



Louisville and Jefferson County Metropolitan Sewer District
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April 30, 2014

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

Jeff 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
US EPA Region 4
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303

Subject: I-64 and Grinstead Drive Storage Basin
Minor Project Modification
IOAP Project No. L_MI_MF_127_M_09B_B_A_8
DOJ Case No. 90-5-1-1-08254

Attention Chiefs and Director:

MSD is requesting approval of a proposed minor project modification to the I-64 and Grinstead Drive Storage Basin project (IOAP Project No. L_MI_MF_127_M_09B_B_A_8). This request is a revision to the request provided in our letter dated September 20, 2012. This modification is part of the ongoing adaptive management review of the approved 2009 IOAP that has been documented in the 2012 IOAP Modification to be formally submitted in 2014.

2009 IOAP Project Description

The original I-64 & Grinstead Drive Basin project involved the construction of a 2.74 million gallon (MG) storage basin to be completed by December 31, 2014, with an 8 overflows per typical year level of control.

2012 Project Modification Request

The project modification proposed in 2012 involved the construction of a 15.33 MG storage basin to be completed by December 31, 2020, with a 4 overflows per typical year level of control. Given the significant increase in proposed size, moving the scheduled completion to 2020 was proposed to allow for the incorporation of stormwater diversions and green infrastructure to be evaluated as a way to reduce the basin size.



Beneficial Use of Louisville's Biosolids
www.louisvillegreen.com

2014 Project Modification Request

The project modification request includes adjusting the basin size to 8.5 million gallons and adding a stormwater interceptor line along Grinstead Drive, allowing disconnection of existing storm sewers that currently drain 123 acres and discharge into the combined sewer system. As further enhancements to the project, MSD proposes adding green infrastructure principles and stream restoration in the flood plain, performing downspout disconnections and sewer redirections of properties in the Kennedy Avenue area, and providing green infrastructure incentives for private property stormwater disconnections along Grinstead Drive.

The primary CSO control mechanisms proposed are the storage basin and the storm sewer disconnections. The green infrastructure and stream restoration proposed is intended to mitigate the potential for increased stormwater peak flows into Beargrass Creek and its tributaries. The downspout disconnections and green infrastructure incentives described are enhancements to the basic CSO control approach that will provide additional overflow reduction, but are not required to achieve the targeted overflow level of control, which remains at 4 overflows per year per the 2012 modification request. The proposed completion date remains at December 31, 2020, per the 2012 modification request.

These modifications are part of the ongoing 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. This and all future proposed change will be justified in detail through minor modification letters addressing benefits, costs and program implementation refinements required.

Technical Justification

Since the 2009 IOAP submittal, additional flow monitors have been installed in the system and on the overflow structures. Detailed topographic surveys were conducted at many of the CSO structures. Furthermore, the drainage boundary and connectivity of the upstream areas was revised and validated using additional desktop features and field reconnaissance. The combined sewer system model was updated with the new data and re-calibrated based on the data from the additional flow monitors.

Additionally, the public requested that the use of green infrastructure be considered in this area in conjunction with gray infrastructure. Based on this request, MSD evaluated both stormwater diversions and green infrastructure to determine if they could be used to cost-effectively reduce the basin size.

A detailed evaluation of the basin identified a large area with separate stormwater systems discharging into the combined sewer system. Hydrologic and hydraulic modeling showed that these connections could be re-piped to discharge directly to surface water tributaries of Beargrass Creek, thereby reducing the basin size to 8.5 million gallons while still maintaining the 4 overflows per year level of control proposed in 2012. The evaluation also identified opportunities to increase the disconnection of downspouts, and

I-64 and Grinstead Drive Storage Basin
April 30, 2014
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providing green infrastructure incentives to property owners in the basin providing a further reduction in overflow volume beyond that required to achieve 4 overflows per year in the typical year.

For your reference, a copy of the project fact sheet and map from the 2012 modification request are in Attachment A. New project fact sheets and maps addressing this new project modification request 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 me at (502) 540-6000.

Sincerely,



Angela L. Akridge, PE
Regulatory Services Director

cc: G. Heitzman P. Purifoy

Attachments

Attachment A



CSO Project Fact Sheet
2012 IOAP Project Modification



Project Name: I-64 and Grinstead Drive Storage Basin

Project Type: Off-Line Storage

Rec Stream: Middle Fork Beargrass Creek

Project Description: This project is to provide a 15.33 MG off-line storage facility consisting of a covered concrete basin for CSO125, 126, 127 & 166 to reduce overflows to 4 overflows per typical year. The facility will be a gravity in-pump out operation. Extensive evaluation of stormwater diversion away from the combined sewer system and into green infrastructure practices is currently underway, with a high probability that the basin size can be reduced through these diversion. Project will be "right-sized" using a green/gray optimization approach.

