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: Paddys Run Wet Weather Treatment Facility
Minor Project Modification
IOAP Project No. L_OR_MF_015_M_13_B_B_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 Paddys Run Wet Weather Treatment Facility project (IOAP Project No. L_OR_MF_015_M_13_B_B_8). 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 Paddys Run Wet Weather Treatment Facility included the construction of the 50 million gallons per day (MGD) high rate treatment (HRT) facility and 9.6 million gallons (MG) of in-line storage in the Southwestern Outfall. The facility was originally sited near the existing Paddys Run Flood Pump Station and was scheduled to be completed by December 31, 2014.

Proposed Project Modification

The newly proposed project includes the construction of 25 MG of off-line storage, a 50 MGD HRT facility and an upgrade of the existing Southwestern Pump Station from 105 MGD to 160 MGD to be completed by December 31, 2016.

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

In the 2009 IOAP the location of this facility was near the Paddys Run Flood Pump Station, just inside the flood control levy. The land was MSD property and in close proximity to the Southwestern Outfall, which was intended to be used for approximately 11 million gallons of in-line storage. During preliminary design, MSD pursued an easement or fee-simple land purchase for a construction and operating access point that would be under MSD's full control.

Current operating access to the flood pump station is from the south, through a chemical manufacturing plant owned by DuPont. This access requires MSD and contractor vehicles to pass through DuPont's secure gate, and follow DuPont's internal safety and security requirements. This would not be acceptable for a wet weather treatment facility that requires 24-hour a day access for chemical delivery, grit and screenings haulers, and system operators. Attempts to negotiate an MSD-controlled access through the DuPont plant failed, with DuPont citing Homeland Security Act regulations that prohibit the type of access MSD needs.

MSD then attempted to negotiate access from the north, through a Louisville Gas & Electric (LG&E) power generation and switchyard. Similar problems with security were encountered, in addition to design issues with turning radius and grade changes that would make chemical delivery and construction access very challenging.

MSD also evaluated the remainder of the Southwestern Outfall pipeline route. MSD's easements and owned property parcels along this route are narrow and follow very rough terrain of the Paddys Run stream channel. None of that route was deemed suitable for this facility.

The location ultimately selected is property near the existing Southwestern Pump Station and at the outfall for CSO 015 and CSO 191 (called the Southwestern Outfall, which the Paddys Run Wet Weather Facility will control.) This property is close enough to the Southwestern Pump Station that upgrades to this facility can replace the new 50 MGD pump station originally proposed. The disadvantage of this site is that it cannot make use of the in-line storage potential of the Southwestern Outfall, since the property is upstream of most of the volume of this pipe.

As such, storage required for this facility must be provided off-line through a new storage basin. MSD is currently in the process of purchasing this property, which includes developing an approach to properly mitigate contamination issues arising from previous land uses on the site in addition to negotiating the

purchase price. Assuming contamination issues are not difficult to remediate, MSD intends to purchase this property either through negotiation or condemnation.

Over the past two years, as part of the ongoing model recalibration and refinement described in Volume 1, Chapter 6 of the 2009 IOAP, MSD conducted a major recalibration of the combined system model utilizing new flow monitoring data and upgraded hydrology as well as a review of the real time control (RTC) operating rules for the combined sewer system. As a result of these efforts, MSD determined that approximately 25 MG of storage is required at the wet weather treatment facility site, rather than the 11 MG of in-line storage in the approved 2009 IOAP.

As noted previously, MSD is now proposing the upgrade of the existing Southwestern Pump Station from a 105 MGD maximum pumping rate to 160 MGD rather than the construction of a new 50 MGD pump station. Finally, the 50 MGD HRT capacity originally proposed in the 2009 IOAP is still accurate in the newly proposed project sizing.

The level of control proposed in the 2009 IOAP was to reduce CSO 015 and CSO 191 to eight overflows in the typical year. MSD re-analyzed the level of control using the same stakeholder- defined benefit/cost approach for the revised project location, size and configuration. The same level of control was confirmed to be the one that scored highest in the benefit/cost analysis.

The approved IOAP shows the Paddys Run Wet Weather Treatment Facility being complete and operational by December 31, 2014. The significant changes proposed for this project, both in location and size, make achieving this completion date impractical. Assuming MSD is successful in purchasing the property for the site in 2012, design and construction of this revised project is expected to be completed by December 31, 2016. A significant part of the time required is related to modifying and expanding the Southwestern Pump Station. Completing major construction on this pump station while keeping at least half of it in service at all times adds considerable time to the overall schedule.

