



Cleveland

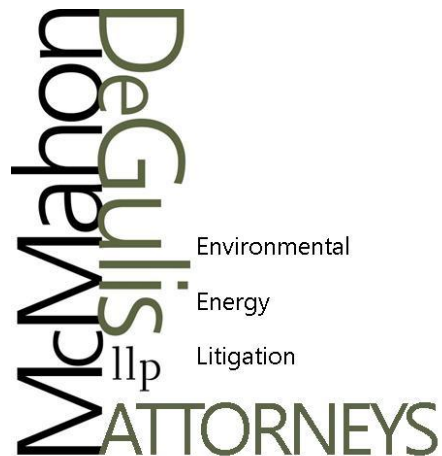


Columbus



Cincinnati

Integrated Planning and MSDGC's Lower Mill Creek WWIP Implementation



**NACWA Summer Conference
July 15, 2013**

Lou McMahon

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MSD Background

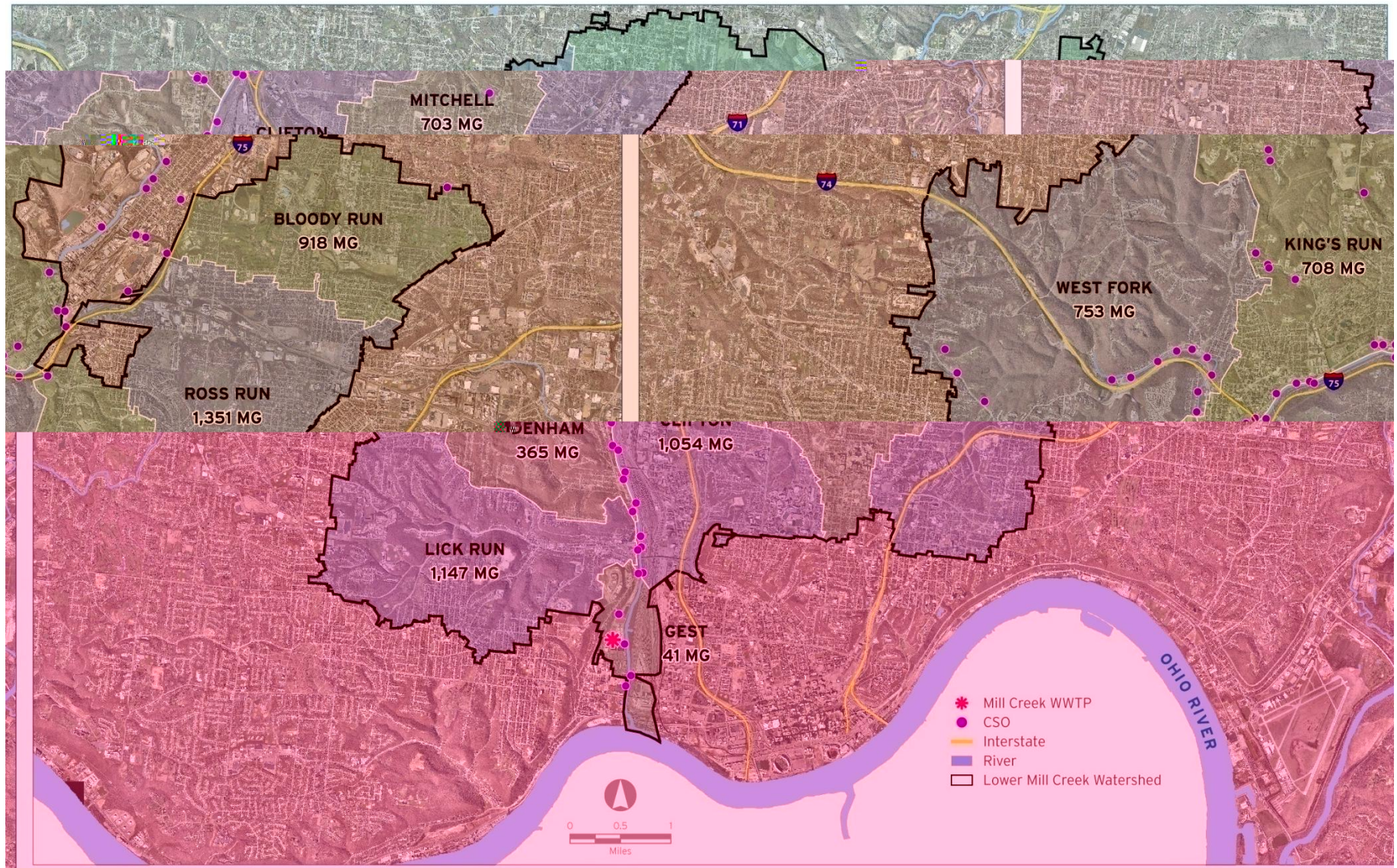
- Approximately 14 billion gallons CSO annually in system serving approximately 250,000 households
- Significant ongoing CSO & SSO work
- Challenging economic trends
- 2004 “Global Consent Decree” required WWIP by 2006 with schedule “as expeditious as practicable”
- 2006 WWIP submittal = \$1.99 billion plan based on affordability and community priorities
 - Focused on watersheds other than Mill Creek where limited dollars could have big impact

