Lower Mill Creek Partial Remedy

Hamilton County
Board of County
Commissioners
Public Hearing

October 3, 2012

METROPOLITAN SEWER DISTRICT of greater CINCINNATI

Today's Agenda

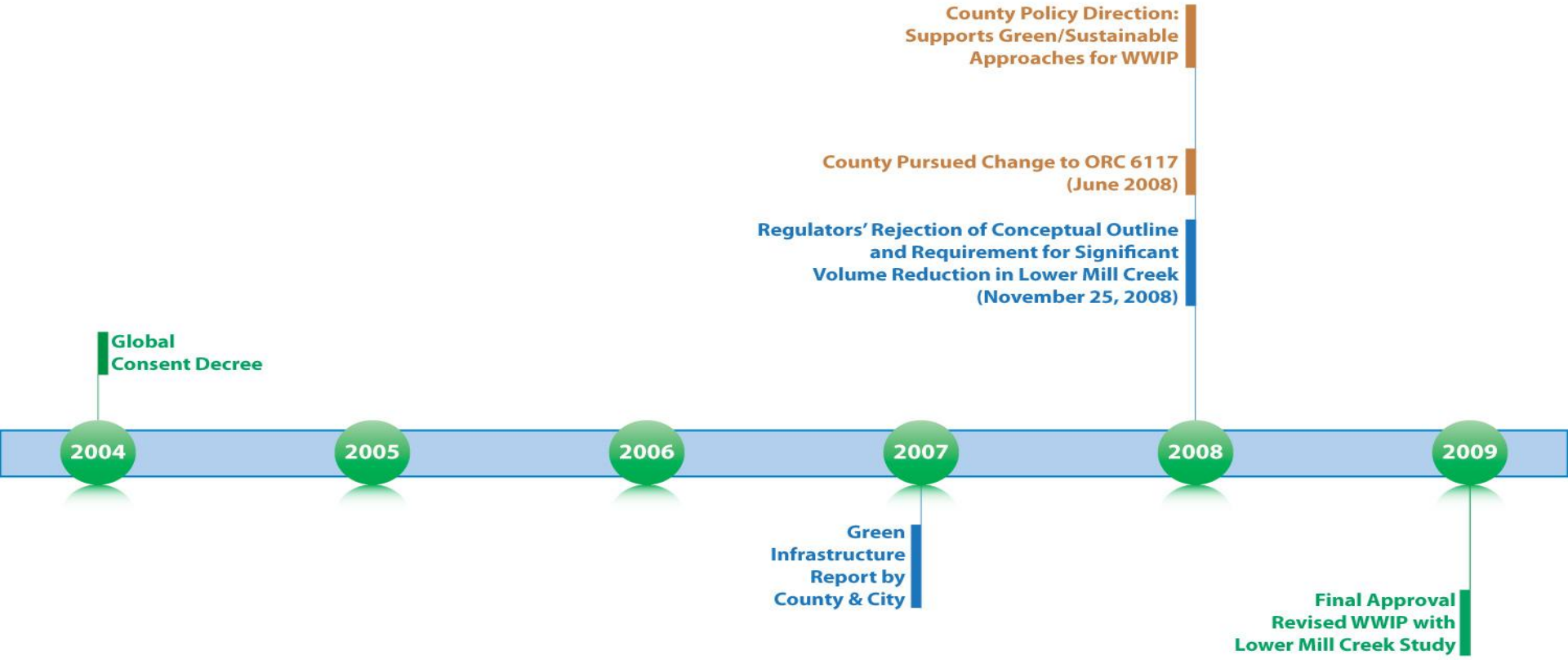
- Why we are here today
- Lower Mill Creek Study
- MSD's Recommendation
- Next Steps

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

2004-2009

Lower Mill Creek Study

3-Year Study

Grey Alternative	Sustainable Alternative
▪ **Real-time control** *(four total)*	▪ **Real-time control** *(five total)*
▪ **West Fork Channel grate modifications**	▪ **West Fork Channel grate modifications**
▪ **Deep tunnel** *(25 feet in diameter, 15,300 feet in length vs. 7,600 feet)*	▪ **New Storm Sewers** *(varying diameter, 104,400 feet in length in West Fork, Kings Run, Lick Run)*
▪ **Consolidation sewers** *(varying diameter, 10,400 feet in length vs. 5,000 feet)*	▪ **Relocated combined sewers** *(varying diameter, 21,500 feet in length)*
▪ **Deep tunnel pump station** *(84 million gallons per day)*	▪ **Naturalized channels** *(5,500 feet in length)*
▪ **Enhanced high-rate treatment facility** *(84 mgd)*	▪ **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 18th Resolution regarding cost control within WWIP estimates.

