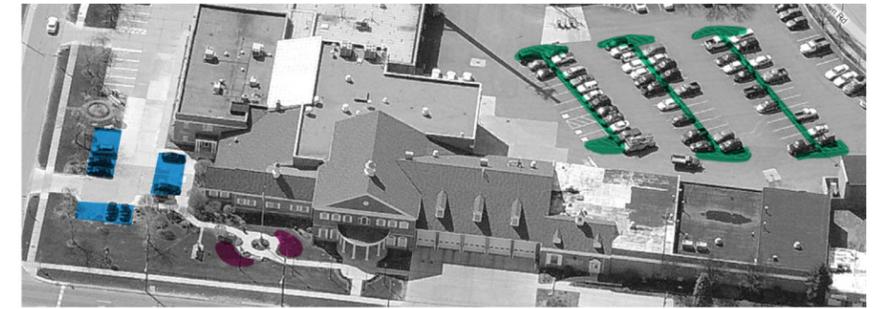


Detailed Project Work Plan

Continued from previous pages.

Project Description

Project	<p>415 SF</p>	<p>3,797 SF</p>	<p>2,215 SF</p>
Showcase Type	<p>Residential Small Commercial</p>	<p>Industrial Large Commercial Small Commercial</p>	<p>Parking Lanes in Public ROW Public/Institutional Sidewalks/Driveways</p>
Existing Conditions	 <p>2,00 SF Impermeable roof surface</p>	 <p>31,00 SF Impermeable asphalt parking lot</p>	 <p>5,000 SF Impermeable concrete parking lot</p>
Schematic Design			
Project Elements	<p>perennials, 2.5' raingarden soil (to accommodate clay soils), downspout disconnection, mow edge, underdrain, sidewalk runnel, interpretive signage</p>	<p>shade trees, bioswale trees, perennials, 2.5' bioswale soil (to accommodate clay soils), tree soil, bumper blocks, underdrain, permeable concrete strips, gravel base, interpretive signage</p>	<p>concrete demolition & excavation, permeable concrete, 2' gravel base, underdrain, interpretive signage</p>
Built Example			
Project Purpose	<p>The raingardens at the front door of City Hall will be sized to capture roof runoff from disconnected downspouts the equivalent size of a typical residential roof, demonstrating the use of raingardens to enhance water quality, provide basement flood relief and beautify a neighborhood.</p>	<p>A forested parking lot contains shade tree bumper islands, permeable concrete strips, and bioswale end islands, functioning as the canopy, understory and soil/duff layers of a mature forest to capture rainfall & parking lot runoff, create habitat, provide carbon sequestration, reduce the urban heat island effect and increase desirability of businesses.</p>	<p>Permeable concrete parking bays will replace impervious asphalt to infiltrate road and parking lot runoff and capture pollutants, demonstrating how permeable pavements can be used to replace crumbling parking lanes on streets, sidewalks, and driveways.</p>



Located along the busy commercial corridor of Mayfield Road, the high visibility of green infrastructure at City Hall will showcase Mayfield Heights' Stormwater & Water Quality Enhancement Initiative.

Benefits of the Project are:

- Improve water quality, reduce pollutants that contaminate surface water
- Reduce runoff through infiltration into native soils and vegetation
- Decrease the number of inflow/infiltration occurrences
- Lessen basement flooding
- Reduce downstream erosion & sediment deposition
- Improve aquatic life in adjacent communities & create habitat
- Improve air quality and provide carbon sequestration
- Enhance the desirability of mature neighborhoods and businesses

Measured Success

The Mayfield Heights Green Infrastructure Demonstration & Showcase Project will reduce impervious surfaces by 4% and capture an estimated 20% of stormwater runoff at City Hall. Outside of Grant Funding, the City of Mayfield Heights staff anticipates gathering data to quantify Green Infrastructure effectiveness, evaluating runoff reductions and projecting carbon sequestration, air and water quality enhancement and neighborhood desirability. Data gathered will contribute to a national body of knowledge to educate design professionals in stormwater and wastewater industries across the country

Mayfield Heights has over 6000 residential units, 45 miles of streets and over 300 commercial buildings. If each of these utilize the innovative stormwater techniques showcased at City Hall, a significant percentage of runoff could be captured.

Water Quality Enhancement

The Mayfield Heights Green Infrastructure & Showcase Projects support the implementation of the state endorsed Chagrin River Watershed Action Plan, the Ohio EPA Total Maximum Daily Loads for the Chagrin River, and the Chagrin River Watershed Balanced Growth Plan. The Projects will improve the stormwater runoff into a tributary that follows to the Main Branch of the Chagrin (HUC 041100030402). Sources of impairment for this section of the Chagrin and tributaries include major municipal point sources, marinas, urban runoff/storm sewers, and land development/suburbanization. Problems stem from riparian vegetation removal, channelization, and the upstream effects of changing land use with associated increased urban stormwater runoff.

The 2003-2004 Chagrin River Water Quality Study from Ohio EPA indicates that the main channel of the Chagrin in this subwatershed is in full attainment of its warmwater habitat use. In this area of Mayfield Heights there are no remaining open stream channels, however, the stormwater runoff from this area drains to tributaries of the Chagrin River that exhibit stream bank channel instability due to stormwater flows. While the main channel of the Chagrin River may be in attainment, this project eliminates an obvious source of non-point source pollution from the storm sewer system and demonstrates the potential for retrofit projects in Mayfield Heights.