Design Assumption: No backflow from Beargrass Creek is accounted for in model. Flapgates may need to be analyzed. Direct runoff from I-64 into outfall pipes is currently included in basin size. Separation may reduce basin size if cost effective. CSO 126 likely will be conveyed directly under I-64.

Capital Cost: \$48,591,000

Capital Benefit/Cost: 17.73

Present Worth Benefit Cost: 19.25

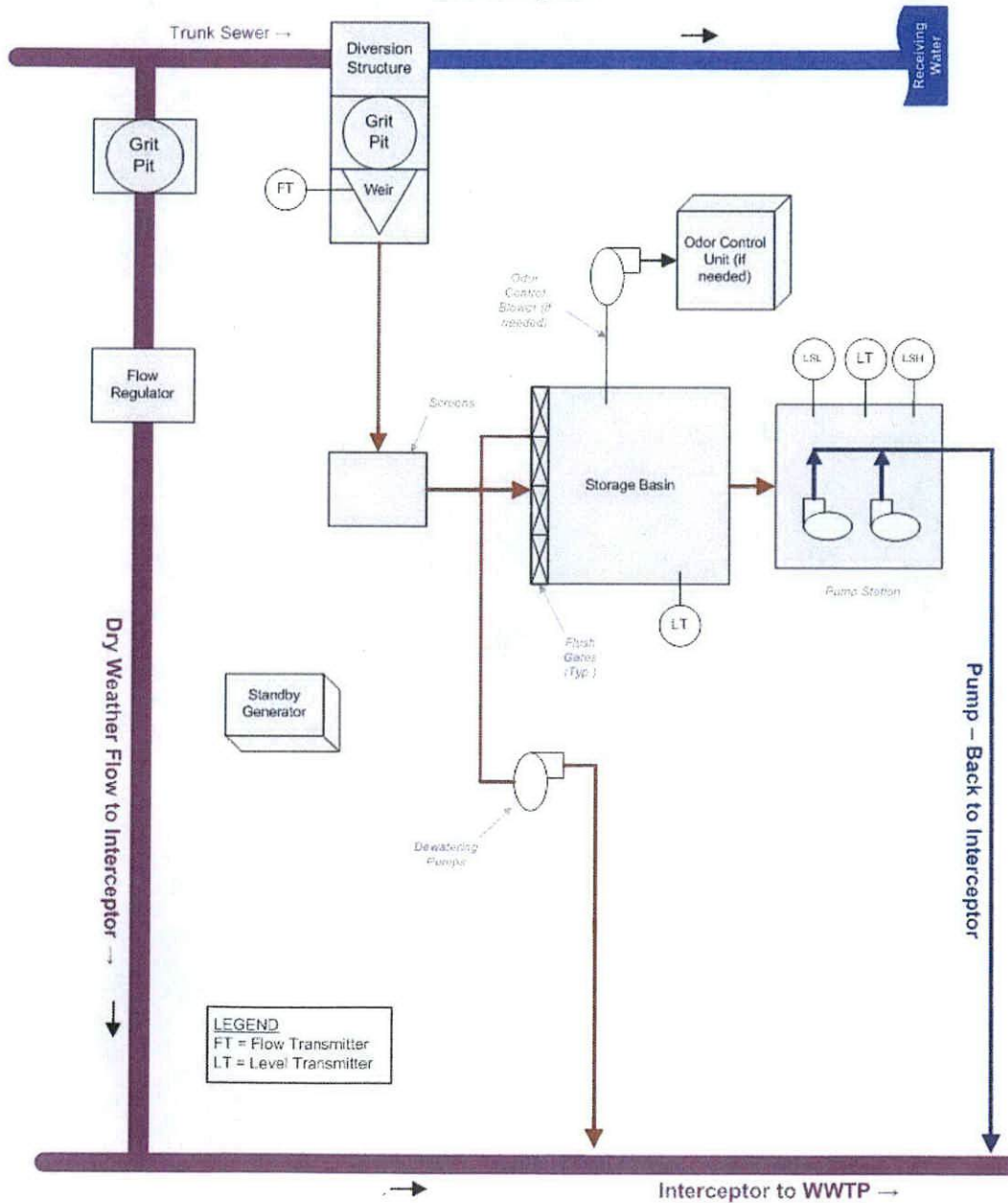
CSO	CSO Name	Existing May 2012 ¹		Baseline May 2012 ²	
		Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO125	REG NO 24 - GRINSTEAD DR	201.71	57	200.36	57
CSO126	REG NO 26 - RAYMOND AVE	5.55	27	3.93	24
CSO127	ETLEY AVENUE	9.71	30	9.40	30
CSO166	BEALS BRANCH SAN DIV	64.66	36	62.36	36

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.

