

STAKEHOLDER ADVISORY COMMITTEE

Meeting 5: CSO Reduction – Levels of Control Discussion

Metropolitan St. Louis Sewer District
December 4, 2008



Meeting Objectives

- Review SAC progress
- Learn about possible LTCP controls for waterways
- Revisit and prioritize level of control scenarios
- Discuss potential community concerns
- Find out about upcoming open houses



SAC Progress

- Kickoff – January 24, 2008
 - Learned about MSD, the region’s existing sewer conditions, CSOs and SSOs, and the Clean Rivers public engagement program
- Meeting 2 – April 24, 2008
 - Took seven site tour of key district operations and CSO sites
- Meeting 3 – July 31, 2008
 - Reviewed water quality in St. Louis rivers and streams
- Meeting 4 – October 16, 2008
 - Prioritized waterways based upon CSO impacts and developed level of control scenarios



SAC Waterway Priorities

Receiving Stream	Combined Average Rating	SAC's Rationale
Upper River Des Peres	4.25	<ul style="list-style-type: none"> ■ CSO volumes large compared to stream flow ■ Area largely residential, lots of public contact
River Des Peres (Lower & Middle)	4.08	<ul style="list-style-type: none"> ■ A number of adjacent trails and parks along river ■ Meets water quality standards less than half of the time ■ CSO volumes very large when compared to stream flow
River Des Peres Tributaries	4.08	<ul style="list-style-type: none"> ■ Area largely residential ■ CSO volumes significant compared to stream flow
Gingras Creek	3.83	<ul style="list-style-type: none"> ■ Has only one CSO outfall ■ Runs through largely residential community and school
Maline Creek	3.67	<ul style="list-style-type: none"> ■ Affected part of creek largely inaccessible to public ■ CSO volumes small compared to stream flow
Mississippi River	3.42	<ul style="list-style-type: none"> ■ Everything done on other waterways positively impacts MS. ■ MS largely bounded by industrial and commercial uses w/ limited public access ■ CSO volumes on MS small compared to stream flow

Five Point Likert Scale: 5 = Very high level of concern, 4 = High level of concern, 3 = Moderate level of concern, 2 = Low level of concern, 1 = Very low level of concern



LTCP Controls – Upper River Des Peres

- Express sewer for separate sanitary sewer areas
- Sewer separation
 - Separate isolated pockets of combined sewers if possible
- Encourage green infrastructure to reduce wet weather flows
- Source controls (street sweeping, litter control, proper waste disposal)
- Underground (tunnel) storage of wet weather flows



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LTCP Controls – Lower & Middle River Des Peres

- Eliminate influence of high river stage on combined sewer system
- Expand wet-weather treatment capacity of Lemay Plant
- Sewer separation
 - Separate small pockets of combined sewers if possible
- Encourage green infrastructure to reduce wet weather flows
- Source controls (street sweeping, litter control, proper waste disposal)
- Underground (tunnel) storage of wet weather flows



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LTCP Controls – River Des Peres Tributaries

- Sewer separation
 - Separate isolated pockets of combined sewers if possible
- Encourage green infrastructure to reduce wet weather flows
- Source controls (street sweeping, litter control, proper waste disposal)
- Underground storage (tunnel) of wet weather flows



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LTCP Controls – Gingras Creek

- Sewer separation
 - Separate 3 large storm sewers connected to combined sewer system
- Elimination of CSO
 - By extending sewer to the Baden Trunk Sewer



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LTCP Controls – Maline Creek

- Eliminate influence of high river stage on combined sewer system
- Sewer separation
 - Separate two small combined sewer systems
- Encourage green infrastructure to reduce wet weather flows
- Source controls (street sweeping, litter control, proper waste disposal)
- Local treatment of wet weather flows



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LTCP Controls – Mississippi River

All of the above, plus:

- Eliminate influence of high river stage on combined sewer system
- Expand wet-weather capacity of Bissell Point Treatment Plant
- Optimize Bissell Point Pump Station to maximize wet weather flow pumped to plant
- Separate major industrial sources from combined sewer system
- Sewer Separation
 - Separate small combined sewer systems (at far northern and southern extremities of the combined sewer area) if possible
- Encourage green infrastructure to reduce wet weather flows
- Source controls (street sweeping, litter control, proper waste disposal)
- Potential underground storage/tunnel of wet weather flows



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Encouraging Green Infrastructure

Ways MSD can encourage green infrastructure:

- Work with communities, developers and individuals

Types of green infrastructure:

- Rain gardens and other types of infiltration devices
- Green roofs
- Rain barrels
- Stormwater detention
- Pervious pavement
- Sewer separation



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Current Wet Weather Overflow Conditions