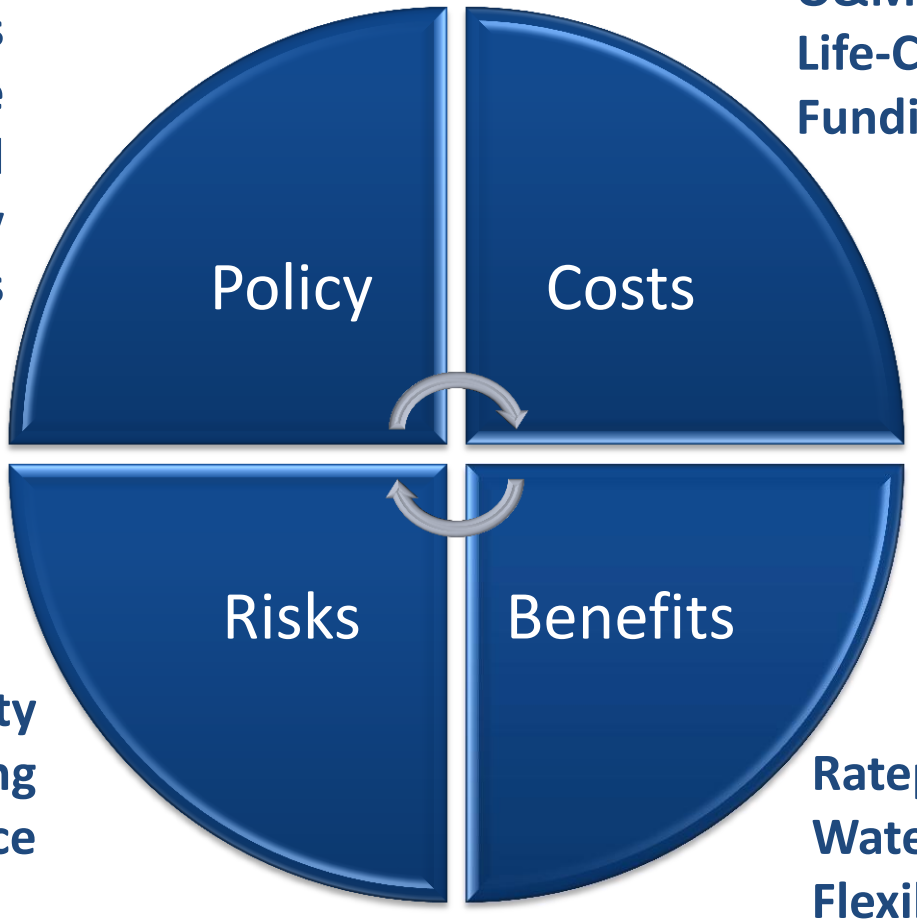
The Sustainable Alternative achieves the 2 BG CSO reduction at a cost much closer to the $244M WWIP estimate.