CSO LTCP Project Fact Sheet

Off-Line Storage
Pumped Effluent
Flow Diagram
















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

Middle Fork Beargrass Creek

I-64 and Grinstead Drive Storage Basin

Preliminary - For Budget Development Only

-  Active CSO
-  Eliminated CSO
-  Proposed Pump Station Solution
-  Pump Stations
-  Proposed Pipe Solution
-  Combined Sewer Pipe
-  Force Main
-  Collector < 12"
-  Interceptor >= 12"
-  Streams
-  Proposed Storage Solution
-  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 = 200 feet

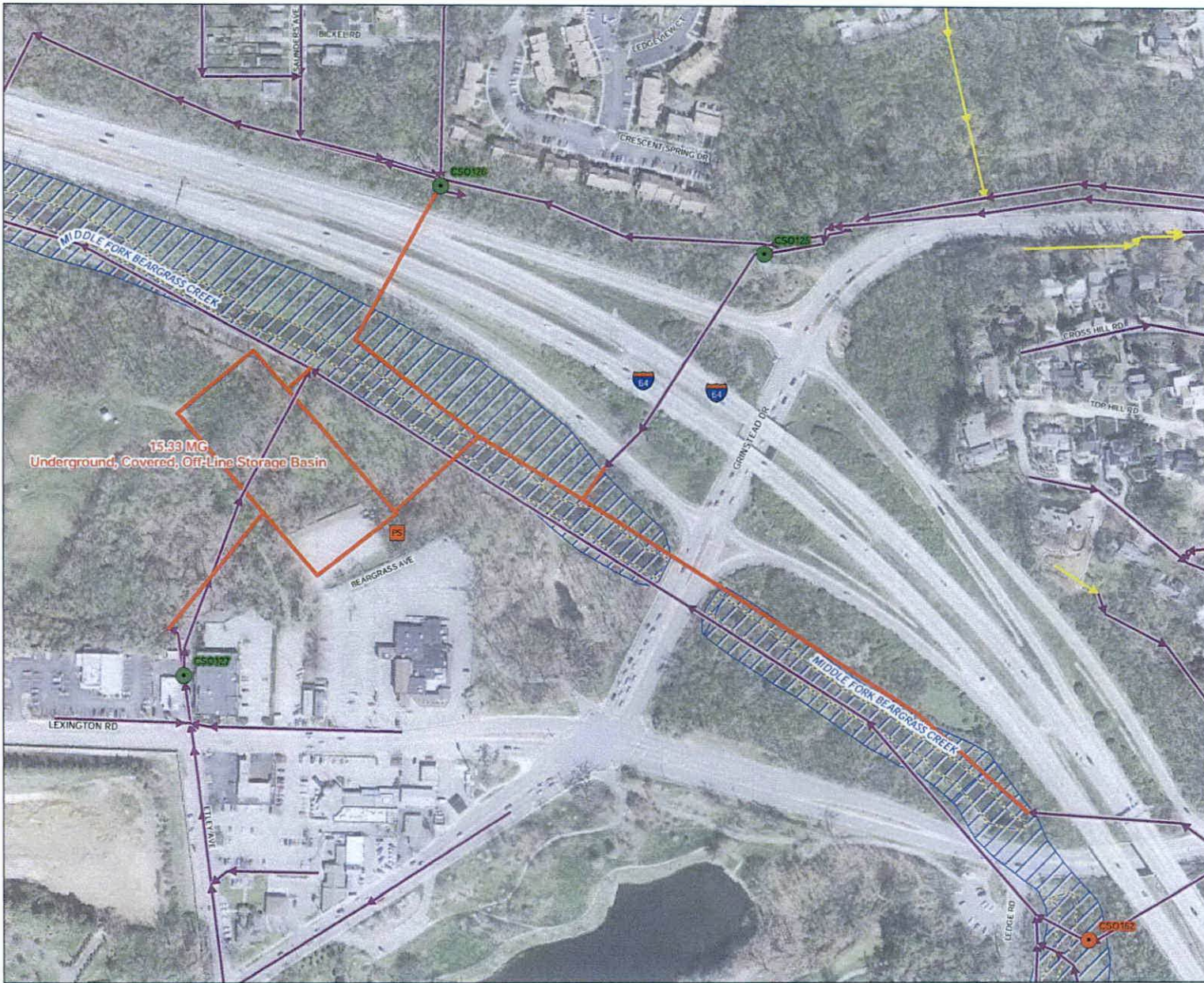


Aerial Date: 2009

Map Revision: April 9, 2012



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Attachment B



CSO Project Fact Sheet

2012 IOAP Project Modification



Project Name: I-64 and Grinstead Drive Storage Basin

Project Number: L_MI_MF_127_M_09B_B_A_8

Project Type: Off-Line Storage

Rec Stream: Middle Fork Beargrass Creek

Project Description: This project is to provide a 8.5 MG off-line storage facility consisting of a covered concrete basin for CSO125, 126, 127 & 166 to reduce overflows to 4 overflows per typical year. The facility will be a gravity in-pump out operation. A significant stormwater diversion away from the combined sewer system is also proposed.

