



# Green Infrastructure & Stormwater Management CASE STUDY

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## Discovery Communications Headquarters

**Location:** Silver Spring, MD

**Client:** Discovery Communications

**Design Firm(s):** AECOM Design and Planning

**Landscape architect/Project contact:** Dennis Carmichael, FASLA

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**ASLA Chapter:** Potomac



Image: AECOM Design and Planning

### Project Specifications

**Project Description:** The project is a one-acre intensive green roof atop an underground parking structure. It is predominantly at grade relative to the surrounding street and is open to the public as a park. Its unique feature is that it is organized as a sensory garden, with a variety of plants that reflect the five senses of sight, smell, hearing, touch, and taste. This

garden is watered by an irrigation system that reuses roof runoff and subterranean sump water gathered into a cistern in the lowest level of the parking structure.

**Project Type:**

Commercial

Part of a redevelopment project

**Design features:** Green roof and cistern. The intensive green roof is watered by an irrigation system that derives its water from two sources. The first is reused roof runoff from the building roof above. The second is from excess subterranean sump water that is collected at the lowest level of the parking structure to maintain a dry condition for the structure. These waters are gathered in a cistern at the lowest garage level. This system provides 2/3 of annual water consumption for the green roof.

**This project was designed to meet the following specific requirements or mandates:**

State statute, county ordinance

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 1 acre to 5 acres

**The regulatory environment and regulator was** supportive of the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** The intensive green roof is at grade and was intended from the outset to be a public park for the benefit of employees and the general public. Subsequently, the owner installed a day care facility on the ground floor of the building and part of the garden was converted to a child play area for the children.

**Cost & Jobs Analysis**

**Estimated Cost of Stormwater Project:** \$1,000,000-\$5,000,000 (Public funding: Local - the local county provided some financial incentives to Discovery Communications to locate their headquarters on this redevelopment site)

**Was a green vs. grey cost analysis performed?** No

**Cost impact of conserving green/open space to the overall costs of the site design/development project:** The existing site was an urban redevelopment site that had formerly been a commercial use with surface parking. The intensive green roof was a new addition to the open space and pervious area of the site. The cost of the green roof as a percentage of the overall project cost for the new headquarters was less than 5%.

**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Slightly increased. The alternative of a surface parking lot as the top level of the parking structure would have been less expensive.

**Number of jobs created:** Not available

**Job hours devoted to project:**

Planning and Design: 2,000

Construction: 5,000

Annual Maintenance: 275

## Performance Measures

**Stormwater reduction performance analysis:**

90% of the 2-year storm is captured on site. Up to 50% of the roof drain water runoff is captured in the cistern below and reused by the irrigation system.

**Community & economic benefits that have resulted from the project:** The relocation of the Discovery Communications Headquarters to downtown Silver Spring was a significant catalyst to a larger revitalization effort by the county. Since their move, the area has seen a new town center built with retail, office, and entertainment uses totaling over 1 million square feet. Over 100 residential units have been built to date within a three block radius and over 500 are planned or under construction. The county has also invested in a new multi-modal transit center across the street to reinforce the significance of Silver Spring as an urban center based upon a transit friendly core. The green roof is extensively used by employees and residents of Silver Spring for organized and informal gatherings.

## Project Recognition

ASLA merit Award: Virginia Chapter; Rudy Bruner Silver Award for Urban Design Excellence; LEED Platinum rating



Image: AECOM Design and Planning