Relevant Criteria

Applied to LMC Study Alternatives

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

Capital
O&M
Life-Cycle
Funding Sources

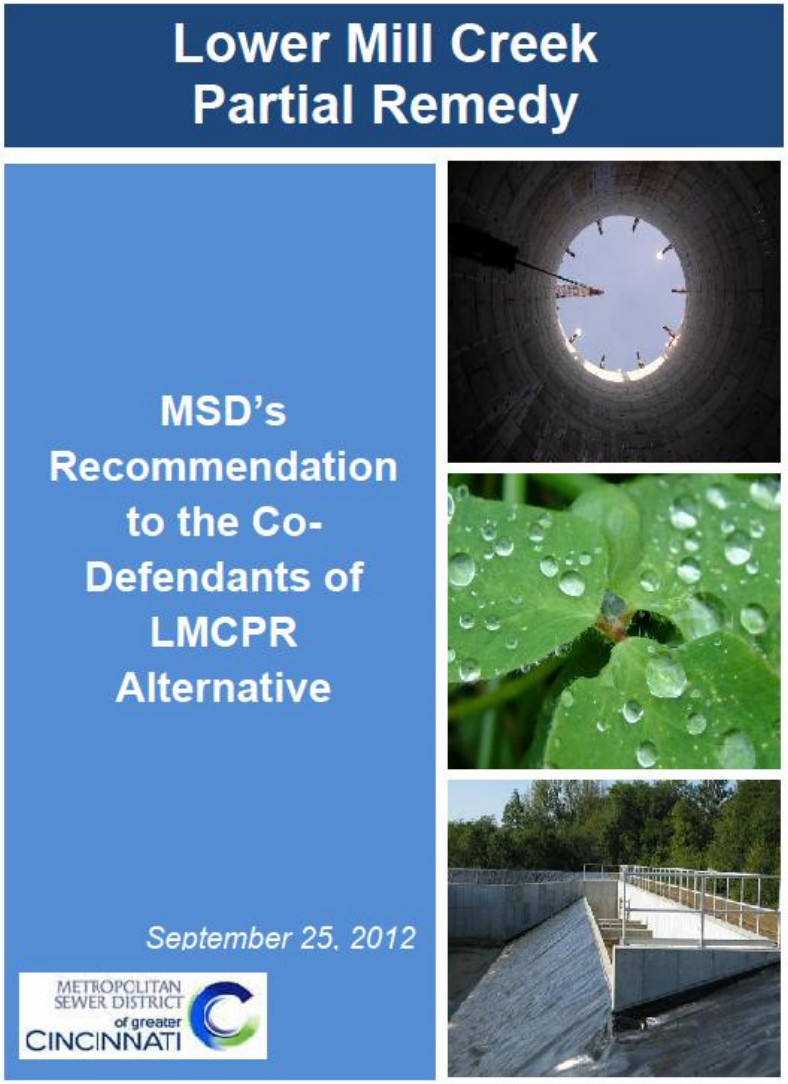


Level of Certainty
Flooding
Maintenance

Ratepayers
Water Quality
Flexibility

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*".