Cincinnati, Hamilton County, Ohio



- Publicly Owned/Operated Wastewater Utility Serving Southwest Ohio (Hamilton County)
- Serves a Population of about 855,000
 - 230,000 Residential and 250 Industrial Users
 - Operates 7 Wastewater Treatment Plants; treating 70 Billion Gallons/yr

Lower Mill Creek Study Area



Annual CSO Volume: 7.6 billion gallons

MSD WWIP Negotiations

2006 until 2008

- Continuing analysis and discussion of affordability
- Regulators focus on Lower Mill Creek
- Extensive review of green infrastructure, as a potential cost-saving opportunity

 Impasse

- November 2008-March 2009
 - Extensive focus on implications of WWIP in bond market
 - 'Early phase' Lower Mill Creek options

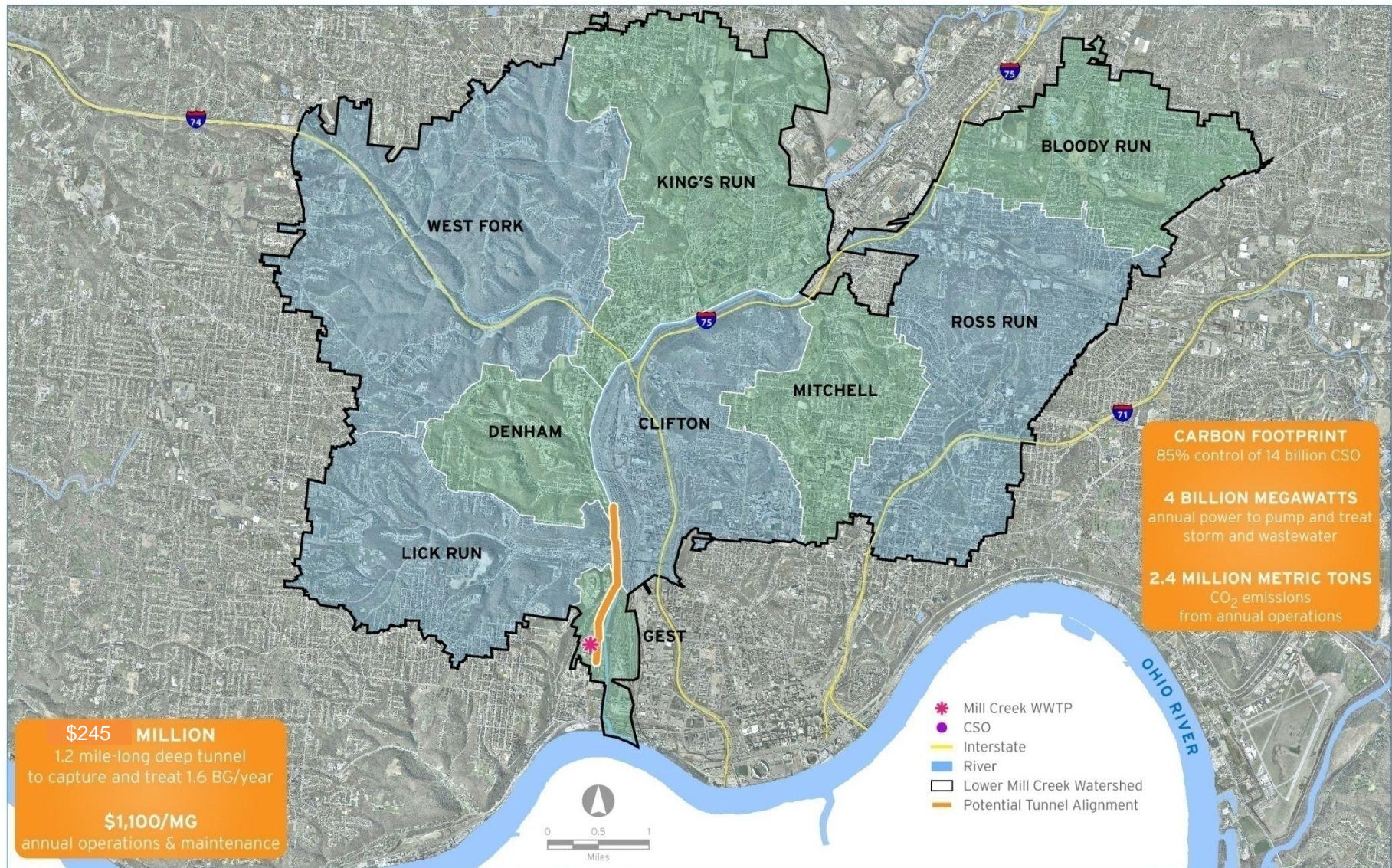
WWIP Strategy Considerations

- Protect affordability by retaining bond protection and potential project flexibility within foreseeable planning horizon
- Create the “space” within the WWIP to enable opportunities for “2 for 1” for any large capital commitments
- Coordinate among all municipal and governmental partners and private where possible to reconcile competing demands of regulatory priority
- **“Don’t make us spend all of our community’s 21st century resources on a 20th century solution to retrofit 19th century infrastructure”**

MSD WWIP-Lessons Learned

- Economic argument very compelling
 - Especially bond market implications: “interest penalty”
- Regulators loathe to set RI/MHI precedent
 - Phased approach avoided precedent of “firewall”
 - Preserved “as expeditious as practicable” as scheduling guide, including affordability factors
- Specific protections based on affordability concerns
 - Bonds and Phase 1 schedule
- Flexibility to realize savings based on green or other changes in technology or control measure approaches
 - Lower Mill Creek Study

Lower Mill Creek Default Solution



Default Solution is a Deep Tunnel to convey and treat 1.6 BG
Opportunity to submit an alternative by December 2012

MSD Final WWIP- LMC Study

- LMC provisions-Paragraph A.2.a
 - Additional time until 2012 to study green, sustainable or other alternatives to LMC Partial Remedy default project
 - Any alternative must capture as much in the LMC as default and be completed by 2018
 - Alternative must be able to work within overall concept for LMCFR
- Default grey solution quickly understood to cost more than anticipated in planning level analysis
- MSD thoroughly investigates “watershed/integrated” approach by necessity

Wet Weather Strategy

Real Time Control

- Low cost/gallon removal
- Limited opportunity – 4 locations within Lower Mill Creek: installation complete
- Estimated reduction of approximately 610 MG (400 MG credited towards 2 BG)

