



# Green Infrastructure & Stormwater Management CASE STUDY

---

## Ethical Culture Fieldston School - Green Roof

**Location:** 3901 Fieldston Road, New York City, NY

**Client:** Ethical Culture Fieldston School

**Design Firm(s):** Columbia University

**Landscape architect/Project contact:** Kim DiGiovanni

**Email:** [kad54@drexel.edu](mailto:kad54@drexel.edu)

**ASLA Chapter:** None



### Project Specifications

**Project Description:** The Ethical Culture Fieldston School middle school building, constructed in 2007, features two green roofs. The lower roof, which is accessible to students, is roughly 1,500 sq/ft featuring many native grasses and ornamentals including goldenrod and bush clover. The upper green roof is not accessible to the students and has an area of roughly 5,600 sq/ft. The green roofs were installed during new building construction in 2007, and consist of a roof membrane with root barrier, insulation layer, filter fabric, drainage layer, media layer, and vegetative layer. The media layer of the lower roof varies in depth up to eight inches while the upper roof media layer is four inches thick and made up of 85% expanded shale and 15% organic matter. Six different species of Sedum were planted from plug on the upper green roof to make up the vegetative layer of the rooftop (Sedum album, S. sexangulaire, S. reflexum, S.

floriferum, S. hybridum, and S. spurium). Collaborative research efforts involving Columbia University and Drexel University are monitoring the performance of these green roofs including studies on microclimate regulation, hydrologic processes and wildlife habitat/biological diversity.

**Project Type:**

Institutional/education  
Part of a new development

**Design features:** Green roof

**This project was designed to meet the following specific requirements or mandates:** Not applicable

**Impervious area managed:** 5,000 sq/ft to 1 acre

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** None, substitution of what would have been impervious cover with green space.

## Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$10,000-\$50,000 (Public funding: None)

**Number of jobs created:** Not available

**Job hours devoted to project:** Not available

Planning and Design: Not available

Construction: Not available

Annual Maintenance: Not available

## Performance Measures

**Community & economic benefits that have resulted from the project:** The Ethical Culture Fieldston School green roof presents a variety of quantitative and qualitative benefits to the community including stormwater management benefits, air pollution mitigation, carbon sequestration, microclimate regulation (reduction of urban heat island), creation of wildlife habitat, aesthetic benefits, etc. Additionally, the lower green roof provides a learning environment for the students of the Ethical Culture Fieldston School.

## Additional Information

**Links to images:** <http://www.ecfs.org/about/sustainablefieldston/roof.aspx>