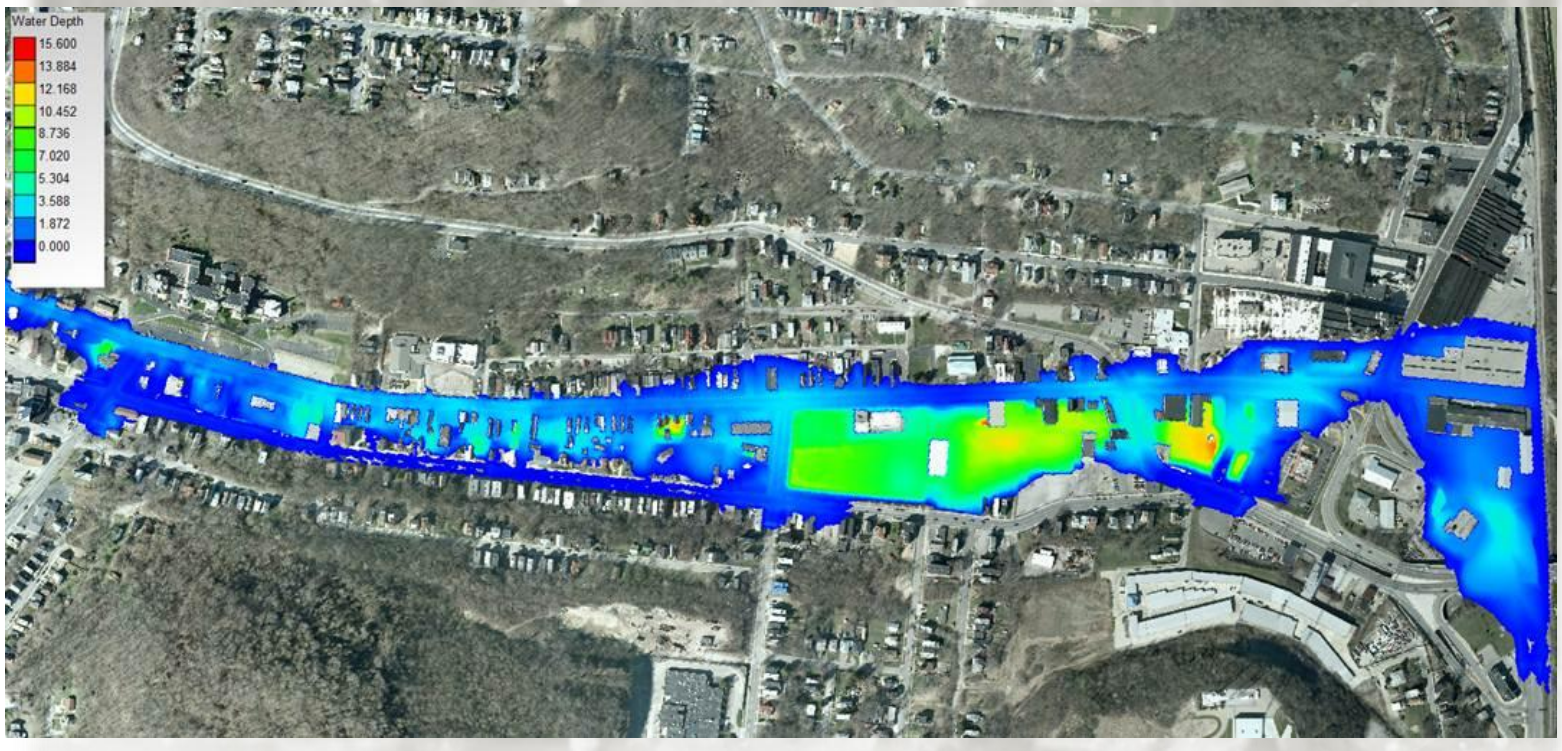


Recommended Alternative

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**	

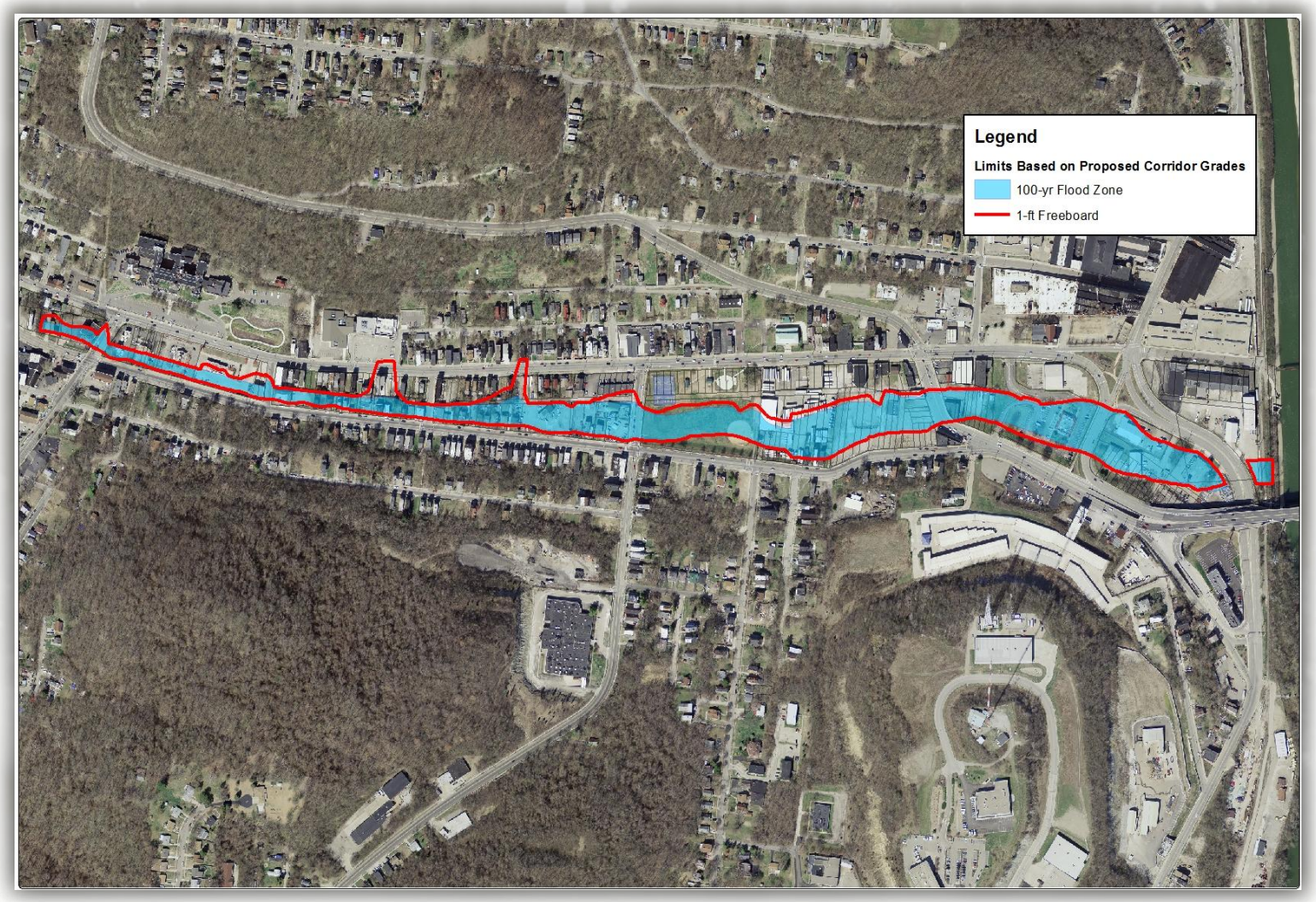
Existing Conditions Surface Flooding

This image illustrates where surface flooding occurs under 100 year storm conditions.