- Mississippi River ~ 50 overflows / yr
- River Des Peres (lower & Middle) ~ 50 overflows / yr
- Upper River Des Peres ~ 50 overflows / yr
- River Des Peres Tributaries ~ 50 overflows/yr
- Maline Creek ~ 30 overflows / yr
- Gingras Creek ~ 30 overflows / yr



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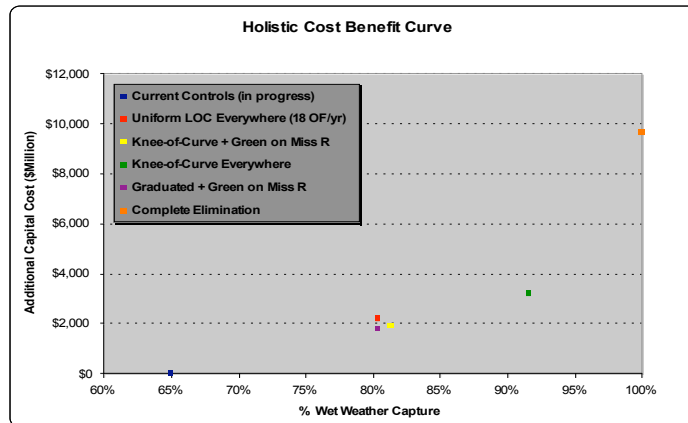
Level of Control Scenarios – Wet Weather

	Level of Control (LOC)				
	Complete Elimination	Uniform Minimum LOC Everywhere	“Knee-of-Curve” Everywhere	“Knee-of-Curve” on Urban Streams + Green on Miss.	Graduated Control on Urban Streams + Green on Miss.
Mississippi River	0/yr	18/yr	6/yr	50/yr	50/yr
River Des Peres	0/yr	18/yr	4/yr	4/yr	8/yr
Upper RDP	0/yr	18/yr	4/yr	4/yr	4/yr
RDP Tributaries	0/yr	18/yr	4/yr	4/yr	4/yr
Maline Creek	0/yr	18/yr	4/yr	4/yr	4/yr
Gingras Creek	0/yr	0/yr	0/yr	0/yr	0/yr
Capital Cost	\$9.6+ billion	\$2.2 billion	\$3.2 billion	\$1.9 billion	\$1.8 billion

Other MSD needs (SSO control, plant upgrades, system renewal) = Additional \$4+ billion.



LOC Cost Benefit Curves – 1



LOC Monthly Rate Impact Factors

- Size of program required by regulators
- Implementation period allowed by regulators
- Other program elements (not just the CSO LTCP, also SSO controls, plant upgrades, system renewal, stormwater)
- Community's ability to pay
- Bonding vs. pay-as-you-go
- New regulations (ex. climate change, nutrients etc.)
- Others



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LOC Monthly Rate Impact Estimates – Select Scenarios

- Current single family rate: \$29/month
- Graduated + Green on MS River: \$80 to \$85/ month
- Knee of Curve Everywhere: \$100 to \$105/month
- CSO Elimination: \$200+/month
(All rates adjusted to current-day)



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LOC Scenario Discussion

Of the six scenarios presented, which scenario would you select for implementation? Provide rationale.

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Are there any other scenarios that MSD should consider? If so, what?

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Common Community Concerns

Implementing CSO controls will likely generate at least several types of community concerns, including:

- Noise
- Odor
- Safety & security
- Siting
- Aesthetics
- Truck traffic
- Neighborhood disruption during construction



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SAC Members' Concerns

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Public Open Houses – Overview

Purpose:

- To educate public about MSD's LTCP efforts to keep untreated sewage out of waterways
- To ascertain public's preferences regarding MSD's establishment of waterway priorities and selection of wet weather overflow controls

Logistics:

- Conducted in February 2009
- Round 1 comprised of 10 meetings – 3 in city and 7 in county
- Three hours in length



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Public Open Houses – Focus

Open houses will solicit citizen input on several key questions:

1. What public values should guide MSD's decision making when developing sewer improvements?
2. What areas along the six receiving streams deserve priority attention?
3. Which waterways require the greatest protections given CSO impacts on water quality, human health and aquatic life?
4. What levels of control does the public want for the receiving streams?
5. What community concerns must be considered when developing overflow controls?
6. How can MSD build community support to clean the region's waterways?



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Public Open Houses – Outreach

To generate interest and participation in the open houses, the team will:

- Make presentations to subdivision, neighborhood and community groups throughout the District
- Conduct a media campaign with liMSted advertising (print and radio spots)
- Organize a mass mailing to more than 5,000 public officials, subdivisions, civic interests, and neighborhood / environmental and business groups in its database
- Co-sponsor open houses with local officials and community groups



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Additional Outreach Suggestions

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