

Twin Creek Preserve

Twin Creek Preserve is a collaborative stream restoration and wetland construction project led by the Mill Creek Watershed Council of Communities with support from and in partnership with the Butler County Water & Sewer Department, the Metropolitan Sewer District of Greater Cincinnati and the City of Sharonville.

The 30-acre project site, owned by Sharonville, is located in the upper Mill Creek watershed at the confluence of the Mill Creek main stem and East Fork Mill Creek. The area has a long history of industrial, commercial and residential development. The legacy of this urbanization is polluted water, channelized streams, eroded streambanks, sediment deposits, degraded riparian corridors, reduced biodiversity, increased runoff, flash flooding, disconnected floodplains and damaged infrastructure.

Twin Creek Preserve is transforming a disused industrial parcel into an 8.3-acre wetland and nature preserve with over 2,100 feet of restored stream channel and a substantial riparian floodplain that will alleviate localized flooding. It is anticipated that the project will assist the Mill Creek and East Fork segments with meeting the Ohio EPA's bio-criteria for aquatic habitat.

Restoration Features

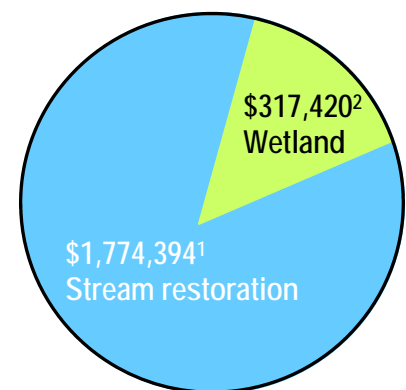
- Natural channel design to increase sinuosity by channel shaping and increased meanders
- Floodplain restoration by excavating barriers to reconnect the stream with its floodplain
- Riparian restoration by planting the flood-prone zone with native riparian trees and shrubs
- In-stream habitat restoration by constructing riffles, j-hooks and boulder clusters
- Creation of a recreation trail with educational signage

Project Outcomes

- Reduced streambank erosion
- Elimination of channel downcutting
- Creation of high-quality pool/riffle/run complexes
- Increased aquatic and terrestrial habitat and species diversity
- Improved bedload conveyance
- Reduced embeddedness
- Increased dissolved oxygen content
- Improved assimilative capacity of urban runoff pollutants
- Attainment of Warm Water Habitat use designation
- Improved retention of high flows with the addition of the meanders and floodplain connection
- Creation of a recreational amenity with trails for hiking, bird watching and education

Project Funding

\$2,091,814



1. \$1,774,394
Water Resource Restoration Sponsor Program Grant of the Ohio Water Pollution Control Loan Fund
2. \$317,420
Section 319 Nonpoint Source Implementation Grant

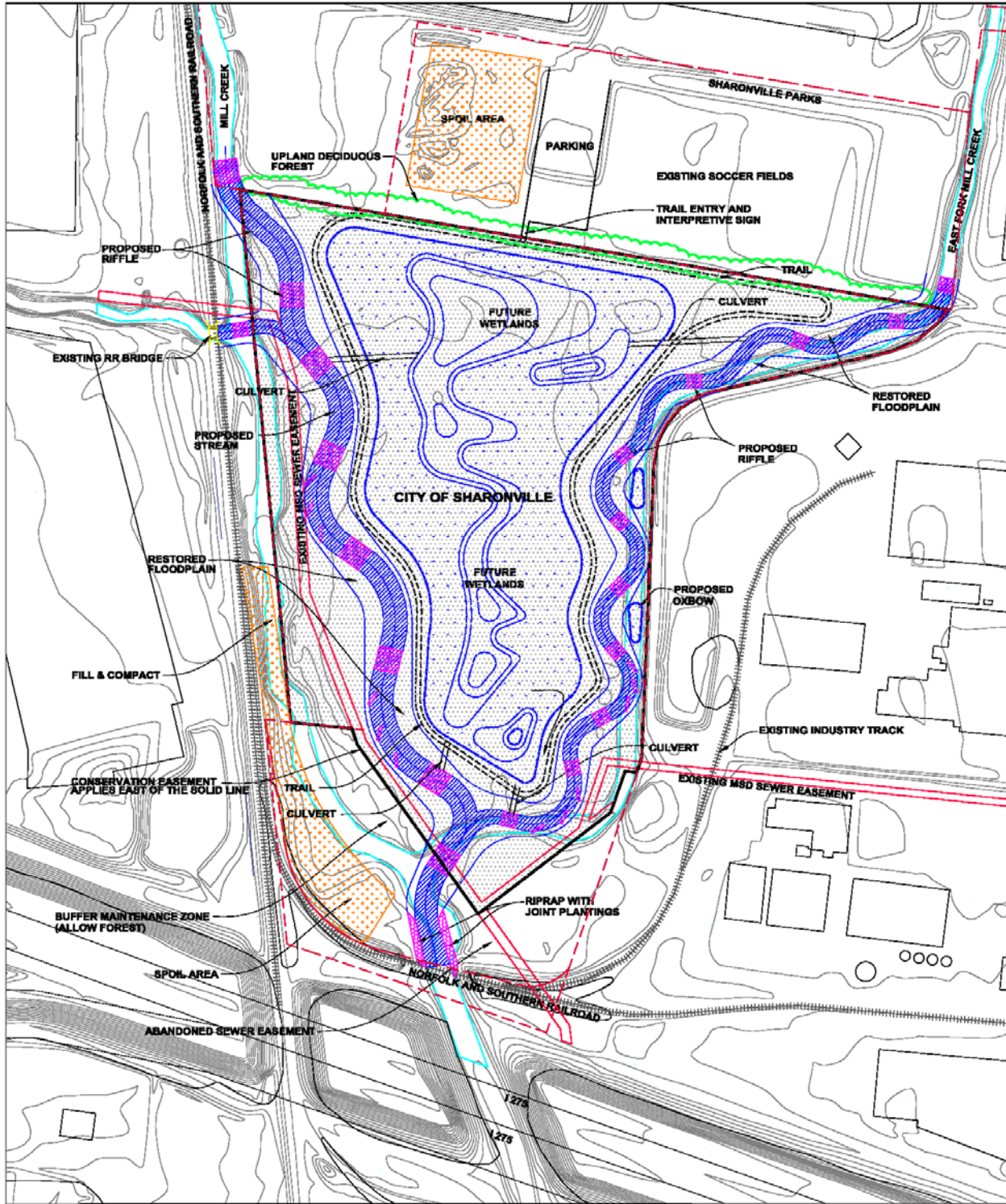
Grants are administered by the Ohio EPA

Project Partners



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Project Concept



PROPERTY LINE	---	MSD SEWER EASEMENT	---	SPOIL AREA	[Orange dotted pattern]
RAILROAD	+++++	LIMITS OF EXISTING CHANNEL	[Blue wavy line]	PROPOSED RIFFLE	[Pink dotted pattern]
EXISTING BUILDING	[Rectangle]	LIMITS OF PROPOSED CHANNEL	[Blue wavy line]	PROPOSED WETLAND	[Blue dotted pattern]
EXISTING TREELINE	[Green wavy line]	CONVEYED OR ACQUIRED PROPERTY	[Black dotted pattern]	PROPOSED TRAIL	---


 APPROXIMATE SCALE IN FEET
 0 150 300
 SOURCE: OKJ Regional Council of Governments, 2007; MACTEC, 2007.