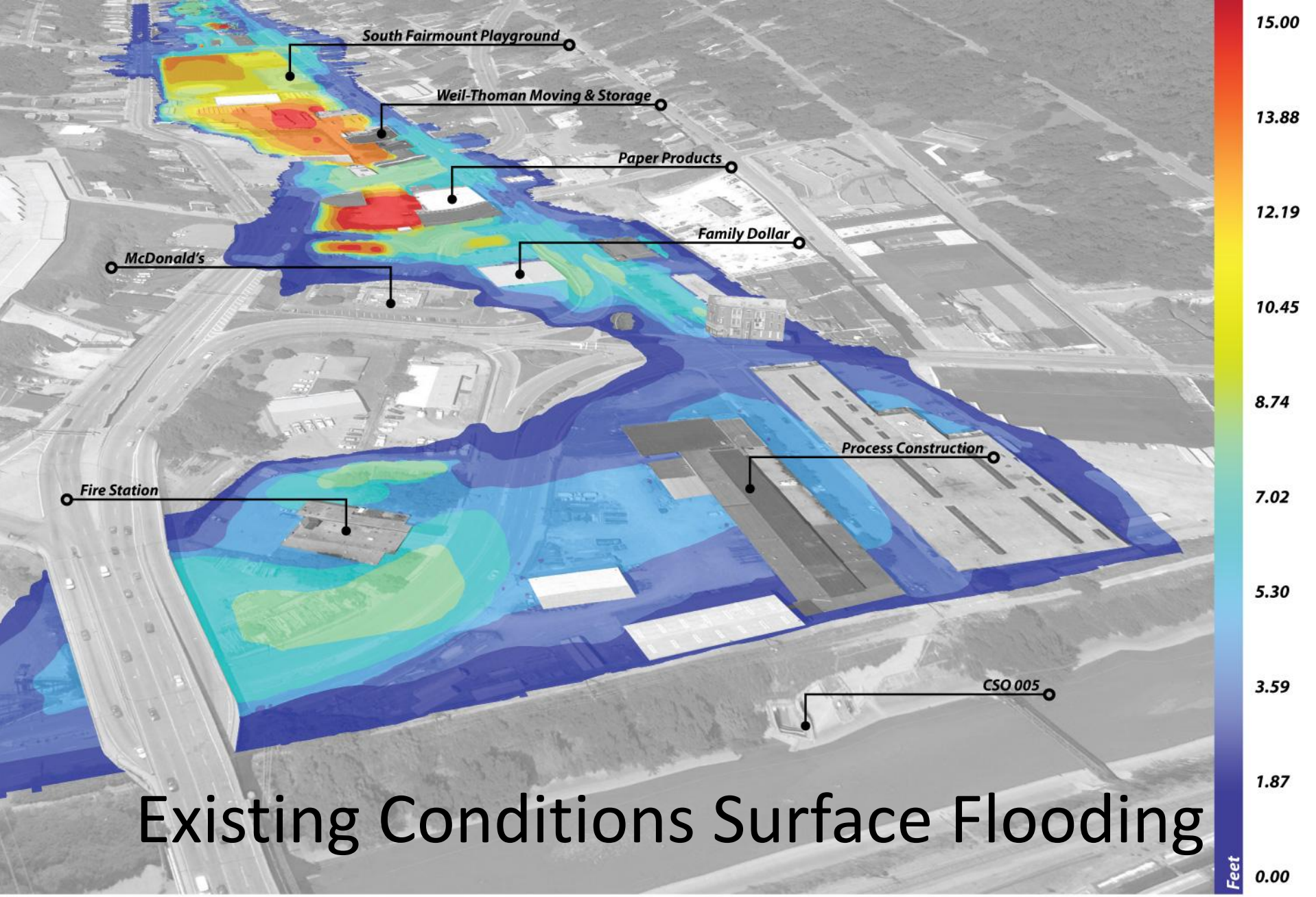


Future Conditions Flood limits based on **Proposed** Corridor Grades

This graphic shows flood limit areas resulting after riparian & floodplain grading associated with the VCS.



