 49673, MSD0012-PS								\$21,216,000		11/27/2012	This project includes improvements to the Hikes Lane Sewer System and eliminates the Highgate Springs Pump Station. In the general Hikes Lane area includes improvements of 3,500 LF of new or replacement sewers, and decommissioning the Highgate Springs Pump Station. The new Hikes Lane Interceptor consists of 10,000 LF of 72-inch sewer that connects to Southeastern Interceptor. Project Completed - Monitoring Ongoing
SOUTHEASTERN DIVERSION STRUCTURE & INTERCEPTOR	Southeastern Diversion Structure and Interceptor	SOUTH FORK BEARGRASS CREEK	08426, 08427, 08430, 08431, 30686, 30681, 49647								\$1,344,000		5/12/2012	This project includes improvements to the Southeast Diversion Structure for increased flows due to the Hikes Lane Interceptor and other Final SDDP projects. The project consists of a new parallel Southeastern Interceptor relief sewer, two flow control junction boxes, and modifications to the existing Southeastern Diversion Structure (including removing control weirs and reprogramming Real Time Control gains). Project Completed - Monitoring Ongoing
NORTHERN DITCH DIVERSION INTERCEPTOR	Northern Ditch Diversion Interceptor	NORTHERN DITCH	MSD0271 (Yorktown)								\$20,397,000		7/31/2011	This project includes construction of a new Northern Ditch Diversion Interceptor which will allow flow from upstream projects to reach the Derek R. Guthrie WQTC. The project consists of 13,000 LF of 84-inch pipe constructed along Greasy Ditch. Project Completed - Monitoring Ongoing
SINKING FORK RELIEF SEWER	Sinking Fork Relief Sewer	MIDDLE FORK BEARGRASS CREEK AND UPPER SINKING FORK	21103, 25012, 63319								\$1,690,000		12/23/2009	This project includes conveying flow from some of the new Beechwood Village sewers and providing additional wet weather capacity downstream of the Beechwood Village East area to accommodate upstream SDDP projects. The project includes installing 2,800 LF of 24-inch relief sewer. Project Completed
BEECHWOOD VILLAGE SANITARY SEWER REPLACEMENT	Beechwood Village Sanitary Sewer Replacement	UPPER SINKING FORK	21061, 21089, 21101, 21153, 21156								\$11,800,000		4/27/2011	This project includes replacing or rehabilitating the entire local system, including 23,300 LF of sewer pipe and 580 homeowner's service connections. The project will be completed in two phases, East and West. Project Completed
DEREK R. GUTHRIE WATER QUALITY TREATMENT CENTER	Derek R. Guthrie WQTC	OHIO RIVER, BLACK POND CREEK, ALVEY DITCH, MENDORA BRANCH, MILL CREEK	Wet Weather SSOs	4.50	10-Year, 24-Hour	100 MGD HRT	\$102,700,000	4.50	10-Year, 24-Hour	100 MGD HRT	\$102,700,000	12/31/2011	11/27/2012	Full high rate treatment capacity not yet available for flows to be seen by 2024 due to extreme wet weather in 2011, but current flows and overflow eliminations can be accommodated with current treatment capacity. Project Completed - Monitoring Ongoing

Project Name Leland Road SSO Investigation

Project Number S_OR_MF_NB02_S_13_C

Modeled Area ORFM

Branch or SSO ID NB02

Project Type Pipe Upgrades

Receiving Stream Cherrywood Creek

Project Description The overflow at Leland Road had only been documented to overflow once. The overflow location was monitored for three years and no additional overflows were witnessed. As such, no further action for overflow mitigation will be undertaken.