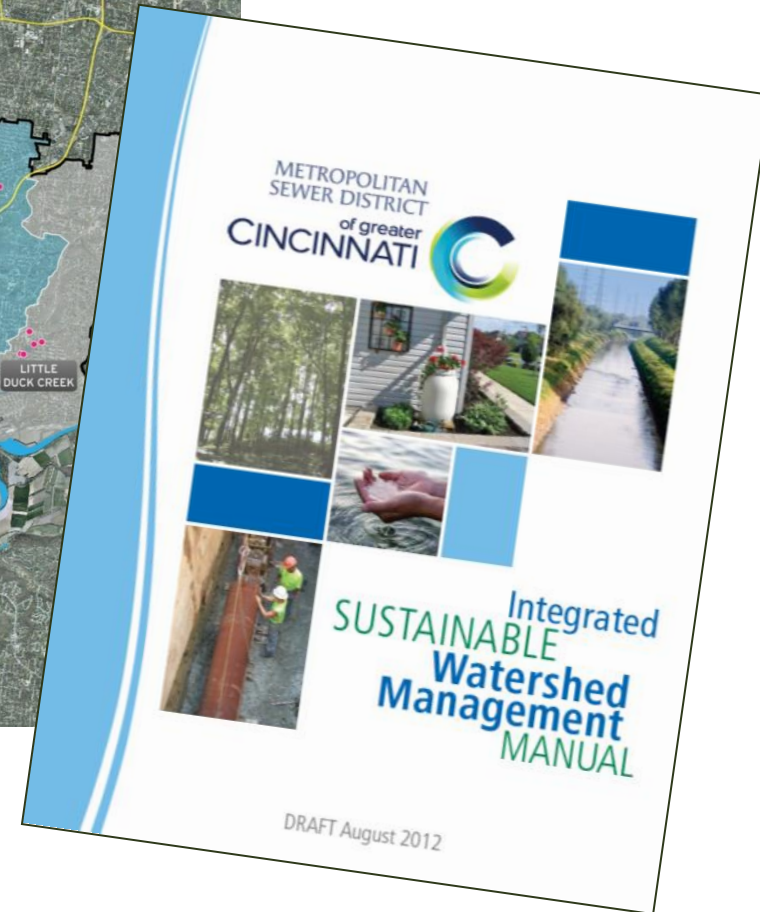
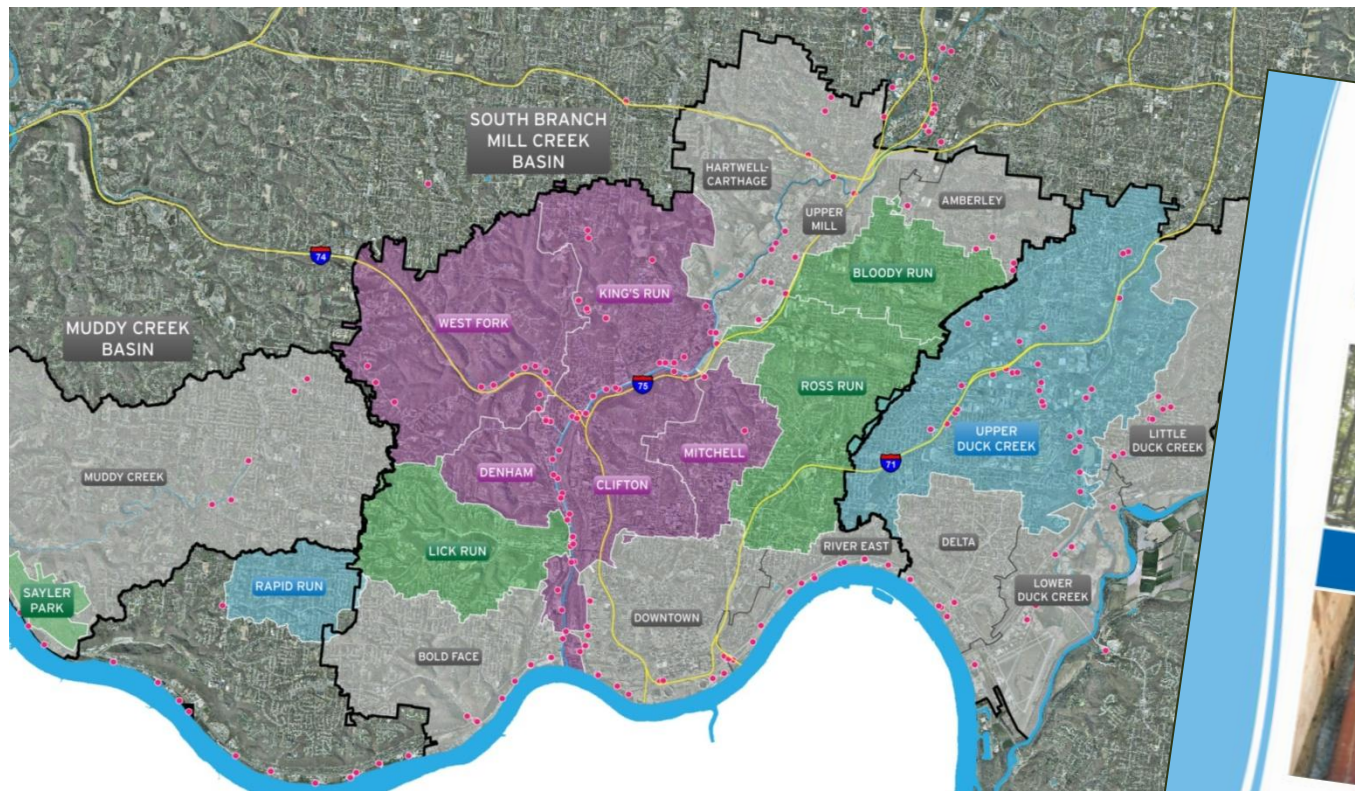
Storage, Conveyance & Treatment

- High Capital Cost - Phase 1 Tunnel (7600 ft) to capture 1.6 BG
- High O&M Cost: pumping & treating large volume of stormwater

