



Green Infrastructure & Stormwater Management CASE STUDY

112-Acre Private Residence and Golf Course

Location: Old Westbury, NY

Client: SS Old Westbury

Design Firm(s): B. Thayer Associates; Edmund D. Hollander Landscape Architect, P.C.

Landscape architect/Project contact: Curtis F. Velsor, ASLA, RLA, CLA, LLA

Email: cvelsor@bthayerassociates.com

ASLA Chapter: New York



Project Specifications

Project Description: B. Thayer Associates provided site and civil engineering services for this 112-acre private residence. Work included watershed analysis and design of site drainage for the entire site; stormwater management (SWPPP) and erosion control plans; submittals for Village and County permits; design of horizontal and vertical alignment for 4,496 linear feet of driveway; site inspection of drywell installations; and coordination with contractors during the construction process. The drainage plan was designed to discharge zero stormwater offsite.

Project Type:

Single family residential
Part of a new development

Design features: Drywell systems, Drainage Retention Areas (DRAs).

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

Local ordinance, project design exceeded local ordinance

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: greater than 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? Yes - the detention pond was considered and implemented as a landscape amenity as well as for stormwater control and irrigation use. Property value enhancements were considered in making the site (much of which is a private golf course) more aesthetically appealing with the use of natural stormwater capture methods rather than traditional infrastructure.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: None)

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Did not influence costs.

Number of jobs created: Not applicable

Job hours devoted to project:

Planning and Design: 6,618
Construction: Not available
Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

Local ordinance requires all stormwater to be retained on site. Up to eight inches of stormwater is retained for roadway areas where flow could potentially leave the site. For all other areas, three inches of stormwater is retained on site.

Community & economic benefits that have resulted from the project: This project has provided the community with an excellent example of effective stormwater control measures. It has increased the economic value of the neighborhood through high quality construction and a focus on minimizing potential damage from discharges to adjacent properties and roads with zero offsite discharge.

Project Recognition

2009 American Council of Engineering Companies (ACEC) NY Gold Award for Engineering Excellence

Additional Information

Links to images:

https://picasaweb.google.com/lh/photo/lqnrwE_otbiWhu6x28NqcM5lql5wNjPsTp4P-as4Log?feat=directlink

<https://picasaweb.google.com/NYASLA.excom/BTAASLStormwaterCaseStudyImages?authkey=Gv1sRgCMHmsaqTxrbrhgE#5589891085017709618>

Our innovations on this project could be of future value to the landscape architectural profession. The stormwater management procedures employed were designed, implemented and adapted as construction proceeded day to day. These procedures have demonstrated how runoff and sediment can be contained even during the construction phase of a project. The stormwater design plan and Best Management Practices utilized during this project have resulted in a model for future projects within the Village of Old Westbury.