



*Louisville and Jefferson County Metropolitan Sewer District
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August 17, 2012

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

Subject: Nightingale Pump Station Replacement and Off-line Storage
Minor Project Modification
IOAP Project No. L_SO_MF_018_S_03_A_A
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is providing advanced notification of a proposed minor project modification to the Nightingale Pump Station Replacement 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 Nightingale Pump Station Replacement project entailed the upgrade of the Nightingale Pump Station from 27 million gallons per day (MGD) to 60 MGD with a final completion date of December 31, 2016.

Proposed Project Modification

The project modification involves the replacement of the Nightingale Pump Station with a new 33 MGD facility and the construction of a 2.7 million gallons (MG) off-line storage basin. The sizing of the new pump station and off-line storage will mitigate existing wet weather issues to a zero overflow per year level of control and an accelerated completion date of December 31, 2015.

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



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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 project was modified due to the re-calibrated, combined sewer model. The Calvary Creekside Storage Basin downstream of the Nightingale Pump Station is proposed to be eliminated. In addition, capacity constraints downstream of the Nightingale force main prohibits upgrades to the station in excess of 33 MGD. The 33 MGD station upgrade and 2.7 MG of off-line storage provides the optimal combination of pumping and storage to mitigate CSO 018 to the appropriate level of control.

For your reference, copies of the original project fact sheet and map from the IOAP are enclosed in Attachment A. A revised project fact sheet and map reflecting the project modifications have been provided in Attachment B.

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

Attachments

MSD

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ATTACHMENT

A

CSO LTCP Project Fact Sheet



LTCP Project Number: L_SO_MF_018_S_03_A_A

Project Name: Nightingale PS Replacement

Project Type: Pump Station Modification

Receiving Stream: Lower Beargrass Creek

Project Description: This project replaces the existing 27MGD NPS with a new 60 MGD NPS. Project includes 5780 LF of 42" force main.

Design Parameters / Assumptions: Pump Station is designed to divert flows from BGI and BGIR to the Southwestern Outfall.

Surrounding Area Land Use: This project area is located within 'Vacant & Undeveloped' property and southwest of CSO018.

Apparent Utilities Description: Proposed piping passes over gas, electric, and water lines

Capital Projects: 2007~Middle Fork Rehab Phase 2 - Awaiting Start

Advanced Site Restoration: The new pump station will incorporate green & LEED elements, plus include stream restoration adjacent to this facility. Though the hydraulic model predicts 0 CSO overflows, any relief structure will be designed to minimize erosion potential.

Estimated Capital Cost (2008): \$15,710,000

Capital Cost / Gallon Overflow Removed: N/A

Weighted Benefit / Cost Ratio (Capital Cost): N/A

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>
CSO018	Nightingale Pump Station	0.00	18.69	13	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**

South Fork Beargrass Creek
Solution ID # L_SO_MF_018_S_03_A_A
Nightingale Pump Station Replacement

**Preliminary - For Budget Development Only
Legend**

- PS Proposed Pump Station Solution
- Active CSO
- Eliminated CSO
- PS Pump Station
- Proposed Pipe Solution
- 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 700 feet
Scalable when printed on 11" X 17" paper