An additional driver for the schedule change is the need to design, permit, and execute a site remediation plan prior to the start of facility construction. MSD expects that constraints on construction operations will also add time to the construction duration, contributing to the need to push the completion date to the end of 2016.

For your reference, a copy of the original project fact sheet and map from the 2009 IOAP are in Attachment A. New project fact sheets and maps reflecting the creation of separate projects for the two in-line storage facilities on the Southern Outfall 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.

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_OR_MF_015_M_13_B_B_8*
Project Name:	Paddy's Run Wet Weather Treatment Facility
Project Type:	RTC with Treatment
Receiving Stream:	Ohio River
Project Description:	This project is to provide a 50 MGD RTB High Rate Treatment Facility and ILS for CSO015 and 191 to reduce overflows to eight overflows per year. The basin is located in the vicinity of the Paddy's Run FPS adjacent to the outfall.
Design Parameters / Assumptions:	The HRT is started at the beginning of the event and RTC is used to store 9.6 MG in the outfall during the peak of the event. The basin is located in the vicinity of the Paddy's Run FPS adjacent to the outfall.
Surrounding Area Land Use:	Project is located within 'Industrial' & 'Vacant and Undeveloped' property, which includes the MSD flood protection system and Paddys' Run Creek.
Apparent Utilities Description:	Prim. OH elec. ln. passes through the proposed basin
Capital Projects:	2009~FY08/09 CD-1 Drainage Improvement - Awaiting Start; 2013~ Campground Rd. @ Cane Run Rd.; RTC @ Southwestern Outfall (SWOR1)
Advanced Site Restoration:	N/A
Estimated Capital Cost (2008):	$24,940,000
Capital Cost / Gallon Overflow Removed:	$0.24
Weighted Benefit / Cost Ratio (Capital Cost):	8.05

Overflow Points Addressed:

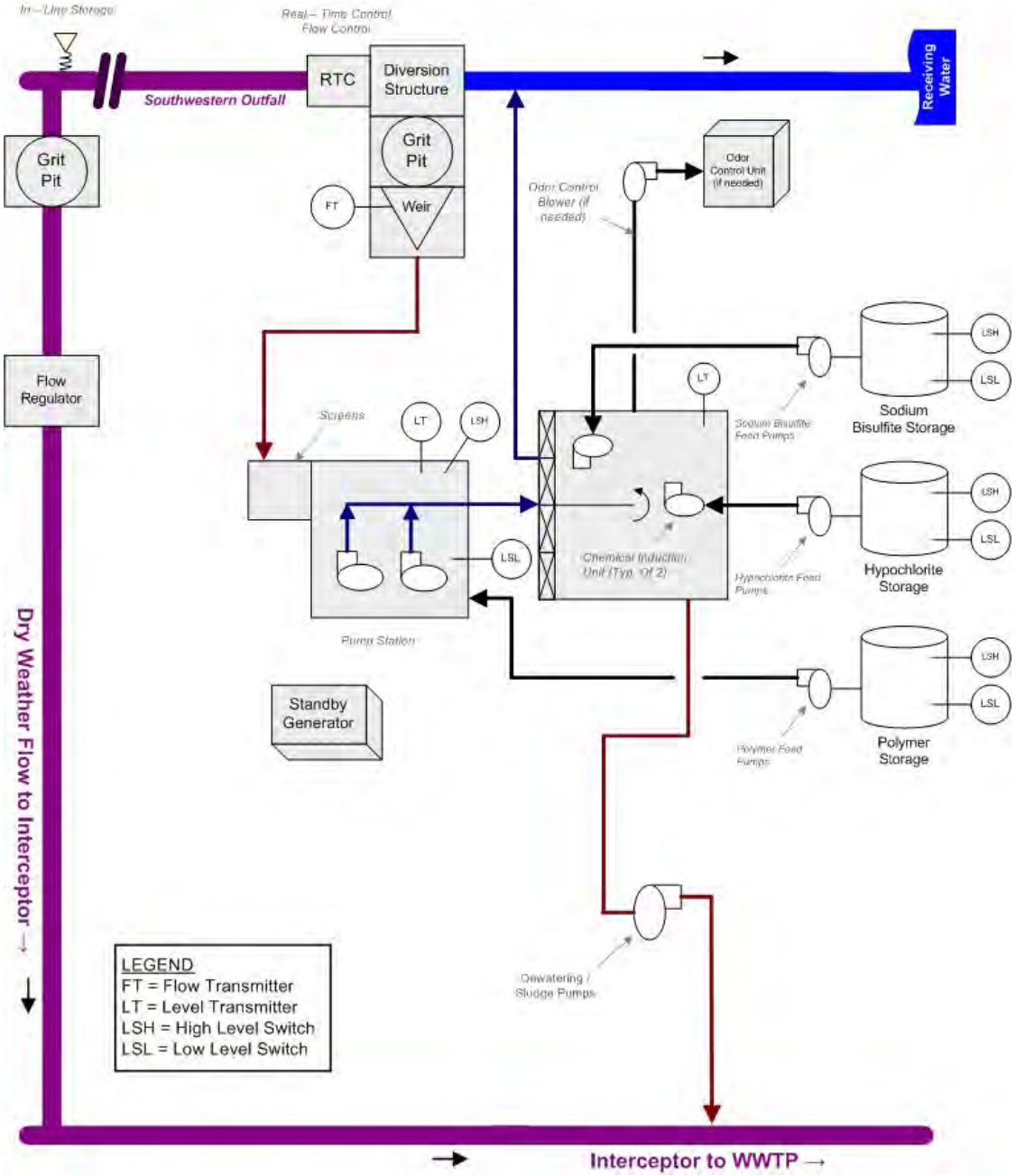
CSO Number	CSO Name	CSO Area (Acres)	2008 AAOV (MG / Yr)	# of Overflows / Yr	Post LTCP AAOV (MG/Yr)	Post LTCP # Overflows / Year
CSO015	Southwestern Pump Station	7,496.70	494.56	61	290.82	8
CSO191	Algonquin Parkway Sanitary Diversion	339.75	32.42	19	22.96	8

