

Green Infrastructure In Monroe County



Cheryl Dinolfo
County Executive

Monroe County Department of Environmental Services

Project:	Monroe Community College Downtown Campus
Project Owner:	Monroe County, Monroe Community College
Project Location:	321 State Street
GI Practice:	Green Roof
Year Completed:	2017
Cost and Funding:	\$1,821,111 (\$1,639,000 from NYS EFC GIGP Grant)
Contractors:	LaBella Associates, Elmer W. Davis Inc.

Project Background

The current Monroe Community College Downtown Campus, located at 321 State Street, opened within former portions of the Eastman Kodak worldwide headquarters for its first semester in the fall of 2017. In 2014, Monroe County was awarded a grant through the New York State Environmental Facilities Corporation Green Innovative Grant Program to develop a system of green roofs on top of the campus building. Many improvements had to be made to convert the old office building into a modern, sustainable college campus. While converting the building many features were included like energy saving features, responsible construction material, and diversion of construction waste from landfills that helped this building receive a LEED Gold rating. This building was MCC's fourth Gold-certified building with the other three located at the Brighton campus. The most notable contributor to the downtown certification was the construction of four green roofs, approximately .5 acres in size, that help to reduce and filter stormwater runoff.

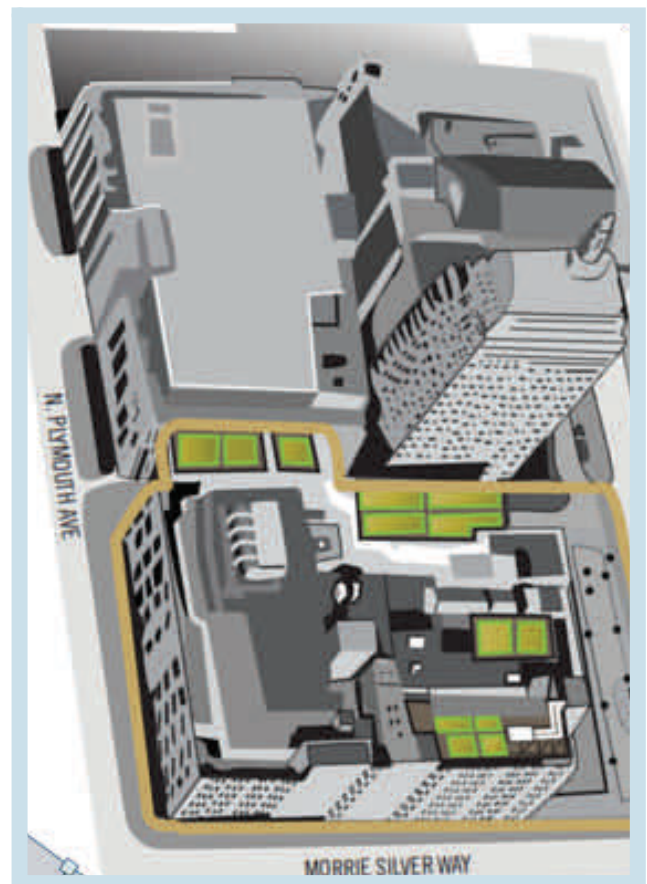


Figure 1. Locations of the four green roofs that are on the MCC downtown campus.

Continued on page 2

Description/Construction of System

The four green roofs are located on buildings 3, 9, 11 and 16. The roof on building 11 is meant an event space that has a patio for seating. This roof is visible to the MCC community at all times. The roofs on building 3 and 16 have restricted public access and the building 11 roof has no public access, for safety reasons. The planting medium used on these roofs is called sedum. Sedum are durable, hearty plants that can easily survive through the winter, when they appear brown, but in the summer bloom into a colorful variety. These roofs have a specific set of layers that go as follows, from top to bottom: Plants, soil, filter fabric, drainage layer, roof barrier, roofing membrane, leak detection grid, roof insulation, and building structure. Each of these layers has a unique and important function to keeping the green roof performing adequately. Within a large rain storm of .9 inches, the roofs can capture more than 13,000 gallons of stormwater, about the size of a backyard swimming pool. These roofs are taking that rain and preventing it from entering our sewer system. Additionally, since it is a college campus, many educational aspects were included such as different signage to describe what the roof are and what they do, and a performance meter that students can use to see how much stormwater runoff the roof is reducing. This data can then be used to see how the roof is performing over time.



Figure 2. Roof of building 3 prior to the construction of the green roof.



Figure 3. Roof of building 3 after construction of the green roof.

Benefits of System

Key benefits of green roofs:

- ◆ Effectively breaks down and removes a large portion of pollutants found in urban runoff.
- ◆ Increased stormwater infiltration time.
- ◆ Increased wildlife habitat and biodiversity.
- ◆ Decrease reliance on existing stormwater infrastructure and treatment facilities.
- ◆ Educational piece for students.



Figure 4. Green roof on building 16.