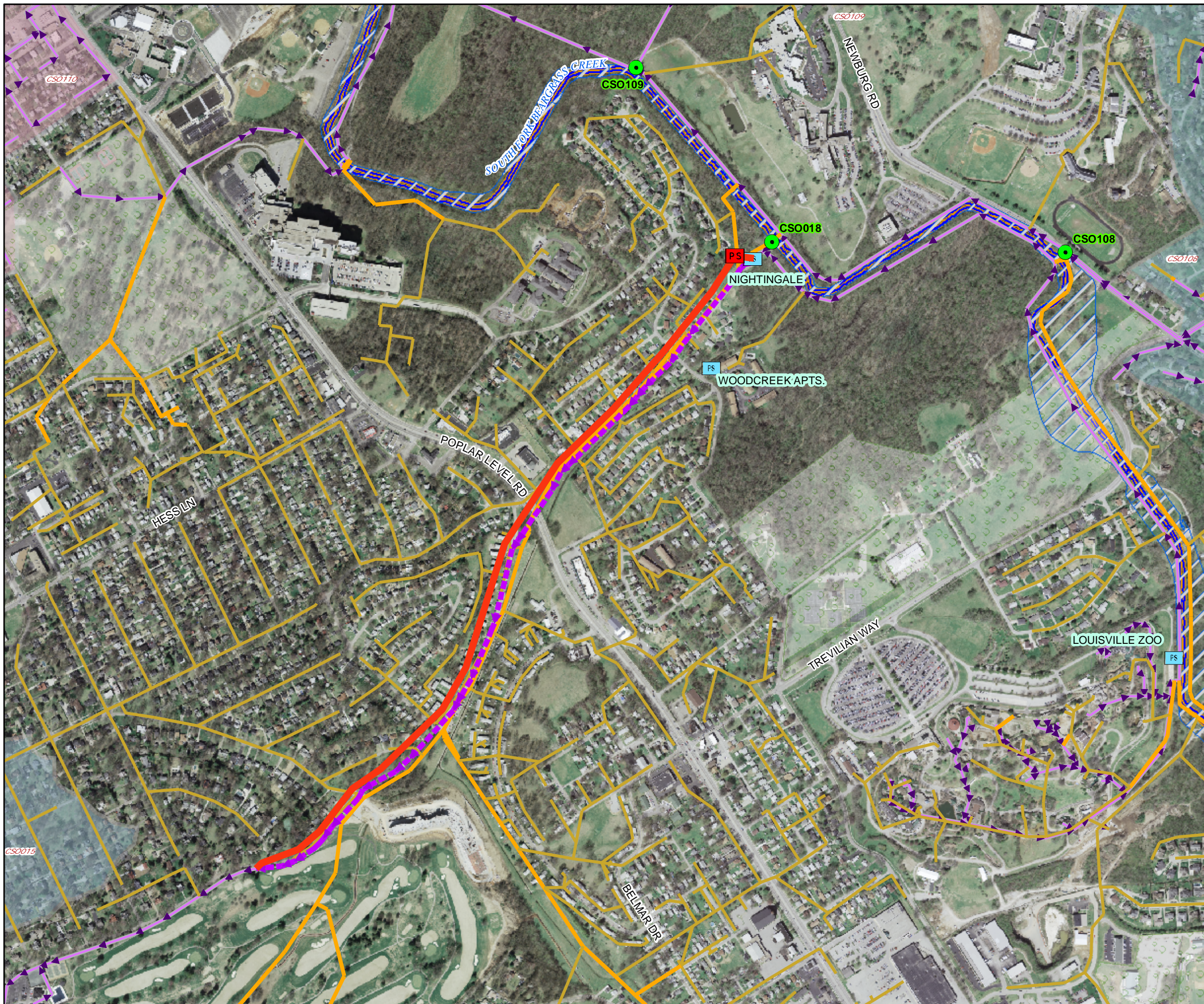


Some boundaries are uniquely symbolized within the map.

Map Revision
December 3, 2008
Aerial Date: 2006



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B

Project Name: **Nightingale Pump Station Replacement & Storage**

Project Type: Pump Station Modification & Offline Storage

Rec Stream: South Fork Beargrass Creek

Project Description: This project replaces the existing 27 MGD NPS with a new 33 MGD NPS and 2.7 MG in storage. Sewer rehabilitation upstream, including the Camp Taylor SSES, will be performed on the appropriate sections of sewer line upstream of the station, which effect wet weather reaction. The CSO weir will be reconstructed and possibly raised to increase in-line storage. Optimization of storage between Nightingale and Logan Street basins may also effect the final sizing of each. Project will control overflows to zero overflows in a typical year.

Design Assumption: Pump Station is designed to divert flows from BGI and BGIR into the Upper Dry Run Trunk leading to the Southwestern Outfall. Real Time Control at BGI gate will function as it currently does. BGI Gate at SED will be closed, and UMFPS will be diverted to HLI. Sewershed upstream of NGPS will be rehabbed through SSES Work.

Capital Cost: \$16,540,000

Capital Benefit/Cost: 14.63

Present Worth Benefit Cost: 15

CSO	CSO Name	Existing May 2012 ¹		Baseline May 2012 ²	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO018	NIGHTINGALE PS	107.04	23	18.70	16

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. 3 - Sanitary Sewer Discharge Plan
South Fork Beargrass Creek
Nightingale Pump Station Replacement
and Off-line Storage

Preliminary - For Budget Development Only

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

Replace existing 27 MGD pump station with new 33 MGD pump station with 2.7MG off-line storage. New pump station designed to 2yr storm.

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

1 inch = 200 feet



Aerial Date: 2009

Map Revision: April 9, 2012



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