Source Control

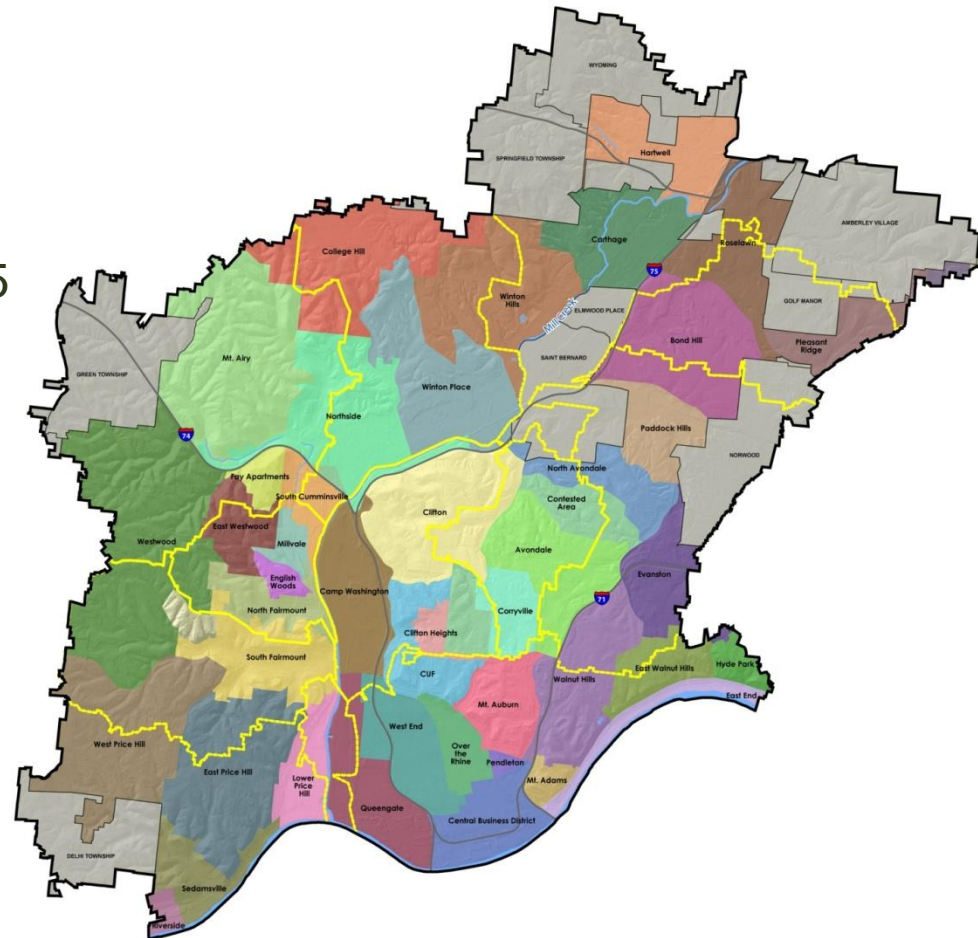
- Lower cost/gallon removal
- Strategic focus on large scale opportunities
- Lowers future O&M cost by removing stormwater from pumping & treatment
- Improves water quality and increases natural drainage to Mill Creek

MSD Sustainable Watershed Evaluation Planning



Integrated Planning for CSO Reduction, Transport/Transit, Environment & Affordable Housing, Brownfield Redevelopment

- Lower Mill Creek Watershed
 - MSD CSO Reduction Planning
 - Revive 75 & ODOT Planning for I-75
 - Cincinnati Comprehensive Planning
 - Go- Cincinnati Plan
 - Multi-modal Plans
 - Greenway Master Plan
 - Strategic Property Urban Reuse Districts



USEPA Memo – June 12, 2012



Nancy Stoner, County Commissioner Portune, Director Parrott



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN -5 2012

MEMORANDUM

SUBJECT: Integrated Municipal Stormwater and Wastewater Planning Approach Framework

FROM:

Nancy Stoner
Acting Assistant Administrator
Office of Water

Cynthia Giles
Assistant Administrator
Office of Enforcement and Compliance Assurance