Design Assumption: No backflow from Beargrass Creek is accounted for in model. Flapgates may need to be analyzed. Direct runoff from I-64 into outfall pipes is currently included in basin size. Separation may reduce basin size if cost effective. CSO 126 likely will be conveyed directly under I-64.

Capital Cost: \$38,590,000

Capital Benefit/Cost: 17.73

Present Worth Benefit Cost: 19.25

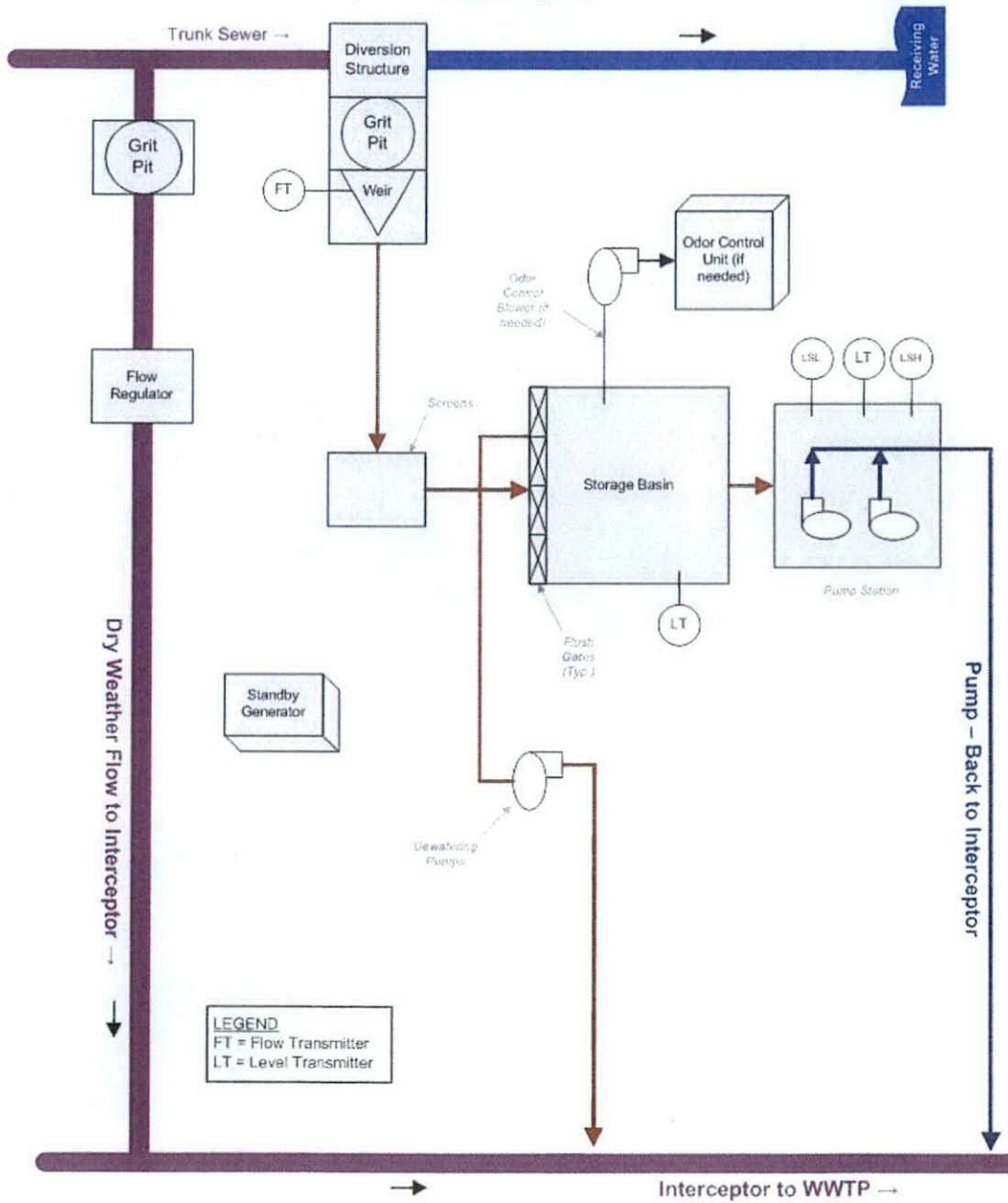
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CSO LTCP Project Fact Sheet

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


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I-64 and Grinstead Drive Storage Basin

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-  Streams
-  Proposed Storage Solution
-  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 = 500 feet  Aerial Date: 2009 Map Revision: April 14, 2014



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