



*Louisville and Jefferson County Metropolitan Sewer District*  
700 West Liberty Street  
Louisville Kentucky 40203-1911  
502-540-6000  
[www.msdlouky.org](http://www.msdlouky.org)

August 17, 2012 (Revised September 20, 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: CSO140 Sewer Separation  
Minor Project Modification  
IOAP Project No. L\_MI\_MF\_140\_S\_08\_A\_A\_0  
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the CSO 140 Sewer Separation project (IOAP Project No. L\_MI\_MF\_140\_S\_08\_A\_A\_0). 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. Since the project modifications will affect MSD's implementation activities prior formal submittal of the revision documentation, approval of the proposed modification is requested at this time.

#### 2009 IOAP Project Description

The original CSO 140 Sewer Separation project included the separation of 10,700 linear feet of combined sewer line, with a completion date of December 31, 2015.

#### Proposed Project Modification

The project modification involves the re-construction of the CSO structure to increase the low flow line to a 42-inch diameter opening which will increase the conveyance capacity. The project completion date will remain at December 31, 2015, and level of control will be maintained at zero overflows in a typical year.



*Beneficial Use of Louisville's Biosolids*  
[www.louisvillegreen.com](http://www.louisvillegreen.com)

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.

#### Technical Justification

Since the last IOAP submittal, additional flow monitors have been installed in the system and on overflow structures. Detailed topographic surveys were conducted at many of the CSO structures. The combined sewer system model was updated with the new survey data and re-calibrated based on the data from the additional flow monitors. The flows in the re-calibrated model differed from the original model and required changes to some of the IOAP projects.

Further investigation indicates that the existing Middle Fork Trunk downstream of CSO 140 has available capacity to convey and store the runoff to meet the zero overflow level of control in a typical year. Therefore, MSD intends to modify the CSO structure by increasing the low flow line to a 42-inch diameter opening.

MSD also intends to include green infrastructure as part of the solution to account for any potential future model re-calibrations as additional flow monitoring data is obtained. The project will be renamed 'CSO140 In-Line Storage & Green Infrastructure Controls' and will maintain a December 31, 2015, completion date as previously submitted.

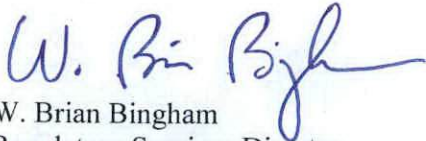
For your reference, a copy of the original project fact sheet and map from the 2009 IOAP is in Attachment A. New project fact sheets and maps have been provided in Attachment B. Additional documentation on the costs and level of control analysis will be included in the 2012 IOAP Modification.

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.

CSO140 Sewer Separation  
August 17, 2012 (Revised September 20, 2012)  
Page 3 of 3

Sincerely,

A handwritten signature in blue ink, appearing to read "W. Brian Bingham". The signature is fluid and cursive, with the first name "W." and last name "Bingham" clearly distinguishable.

W. Brian Bingham  
Regulatory Services Director

cc: Greg Heitzman      Paula Purifoy  
Attachments



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#### 2009 IOAP Project Description

The original CSO 140 Sewer Separation project included the separation of 10,700 linear feet of combined sewer line, with a completion date of December 31, 2015.

#### Proposed Project Modification

The project modification involves the re-construction of the CSO structure to increase the low flow line to a ~~4236~~-inch diameter opening which will increase the conveyance capacity. The project completion date will remain at December 31, 2015, and level of control will be maintained at zero overflows in a typical year.



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Further investigation indicates that the existing Middle Fork Trunk downstream of CSO 140 has available capacity to convey and store the runoff to meet the zero overflow level of control in a typical year.

Therefore, MSD intends to modify the CSO structure by increasing the low flow line to a 4236-inch diameter opening.

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Sincerely,

W. Brian Bingham  
Regulatory Services Director

cc: Greg Heitzman      Paula Purifoy  
Attachments

# MSD

Metropolitan Sewer District

# ATTACHMENT A





## CSO LTCP Project Fact Sheet



**LTCP Project Number:** L\_MI\_MF\_140\_S\_08\_A\_A\_0

**Project Name:** CSO140 Sewer Separation

**Project Type:** Sewer Separation

**Receiving Stream:** Middle Fork Beargrass Creek

**Project Description:** This project includes construction of a storm water system consisting of installing 4,630 lf of piep in street and 6,130 lf of pie out of street.

