Location
Atlanta, Georgia
Green Roof Designer
Ecos Environmental Design, Inc.
Year Completed
2004
System Type
Semi-intensive
Project Area
4,000 sf (400 m²)

A. Storm Water
The GreenTech modular green roof installed atop the art building at the Woodward Academy’s Jordan N. Carlos Middle School Campus contributes to storm water management on the site. Along with other non-structural strategies including rain gardens at building downspouts and bioretention swales at the perimeter of the project, the green roof slows the rate and reduces the volume of runoff to be held in a concrete tank located beneath the Middle School’s parking lot. The tank slowly releases storm water to the city's storm sewer system.

A. Storm Water
B. Energy
C. Acoustics
D. Structure
E. Compliance
F. Cost

WOODWARD ACADEMY

A+B+D+E

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B. Energy
The Middle School Campus, designed by Perkins + Will, incorporates numerous energy-saving building strategies, from geothermal wells for heating and cooling to daylighting of classrooms and common areas, to a sophisticated energy management system. Woodward Academy expects the thermal benefits of the green roof on the Art Building to offset, at least in part, the higher cost of green power purchased in the form of renewable energy certificates. These certificates support the use of wind, landfill natural gas, and solar energy sources.
Load constraints on the roof structure limited the green roof load to 35 pounds per square foot. The growing medium was saturated with water and subjected to a load test to determine the maximum allowable depth of 6½” (160 mm). Because the modules are 8” (200 mm) deep, the grid of modules is clearly visible on the surface of the roof. The modules were installed above 3” (75 mm) of gravel ballast to prevent roof membrane uplift, which is especially critical in the absence of a parapet wall at the roof perimeter. Without a parapet or railing at the roof edge, the roof is accessible only to maintenance personnel.
The modular green roof system on the Art Building exemplifies the architectural approach used throughout the Middle School Campus to expose building systems to view where possible. With this approach, the students are made aware of the technology necessary to support their educational environment on a daily basis. Though originally planned for concealment behind a fascia, the crenellated profiles of the modules are exposed to view. They serve as visual evidence of the plants’ drainage system and hint at the method by which the modules were installed on the roof.