Green Infrastructure in Cincinnati's South Fairmount/Lick Run Project

Cincinnati, Ohio

The Metropolitan Sewer District (MSD) of Greater Cincinnati is working on several projects that use green infrastructure to meet CSO control commitments as part of MSD's 2013 agreement with EPA to reduce CSO discharges and eliminate sanitary overflows. The agreement allowed MSD to substitute green infrastructure solutions for conventional "grey infrastructure" control measures, provided the same level of CSO control could be achieved. This effort is expected to demonstrate that sustainable infrastructure approaches to solving CSO problems can provide significant social, environmental and economic benefits, especially when coordinated with other land revitalization efforts.

The Lick Run project is a series of underground storm sewers, water quality features, and natural, aboveground waterways constructed throughout the watershed to transport stormwater and natural drainage to Mill Creek. Its central element is the Valley Conveyance System (VCS), an urban waterway that will run through the middle of the South Fairmount neighborhood. The VCS is an innovative source-control solution that will convey stormwater through an engineered but natural-looking aboveground, meandering stream channel with natural stone and a riparian edge planted with native plants and trees. The VCS includes features designed to capture sediments and debris and slow the conveyance of stormwater into Mill Creek. An underground stormwater conveyance box will be constructed beneath the system to handle flows from large rain events. This will free up capacity in the sewer system and reduce CSO discharges.

EPA's Land Revitalization Program and Region 5 are working closely with MSD to support community-based efforts that extend beyond regulatory compliance. In addition, EPA Brownfields and Land Revitalization Program funds are being used to support MSD's planning work, including site assessments of properties in the Lick Run corridor and planning of action steps to bring the concept to fruition. EPA also is actively seeking federal, state, and local partners to assist MSD in achieving these goals.

The Lick Run project is the largest and most significant effort included in Project Groundwork, MSD's multi-year initiative with hundreds of sewer and stormwater management techniques designed to meet its CSO-control commitments. Project Groundwork won the U.S. Water Alliance's 2014 U.S. Water Prize for "its green infrastructure strategy to reduce water pollution, beautify neighborhoods and help spark economic development."

The Lick Run project will clean up and repurpose about 30 acres of brownfields, vacant or otherwise underutilized land in Cincinnati's South Fairmount neighborhood and is expected to provide a catalyst for revitalization of other brownfields nearby. It will create a new green corridor with wetlands, bioswales, and "green street" features designed to reduce stormwater pollution carried from roads and paved services. It also will create a more beautiful—and often safer—environment for pedestrians and cyclists. The project includes a multi-use trail, lighting, safety railing, retention walls, and improved recreation space, parking and bridges. The new green corridor is expected to provide a significant amenity for the neighborhood and spark commercial and economic revitalization in the area. Site clearing is already underway and the VCS construction is expected to begin in spring 2015.

EPA Region 5 and EPA's Brownfields and Land Revitalization Program provided significant assistance to MSD during planning. EPA's Brownfields program completed a sweeping analysis of all the brownfield parcels in the Lick Run Corridor through Targeted Brownfields Assessments. The analysis results were used to design the green stormwater solution and identify properties for future redevelopment. For a more detailed look into the planning process for the South Fairmount Neighborhood/Lick Run Watershed please see An Innovative Solution to Urban Water Challenges Video.

Proposed Lick Run Development. Private Source: Developed by Human Nature, Inc.; Strand Associated, Inc.; and XCG Consultants Inc. for MSD

The Lick Run Watershed Strategic Integration Plan was drafted with assistance from EPA's Brownfields and Land Revitalization Program. The plan provides an "implementation road map" that outlines opportunities associated with a green infrastructure approach. EPA is working with other federal partners to leverage investments in the South Fairmount community (e.g., housing development, floodplain management, and transportation improvements). EPA also invited the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Transportation (DOT) to help focus transportation and community development resources and leverage investments in the South Fairmount neighborhood. This interagency partnership is an outgrowth of a national HUD/DOT/EPA Partnership for Sustainable Communities. The agencies worked with MSD to develop a strategy to increase habitat, clean up brownfields, and reduce the supply of vacant land in the area.

EPA Region 5 also assisted in developing deconstruction and salvage strategies for demolition of residential structures in the South Fairmount neighborhood as part of MSD's green infrastructure plans to create a water conveyance feature. For an in depth look into the deconstruction process, please see the Wow! What a Find! Video linked below.

Video:

Lick Run – Wow! What a Find!

https://www.youtube.com/watch?v=RuMyI-CmruY

On the Road to Reuse: Residential Demolition Bid Specification Development Tool

EPA Region 5 produced a residential demolition bid specification tool for entities engaged in residential demolition operations. The tool identifies the environmentally sensitive activities associated with demolishing residences, from pre-planning to demolition to site rehabilitation (e.g. hazardous materials abatement, fill material selection and placement, material recycling or deconstruction). For each of the activities, the report provides decision-making information and suggested bid specification language to help local government officials update their bid specification documents. The use of environmentally beneficial demolition practices can result in long- and short-term environmental benefits and set the stage for vacant lot reuse and neighborhood revitalization. Tool available at: http://www2.epa.gov/large-scale-residential-demolition/road-reuse-residential-demolition-bid-specification-development