Reason for Overflow Hydraulic bottleneck

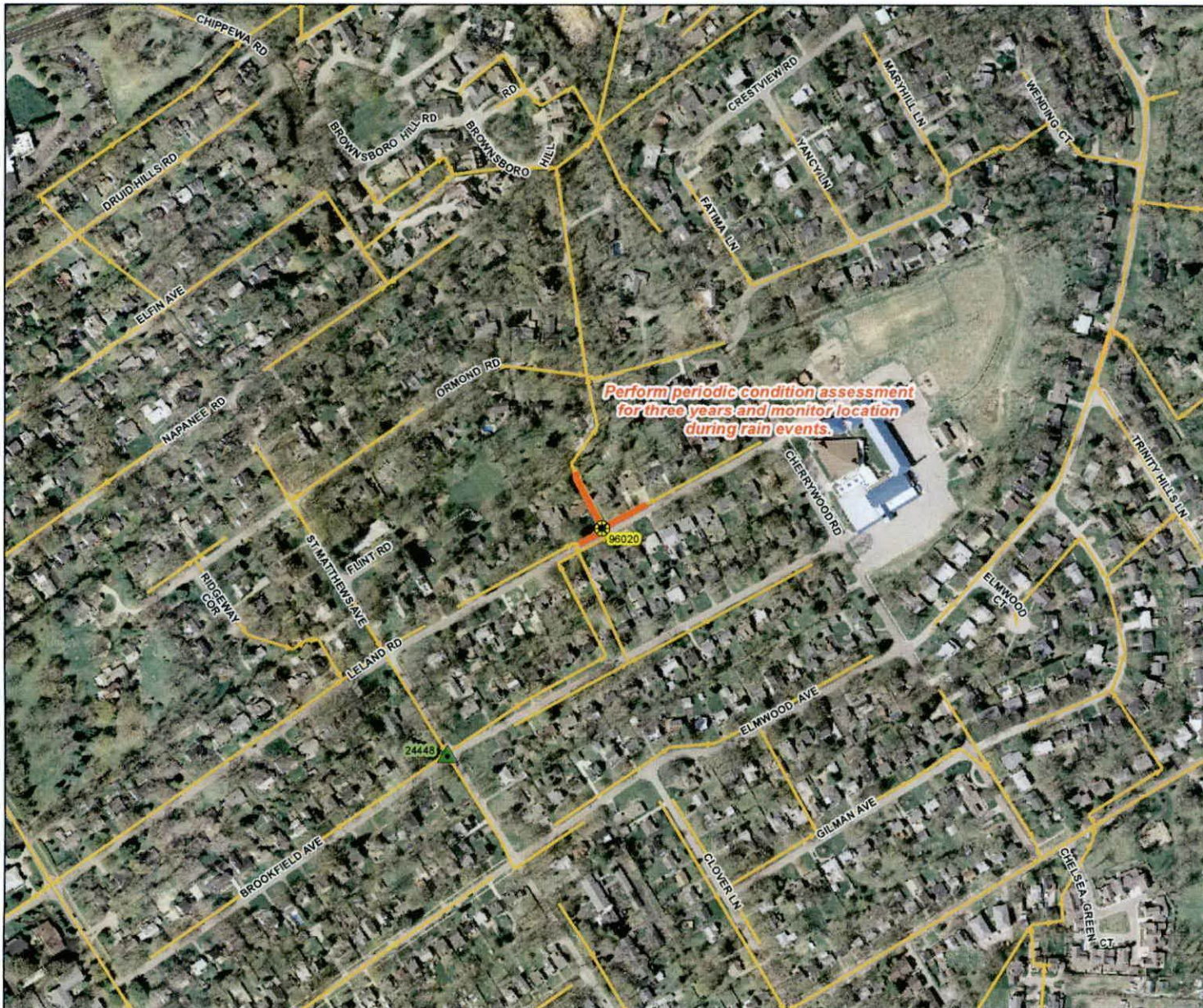
Design Parameters Project Eliminated.

Project Constraints Project Eliminated

Estimated Capital Cost Project Eliminated

Weighted Benefit/Cost Ratio Project Eliminated

Asset ID	SSO Start Date	Volume (Gal)
96020	3/12/2006	20



Integrated Overflow Abatement Plan
Vol. 3 - Sanitary Sewer Discharge Plan
 Ohio River Force Main Sewershed
 Solution ID # S_OR_MF_NB02_S_13_C
 Leland Rd SSO Investigation

Preliminary - For Budget Development Only
Legend

- Documented SSO
- Suspected SSO
- Haul Operation
- Proposed Pump Station Solution
- Pump Station
- WWTP
- Proposed Pipe Solution
- Force Main
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- Proposed Off-line Storage
- Road
- Streams
- Floodway
- Small WWTP Service Area
- Large WWTP Service Area
- CSO Area
- Metro Parks

General representation of overflow abatement solutions are for preliminary planning purposes. Alignments and locations may be altered during design.

1 inch equals 300 feet
 Scalable when printed on 11" X 17" paper



Some boundaries are uniquely symbolized within the map.

Map Revision
 May 7, 2009
 Aerial Date: 2006



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