**Design Parameters / Assumptions:** There are approx. 552 properties impacted by this project. The design flow would be developed in accordance with the MSD Design Manual.

**Surrounding Area Land Use:** Project is located within 'Vacant & Undeveloped', 'Single Family Residential' and 'Multi Family Residential' property east of I-65 at S. Charlton and Pope St. Adjacent property includes 'Public and Semi-Public' and 'Parks, Cemeteries, etc.'.

**Apparent Utilities Description:** Water Main appr. 14.5 ft. SE, Scondary OH Elec. In. appr. 17 ft. SE, Existing Gas Main appr. 22 ft. NNW, proposed piping passes over gas, electric, and water lines

**Capital Projects:** 2011~Solids & Floatables @ CSO86 & 140, 2007~Middle Fork Rehab Phase 2, & 2013~RTC @ CSO125, 126, 127, & 140 - Awaiting Start

**Advanced Site Restoration:** The stormwater outfall to Beargrass Creek will include design of flow control measures to minimize or prevent erosion impact to the receiving stream.

**Estimated Capital Cost (2008):** \$3,150,000

**Capital Cost / Gallon Overflow Removed:** \$0.29

**Weighted Benefit / Cost Ratio (Capital Cost):** 21.00

**Overflow Points Addressed:**

<u>CSO Number</u>	<u>CSO Name</u>	<u>CSO Area (Acres)</u>	<u>2008 AAOV (MG / Yr)</u>	<u># of Overflows / Yr</u>	<u>Post LTCP AAOV (MG/Yr)</u>	<u>Post LTCP # Overflows / Year</u>
CSO140	Locust Street	75.54	17.00	54	0	0

NOTE: CSO hydraulic statistics are predicted based on InfoWorks model results.



# Integrated Overflow Abatement Plan Vol. 2 - Final CSO Long Term Control Plan

Middle Fork Beargrass Creek  
Solution ID # L\_MI\_MF\_140\_S\_08\_A\_A\_0  
CSO140 Sewer Separation

Preliminary - For Budget Development Only

## Legend

- Proposed Storm Catch Basin
- Proposed Sanitary Manhole
- Proposed Storm Manhole
- Active CSO
- Eliminated CSO
- PS Pump Station
- Proposed Sanitary Pipe Solution
- Proposed Storm Pipe Solution
- Existing Drainage Line
- Force Main
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- Streams
- Floodway
- Metro Parks
- County Boundary