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

CSO LTCP
Project Fact Sheet

LTCP Project Number: *L_OR_MF_015_M_13_B_B_8*

Hybrid Technology:
Retention Treatment Basin with Real-Time Control
Process Flow Diagram



Integrated Overflow Abatement Plan

Volume 2 - Final CSO Long-Term Control Plan

Ohio River
Solution ID # L_OR_MF_015_M_13_B_B_8
Paddy's Run Wet Weather Treatment Facility

Preliminary - For Budget Development Only

Legend

- Active CSO
- Eliminated CSO
- Proposed Flow Control Solution
- Proposed Pump Station Solution
- Pump Station
- Proposed Pipe Solution
- Force Main
- Collector < 12"
- Interceptor => 12"
- Combined Sewer Pipe
- Flood Wall
- Proposed Storage Solution
- Floodway
- Metro Parks
- Streams

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

1 inch = 200 feet
Scaleable when printed on 11"x17" paper

Some boundaries are uniquely symbolized within the map.

Map Revision
Mar 13, 2009

Aerial Date: 2006

N

PADDY'S RUN FLOOD PS

PS

Automated Gate just upstream of Paddy's Run FPS

50 MGD
HTB High Rate Treatment Facility

RUBBERTOWN

PS

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MSD

Metropolitan Sewer District

ATTACHMENT B

Project Name: Paddys Run Wet Weather Treatment Facility

Project Type: High Rate Treatment & Off-Line Storage

Rec Stream: Ohio River

Project Description: This project is to provide a 50 MGD Retention Treatment Basin to serve as a high rate treatment facility, a 25 MG earthen basin off-line storage for CSO015 and 191 to reduce overflows to 8 overflows per typical year. The project also includes an expansion of the Southwestern Pump Station to 160 MGD. The treatment and storage basins are located in the vicinity of the Southwestern PS adjacent to the outfall.

Design Assumption: The HRT is started at the beginning of the event and flow is pumped to the off-line storage basin after the capacity of the HRT is reached. After the off-line storage is used, in-line storage in SWOR1 and SWOR2 are used to further attenuate the peak flow. The project is located in the vicinity of the Southwestern PS adjacent to the outfall. Morris Forman WQTC receives 325 MGD from the gravity Main Diversion Structure and Southwestern Pump Station is modulated to maximize gravity flow to Morris Forman.

Capital Cost: $34,400,000

Capital Benefit/Cost:

Present Worth Benefit Cost:

		Existing May 2012[1]		Baseline May 2012[2]	
CSO	CSO Name	Avg. Annual Overflow Volume	Avg. Annual Frequency	Avg. Annual Overflow Volume	Avg. Annual Frequency
CSO015	SOUTHWESTERN PS	1249.68	56	722.13	46
CSO191	ALGONQUIN PKWY SAN DIV	31.71	27	20.27	22

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.