Impacted properties are identified for acquisition due to potential impact and grading plan.



Existing Conditions Surface Flooding

100-YEAR FLOOD WATER DEPTHS

EXISTING CONDITIONS: LOOKING WEST FROM MILL CREEK

HUMAN NATURE, INC. | STRAND ASSOCIATES, INC.

Proposed Solution Surface Flooding

LICK RUN 100-YEAR FLOOD LIMITS

LOOKING UPSTREAM (WEST) FROM MILL CREEK

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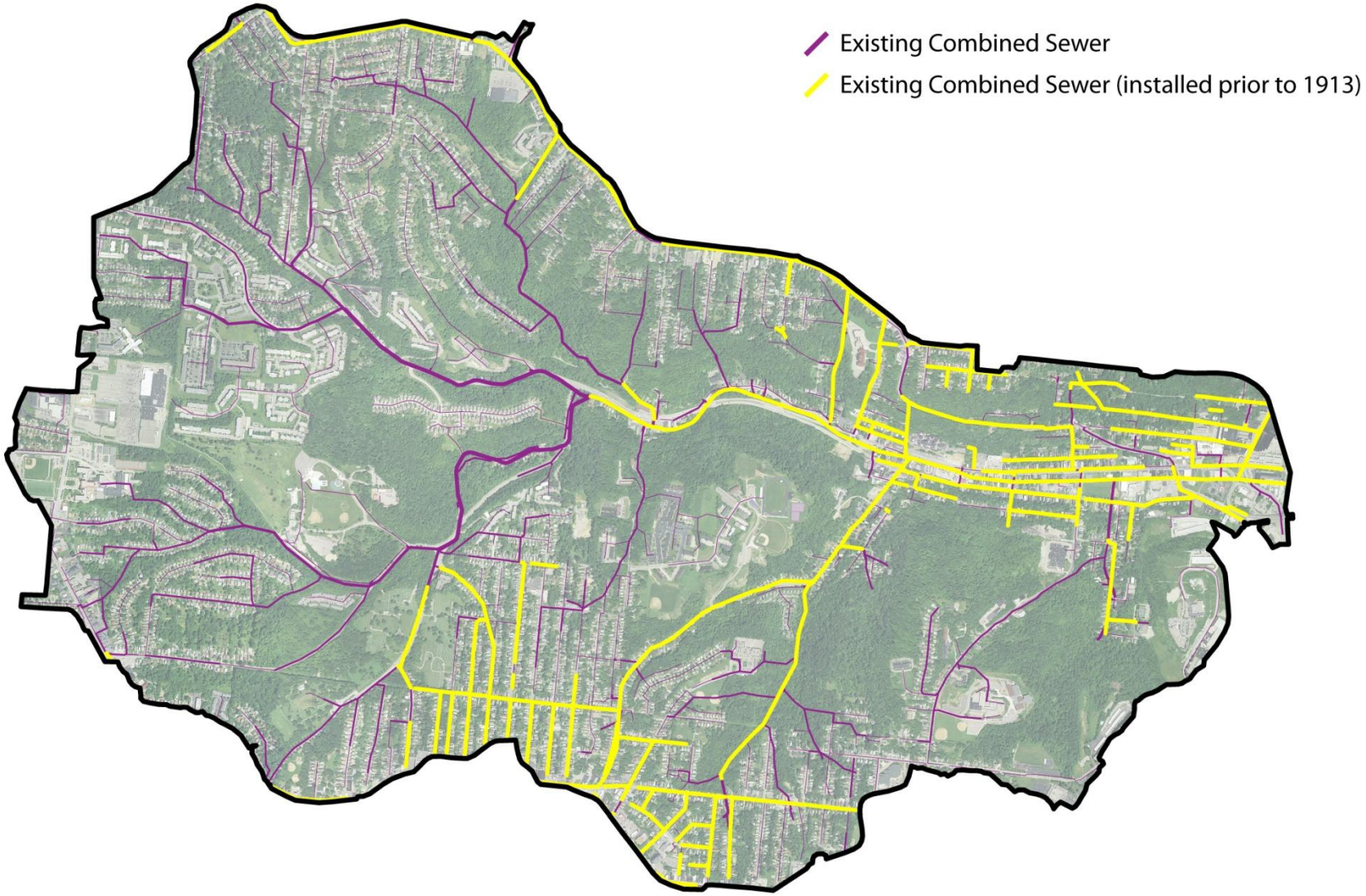
Existing Conditions



