# Lower Mill Creek Partial Remedy

Hamilton County Board of County Commissioners Public Hearing

*September 26, 2012* 











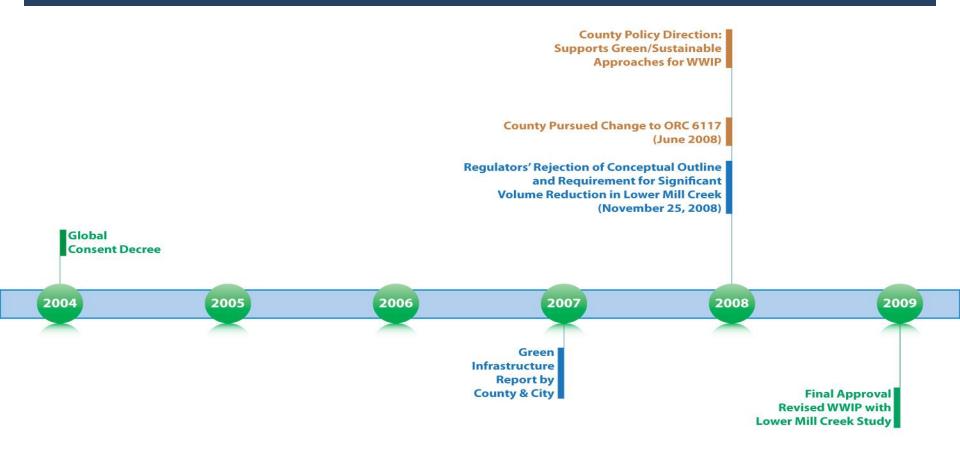
# Today's Agenda

- Why we are here today
- Lower Mill Creek Study
- MSD's Recommendation
- Relevant Criteria
- Next Steps

### LMCPR Alternatives

- These alternatives must conform first and foremost with EPA requirements, because the Regulators must approve any alternative. If an alternative does not meet those requirements, the Regulators can not approve it.
- MSD recognizes that there are related issues associated with each alternative, under the WWIP and otherwise, and will continue to assist the City and County to address them with the Regulators and others.

### Why we are here today



#### LEGEND

- Consent Decree Benchmarks
- Lower Mill Creek (LMC) SI
- Lick Run Watershed SI
- Tunnel / Grey Alternative
- Overall Analysis

## Lower Mill Creek Study

#### 3-Year Study

#### **Grey Alternative**

- Real-time control (four total)
- West Fork Channel grate modifications
- Deep tunnel (25 feet in diameter, 15,300 feet in length vs. 7,600 feet)
- Consolidation sewers

   (varying diameter, 10,400 feet in length vs. 5,000 feet)
- Deep tunnel pump station (84 million gallons per day)
- Enhanced high-rate treatment facility (84 mgd)

#### **Sustainable Alternative**

- Real-time control (five total)
- West Fork Channel grate modifications
- New Storm Sewers (varying diameter, 104,400 feet in length in West Fork, Kings Run, Lick Run)
- Relocated combined sewers (varying diameter, 21,500 feet in length)
- Naturalized channels (5,500 feet in length)
- Valley conveyance system (8,100 feet in length)
- Stream separation (20,000 feet in length)
- Stormwater detention basins (80 acre-feet)
- Storage tanks (6.5 million gallons)

\$537,409,000

\$316,069,000

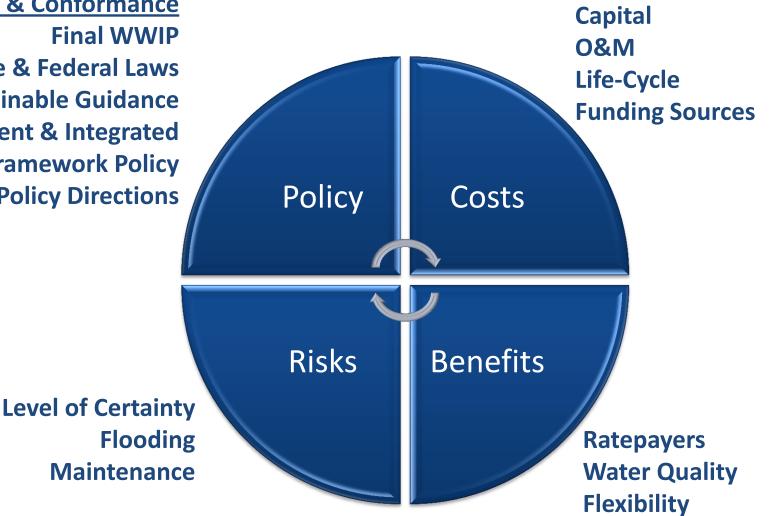
MSD's recommendation today is grounded by the policy direction received from the Commission's July 18<sup>th</sup> Resolution regarding cost control within WWIP estimates.

The Sustainable Alternative achieves the 2 BG CSO reduction at a cost much closer to the \$244M WWIP estimate.

#### Applied to LMC Study Alternatives

### **Relevant** Criteria

**Compliance & Conformance Final WWIP State & Federal Laws USEPA's Sustainable Guidance Document & Integrated Planning Framework Policy County Policy Directions** 



# MSD's Recommendation

MSD has provided its official recommendation in the "Lower Mil Creek Partial Remedy MSD's Recommendation to the Co-Defendants of LMCPR Alternative".