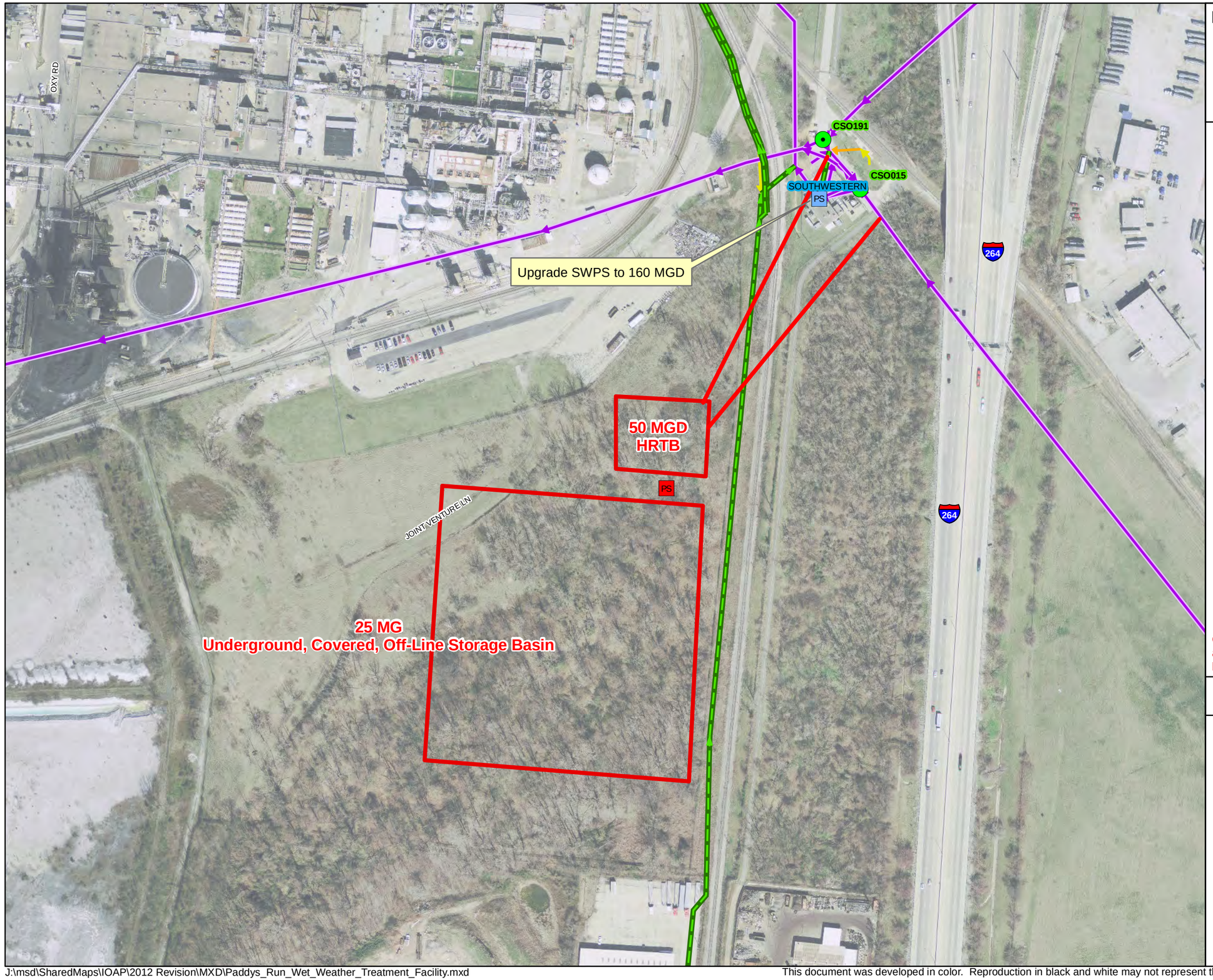
Integrated Overflow Abatement Plan

Vol. 2 - Final CSO Long Term Control Plan

Phio River

Paddy's Run Wet Weather Treatment Facility

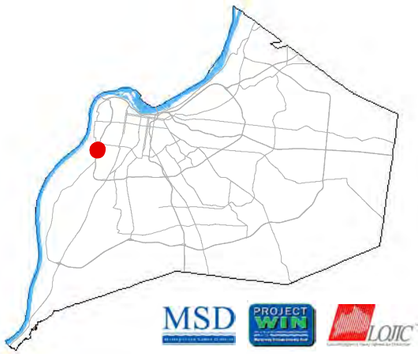
Preliminary - For Budget Development Only



- Active CSO
- Eliminated CSO
- Proposed Pump Station Solution
- Pump Stations
- Proposed Pipe Solution
- Combined Sewer Pipe
- Force Main
- Collector < 12"
- Interceptor >= 12"
- Drainage Mains
- Proposed Storage Solution
- 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 = 200 feet	N	Aerial Date: 2009	Map Revision: April 9, 2012



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