

Crab Creek Revitalization and Greenway Plan for Youngstown, OH

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Crab Creek, flowing in the City of Youngstown, Mahoning County, Ohio, adjacent to the Smoky Hollow neighborhood has a drainage basin of 20.6 square miles at its mouth. The maximum flood of record on Crab Creek occurred in 1959, reaching estimated peak flows of 2,550 c.f.s. downstream of the Valley Street Bridge and 2,140 c.f.s. upstream of the mouth of an unnamed tributary immediately upstream from Valley Street Bridge. A peak stage at Valley Street Bridge gage was an elevation of 846.0 N.G.V.D.

Improvement made by the corps of Army Engineers in 1973 consisted of 12,619 feet of channel excavation, concrete and stone lining; concrete and steel sheetpile walls; 2 concrete drop structures; reconstruction of 3 railroad bridges and rehabilitation of one railroad bridge sub-structure. The riprap and concrete enforced trapezoidal channel was designed to contain within its banks a flood equal to the maximum flood of record.

Crab Creek has experienced recent flooding and a FEMA map by the US Department of Housing and Urban Development shows flooding at the mouth of Crab Creek up to an elevation of 846 feet at Oak Street and 852 feet at Mc Guffey Road. This was attributed to a backup effect, caused by the flooded Mahoning River. Upstream from Mc Guffey Road there was over bank flow and flooding in most location along Crab Creek in Youngstown.

The “Blue Green Technologies Concept” applied by the TU Dresden teams considers existing flow conditions and retains the current cross section of the stream to pass the storm of record under bridges, underpasses and in critical areas. In other areas, where space permits, the streambed is to be widened to provide a cross section up to more than three times its current size to accommodate floodwater flows. Here pools and riffles are permitted to develop in the streambed, though banks are stabilized with soil-bioengineering methods that combine mechanical and vegetative stabilization techniques. Two demonstration installations are planned to form inspirational beacons. They are the “Crab Creek Adventure and Discovery Site” at Andrews and Rayen Avenue and the “Crab Creek Industrial Garden” at Logan Avenue and Saranac Streets. Both installations permit access to the water, the emergence of aquatic and wetland vegetation, and trees and shrubs in the vicinity of the stream without impeding stream flow to velocities slower than currently permitted by the channel. Each demonstration installation has its own landscape theme.

“Crab Creek Adventure and Discovery Site”

Theme of this site is the discovery of stream related natural processes and an adventure park use in the abandoned concrete lined channel. The stream is given an opportunity to develop its own bed, aided by soil-bioengineering techniques. The site is offering a hierarchy of access modes including bikeways, pedestrian ways, nature walks and a climbing wall.

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“Crab Creek Industrial Garden”

Symbol of this site are two loading hoppers that form a three story high industrial sculpture and landmark. Ruins of structures here are to be maintained to create a window into human histories telling tales of the past. Filled with new function they are demonstrating the beauty of natural successions through plants and through the waters of the stream.

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