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

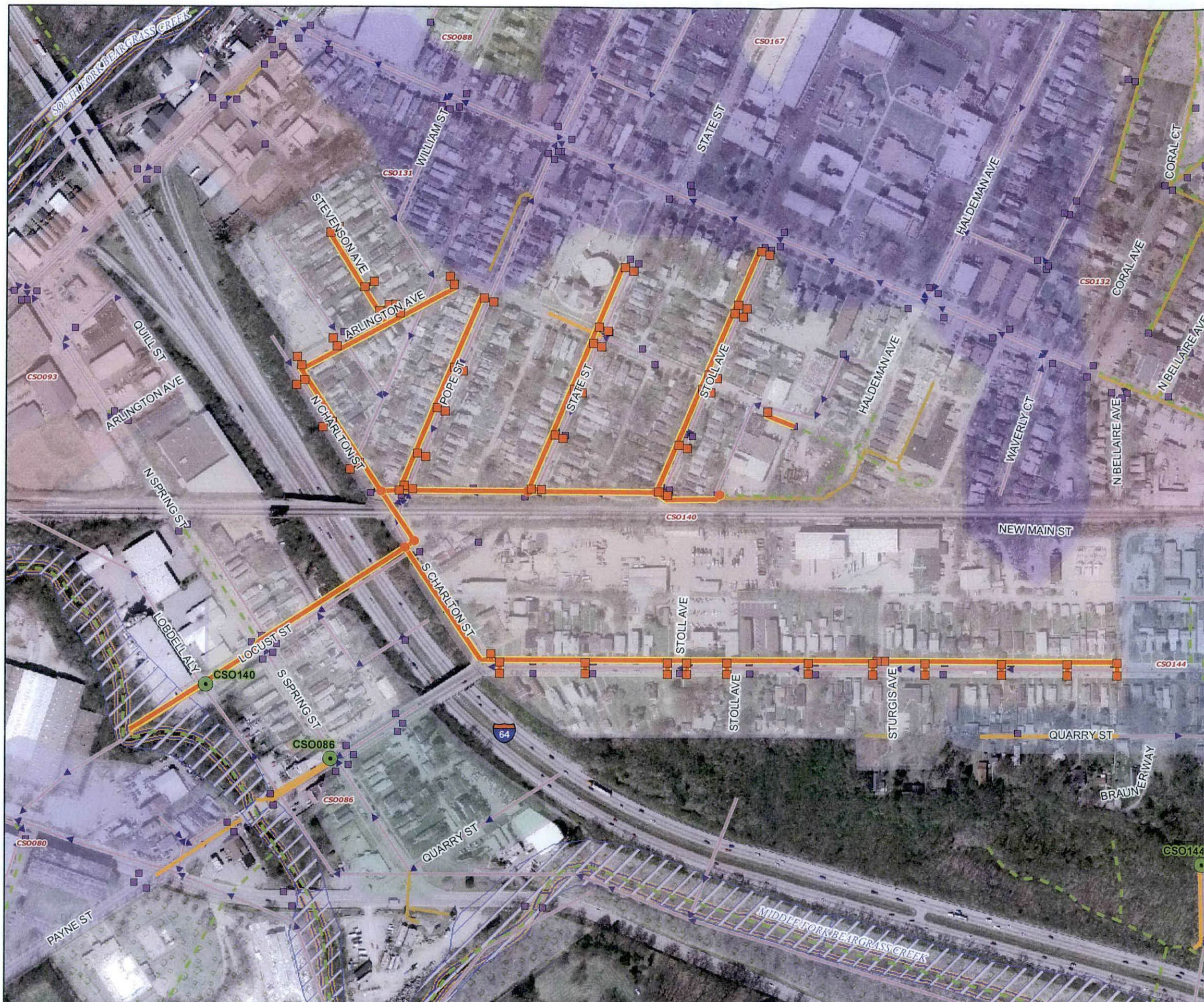
Some boundaries are uniquely symbolized within the map.

Map Revision  
December 3, 2008

Aerial Date: 2006



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# MSD

Metropolitan Sewer District

# ATTACHMENT B

**Project Name:** CSO140 Inline Storage & Green Infrastructure Controls

**Project Type:** Upsize Pipe Conveyance

**Rec Stream:** Middle Fork Beargrass Creek

**Project Description:** Upsize the downstream, low flow line to a 36". The new line may need backflow prevention. Project costs includes cost effective green infrastructure controls to reinforce level of protection. Project will reduce overflows to zero overflows in a typical year.

**Design Assumption:**

**Capital Cost:** \$574,000

**Capital Benefit/Cost:** 324.16

**Present Worth Benefit Cost:** 367.21

CSO	CSO Name	Existing May 2012 <sup>1</sup>		Baseline May 2012 <sup>2</sup>	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO140	LOCUST STREET	0.98	21	0.96	21

1. Existing May 2012 conditions reflect existing system operating conditions as of that date.

2. Baseline May 2012 assumes all SSDP projects are complete and critical combined sewer facilities (e.g. Morris Forman WQTC Southwestern Pump Station, Starkey Pump Station) are operating at optimal, sustainable levels.