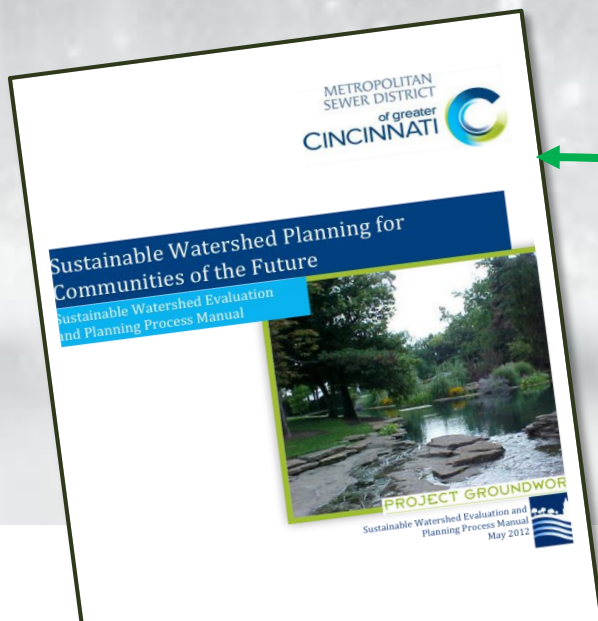
TO:

EPA Regional Administrators
Regional Permit and Enforcement Division Directors

In recent years, EPA has increasingly embraced integrated planning approaches to municipal wastewater and stormwater management. EPA further committed to work with states and communities to implement and utilize these approaches in its October 27, 2011

memorandum "*Achieving Water Quality Through Municipal Stormwater and Wastewater Plans.*" Integrated planning will assist municipalities on their critical paths to achieving the human health and water quality objectives of the Clean Water Act by identifying efficiencies in implementing requirements that arise from distinct wastewater and stormwater programs, including how to best prioritize capital investments. Integrated planning can also facilitate the use of sustainable and comprehensive solutions, including green infrastructure, that protect human health, improve water quality, manage stormwater as a resource, and support other economic benefits and quality of life attributes that enhance the vitality of communities.

To provide further guidance on developing and implementing effective integrated plans under this approach, we have developed, with extensive public input, the attached Integrated Municipal Stormwater and Wastewater Planning Approach Framework document. We are posting the framework document on our website and, as they become available, will provide practical examples of how municipalities are implementing this approach. We would like to thank Regions 2, 4, 5, 7 and 10 for their assistance in conducting public workshops to gain input on the draft framework. We encourage all Regions to work with their States to identify



November 2011

Guidance Pertaining to Consideration of Any Proposed Revised Original Lower Mill Creek Partial Remedy Defendants May Choose to Submit in Accordance With Paragraph A.2 of the Wet Weather Improvement Program
Draft for Discussion

Under the consent decrees between the United States, State of Ohio and Ohio River Water Sanitation Commission (the Regulators); and the Board of County Commissioners for Hamilton County and City of Cincinnati (Defendants), Defendants are required under to construct the Lower Mill Creek Partial Remedy (LMCPR) described in Attachment 1C to the Wet Weather Improvement Program (WWIP); in accordance with the schedule, performance criteria and design criteria set forth in Attachments 1A and 1B of the WWIP.

Paragraph A.2.a of the WWIP provides:

Phase 1 will include a 3-year study/detailed design period to examine green measures and other measures to refine the Original LMCPR approach and cost estimates. Defendants may submit to the Regulators proposed changes to, or improvements on, the Original LMCPR remedy as a result of this study, provided the proposed revised remedy ("Revised Original LMCPR") provides equal or greater control of CSO annual volume as the Original LMCPR and is completed by the Phase 1 End Date. Defendants shall submit to the Regulators a LMCPR Study Report and any proposal for a Revised Original LMCPR by December 31, 2012.

The purpose of this document is to provide the Metropolitan Sewer District of Great Cincinnati (MSDGC) with guidance on certain issues that Defendants should consider if they choose to submit a proposed Revised Original LMCPR to the Regulators in accordance with Paragraph A.2.a of the WWIP. This document does not replace, revise, or amend the WWIP itself, or the consent decrees.

EPA Guidance for Alternative

- Primary means of determining if green control measures are equivalent to grey is via model runs.
- Additional Regulator concerns:
 - Costs and schedule
 - Description of ongoing public ownership and/or control
 - Identification of changes/replacements to other grey infrastructure
 - Stakeholder outreach and public participation
- EXTENSIVE technical engagement with Regulators

LMC Strategy = Integrated Planning

- Maximized use of the legal “space” to enable opportunities for “2 for 1” for the large capital commitment that reconciled competing demands of regulatory priority
- “Don’t make us spend all of our community’s 21st century resources on a 20th century solution to retrofit 19th century infrastructure”
- Result is an approved alternative that saves hundreds of millions of ratepayer dollars, and invests the ratepayer dollars on the surface to improve community, water quality and compliance:
 - Lower capital and life-cycle cost;
 - Coordination with transportation, brownfields and economic development expenditures

Comments? Questions? Discussion?

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