### Lower Mill Creek Partial Remedy

MSD's Recommendation to the Co-Defendants of LMCPR Alternative





September 25, 2012



### **Recommended Alternative**

Sub-Basin	MG CSO Reduction	Capital Cost (2006\$)	Cost/ Gallon	No. of CSOs	CSOs
Lick Run	726	\$200,492,000	\$0.28	1	5
Wooden Shoe	156	\$ 27,534,000	\$0.17	2	217, 483
West Fork	299	\$73,971,000	\$0.25	12	117,123,125,126,127, 128,130,203,527,528, 529,530
Bloody Run	93	\$10,651,000	\$0.04	1	181
CSO 488 Storage	47	\$3,421,000	\$0.23	1	488
4 RTCs	737			2	5,125,482,485
Total	2,058	\$316,069,000		19	

### What a Sustainable Solution Accomplishes

Developing a solution that brings our historical water wealth normally below ground to the surface to create a benefit the community can see.

- ✓ Complies with 2 BG Consent Decree target
- ✓ Provides lowest cost solution
- ✓ Utilizes stormwater as a resource = sustainable
- ✓ Creates new class of green jobs
- ✓ Improves water quality
- ✓ Offers potential to leverage private side actions

### Relevant Criteria = Policy

MSD's Recommendation complies with all applicable policies.

- ✓ 2 BG CSO reduction target of the WWIP
- ✓ USEPA guidance for development of a LMCPR alternative
- ✓ Hamilton County's July 18<sup>th</sup> resolution regarding cost control
- State and federal laws regarding stormwater management and flood control
- ✓ USEPA integration & sustainable policies

### Costs – How they were developed

Industry Standards USEPA Protocols & Guidelines American Association of Cost Estimating R.S. Means Building Construction Cost Data Hamilton County & MSD Standards

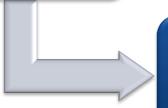


Tool vetted & accepted by County, City & Regulators Good track record using tool 88 WWIP projects completed under budget

Detailed

Project

Information

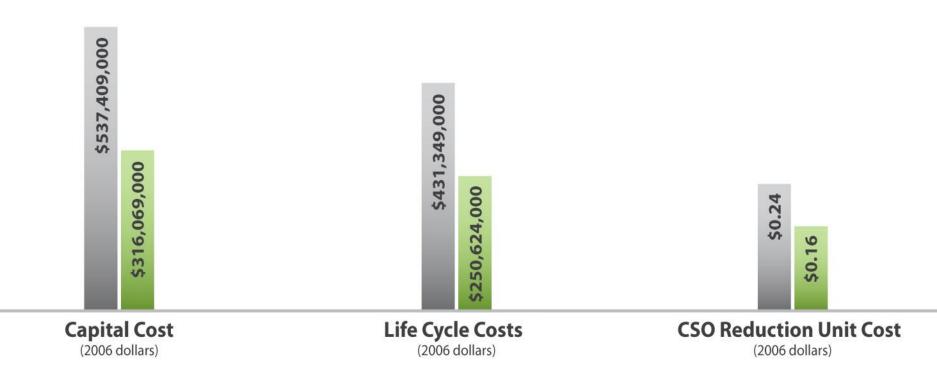


Site specific information MSD historical cost comparison Project Engineer's estimate



31 Utility Coordination Meetings

### Relevant Criteria = Costs





## **Risks – Identification & Mitigation**

	Operations &		
Flooding	Cost Certainty	Performance Certainty	Maintenance
Frees up sewer	Costing Tool	Information	Coordination
capacity	Development	Field Verified	with Parks
Channel to	Value	Advanced	Department
capture	Engineering	Modeling	Local
overland flows	Historical	Technology	Commitment
100-Year flood	WWIP	Sensitivity	to fund new
plain design	Spending vs.	Analyses	asset classes
basis	Budgets	Factor of	
Improved Level	/ Construction	Safety	
of Service	Coordination	Considerations	
	Project	Flow	
	Sequencing	Monitoring	
		Program	

All of these risks are discussed in MSD's Recommendation Report.

## Benefits – Best Case for Ratepayers

	Dete Fauitu		
Lowest Cost	Achieves Multiple Goals	Provides Flexibility	Rate Equity Opportunity
40% lower	Significant	Future Phase	Costs driven
capital cost	CSO reduction	2 plan more	by wet
42% lower 25-	Removes	nimble	weather
year life-cycle	natural waters	Monitoring	problem
cost	from sewers	Program to	True cost to
Opportunity	More local	assess	provide
for external	construction	reductions	stormwater
funding	jobs	achieved	service
	Public	Provides time	Structure
Í	Involvement		stormwater
		future	fees by
		regulations	acreage vs.
l			number of
	l		toilets

All of these benefits are discussed in MSD's Recommendation Report.

## Conclusions

✓ Lowest cost & lowest risk ✓ Supported & vetted with the Regulators ✓ Opportunities for external funding partners ✓ Similar approach used by others Increases base flow to tributaries and streams Flexibility to adapt to future conditions Best solution to achieve relevant criteria

### Next Steps - 2012

- Receive Public Comments August thru October
- Decision by Co-Defendants October
- Co-Defendants to continue legal discussions with Regulators - October
- Draft LMCPR Report developed by MSD November
- MSD's CIP submitted for approval November
- LMCPR submittal to Regulators by December 31<sup>st</sup>
- Continue Flow Monitoring Program



# Questions?