Integrated Overflow Abatement Plan  
Vol. 2 - Final CSO Long Term Control Plan

Ohio River  
CSO140 Inline/Offline Storage

Preliminary - For Budget Development Only

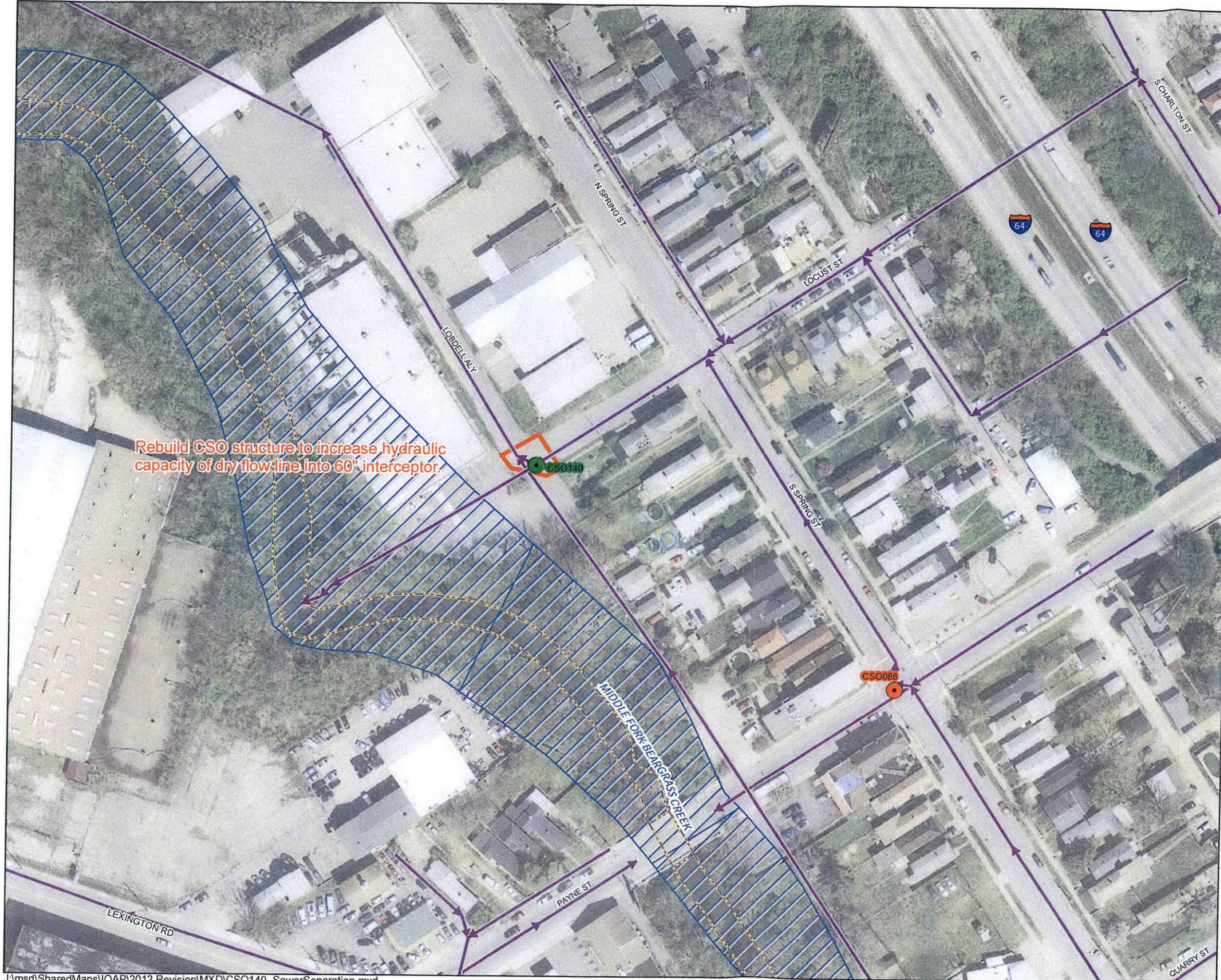
- Active CSO
- Eliminated CSO
- Haulop Locations
- PS Proposed Pump Station Solution
- PS Pump Stations
- MSD
- Proposed Pipe Solution
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor >= 12"
- Proposed Off-line Storage
- Streams
- ▨ Floodway
- Jefferson County Boundary

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

1 inch = 100 feet    N    Aerial Date: 2009    Map Revision: April 9, 2012



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Rebuild CSO structure to increase hydraulic capacity of dry flow line into 60" interceptor.

CSO140

CSO086

MIDDLE FORK BEARGRASS CREEK

LEXINGTON RD

PAYNE ST

QUARRY ST