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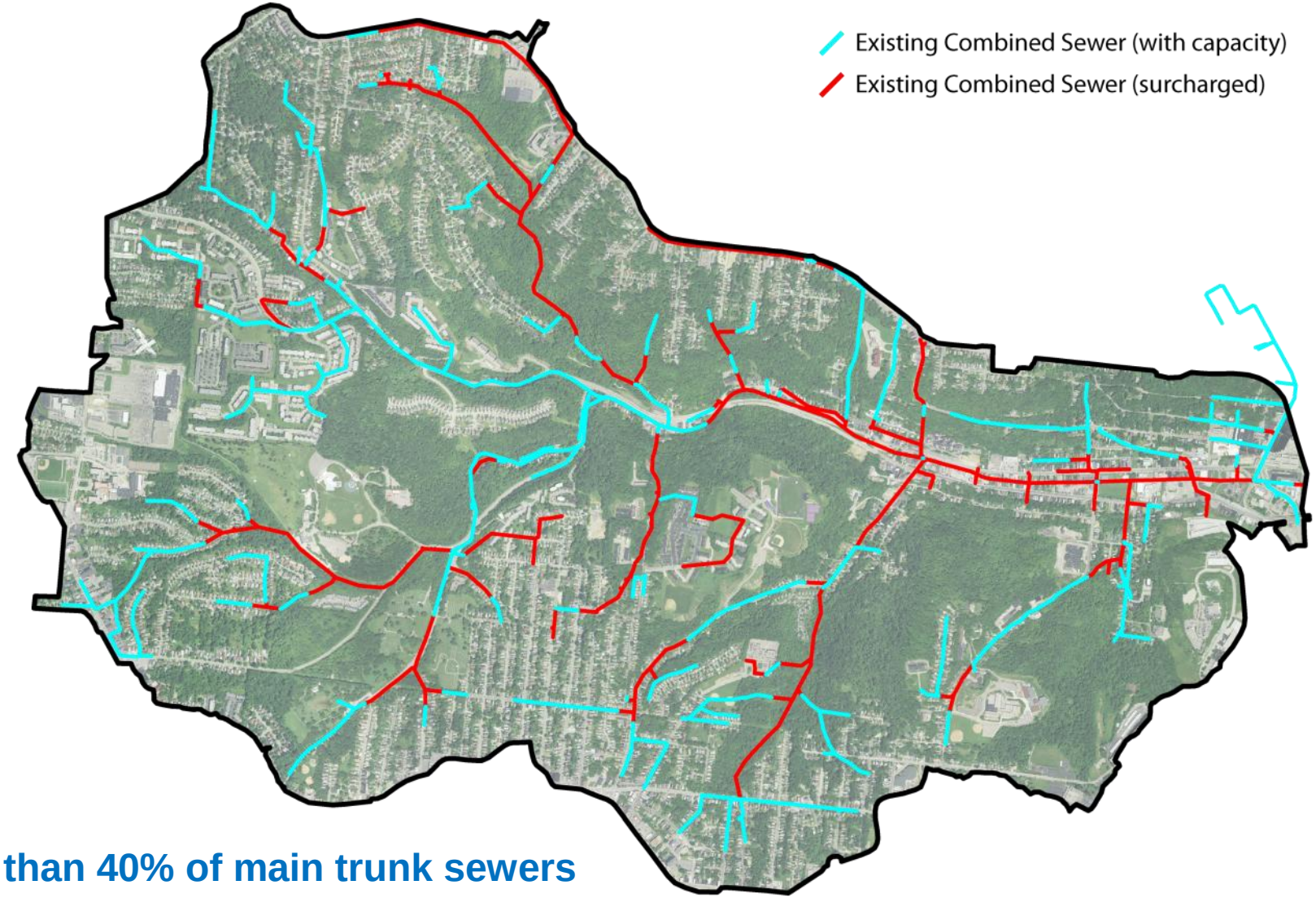
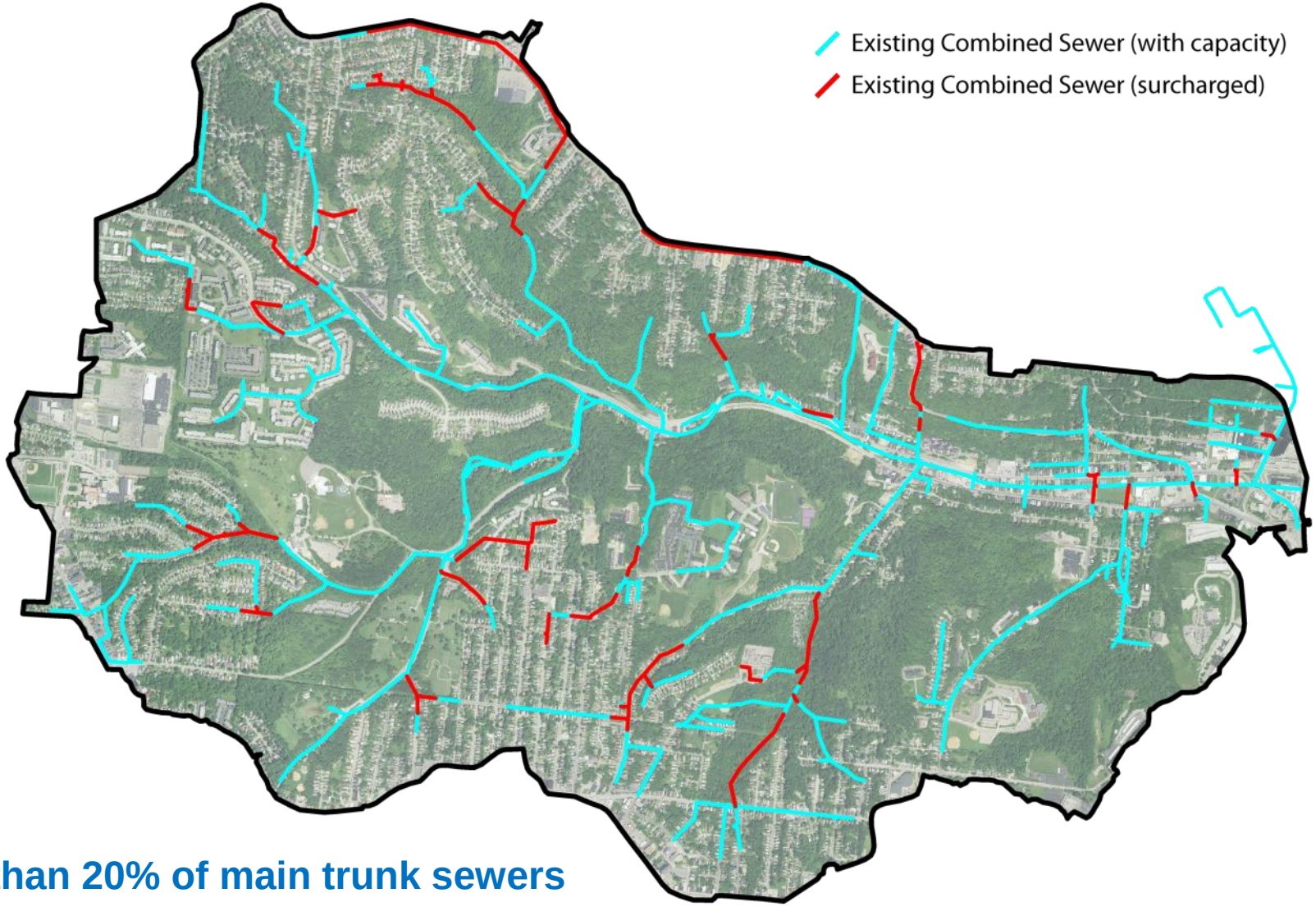


More than 40% of main trunk sewers are surcharged during the 10-year storm

Proposed Separate Stormwater Conveyance



Less than 20% of main trunk sewers are surcharged during the 10-year storm

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

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 31st
- Continue Flow Monitoring Program

Questions?