Green Infrastructure & Stormwater Management CASE STUDY

Squire Creek Residence

Location: Lincoln Parish, LA
Client: Jim and Margaret Davison
Design Firm(s): Jeffrey Carbo Landscape Architects
Landscape architect/Project contact: Project Manager - Jeffrey Carbo, FASLA
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ASLA Chapter: Louisiana

Photo: Jeffrey Carbo Landscape Architects

Project Specifications

Project Description: This residential commission meets the needs of a growing young family, integrating their requirements with a combination of sustainable practices and restrained design. Programmed open spaces are defined by grids of trees and separated from naturalistic areas by masses of native grasses. Hardscape components are minimal so as not to compete with the

Photo: Jeffrey Carbo Landscape Architects

landscape elements. Our design goal was to create an elegant, functional, and sustainable landscape within a residential context for an active family. Rain garden/ water retention was incorporated as a garden feature. Porous gravel was designed in guest parking. Open lawns were preserved and large drifts of native grasses slope to a ravine and natural wooded preserve.

Project Type:
Single family residential
Part of a new development

Design features: Rain garden, bioswale, downspout removal, porous pavers, and curb cuts.

This project was designed to meet the following specific requirements or mandates: County ordinance, 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: 5,000 sq/ft to 1 acre

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 clients allowed great latitude in resolution of design details giving us many design opportunities within a defined budget to propose sustainable design and stormwater management. The sunken garden at the entry retains water in significant rainfall events and also creates an entry focal. Water moves within a 6" stainless rill from entry to a rain garden retention area.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $50,000-$100,000 (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 design/development project: Preserving open spaces slightly reduced overall costs of the site design and development.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly reduced costs (1-9% savings).

Number of jobs created: +/- 15

Job hours devoted to project:

Planning and Design: 2
Construction: 10
Annual Maintenance: 2
Other: 2

Performance Measures

Stormwater reduction performance analysis: Data not available.

Community & economic benefits that have resulted from the project: We understand the need for developing affordable designs that can be maintained over time. We incorporate sustainable design elements within the project. By incorporating a mixture of stormwater management, adaptive reuse of materials, and the use of native plantings, we provide the best solution for site. The aspect of economic sustainability comes into play when considering the long term maintenance of a project. We strive to design for the clients' ability and desire to maintain the design in this manner, the end result can provide for both economic and environmental sustainability.

Project Recognition

Award of Honor, Louisiana Chapter (2010)

Additional Information

Links to images: All photos credited to Jeffrey Carbo Landscape Architects

http://jeffreycarbo.com/proj_gallery.php?aid=71&categoryid=1&projid=159

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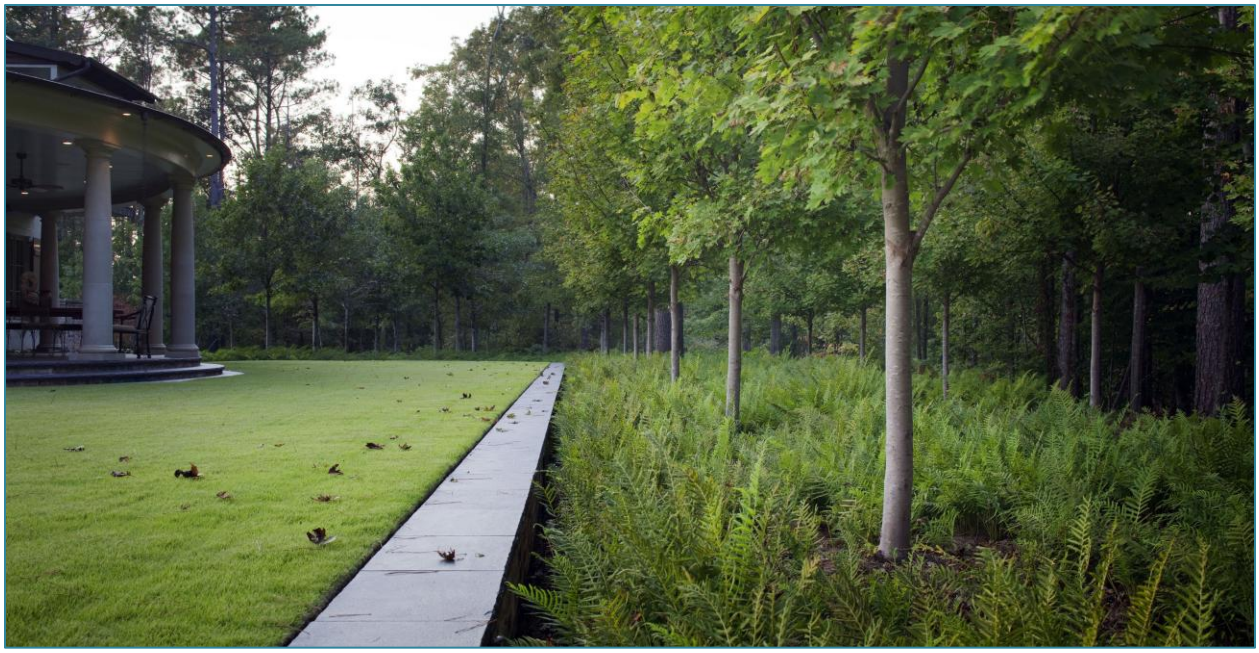
The use of native aggregates for drive surfaces, stone that emulated a native rock found nearby, stormwater retention as a rain garden, and the pool as a minimal yet functional and elegant garden element all contribute to our design intent. The early comprehensive involvement and

collaboration with the owner and architect reaped many benefits with the completed work and allowed us to test and implement many intricate design details. Preserved wooded areas became backgrounds for designed spaces, with walking paths integrated throughout. Native grasses and wood fern planted generously and in bold gestures contrast with the simple lines of lawn. The limited plant palette also responed to the client's maintenance concerns, yet gave us the opportunity to create striking and dynamic spaces that could be memorable in a minimal way. Most stormwater is retained on site, overflow is intentionally managed with a linear gravel runnel on axis with the front door and linear entrance. Water moves within a runnel from the entry court to the rain garden retention area. The sunken garden at the entry retains water overflow in significant rainfalls and is a focal at entry which then flows to basins with recirculating water to the rain garden beyond.



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