Green Infrastructure & Stormwater Management CASE STUDY

Lexington Elementary Environmental Education Wetland

Location: Lexington Elementary School, Spencer Ave., Monroe, LA
Client: Lexington Elementary PTO
Design Firm(s): Tony Tradewell, ASLA
Landscape architect/Project contact: Tony Tradewell, ASLA
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ASLA Chapter: Louisiana

Project Specifications

Project Description: The projected site is a 60' x 200' outdoor space defined by the existing school building and classrooms. Nine classrooms, the school office, and the school library open into this space. The site is currently unused and described by many as a maintenance and security nuisance.

In the proposed plan, all the grass/lawn will be removed and replaced with decomposed granite which gives better water runoff percolation while providing an ADA accessible surface. The existing walk which currently frames the lawn space will remain and define the edge of this new surface. Between the walk and the classrooms around the perimeter of the space, each classroom will have its own experimental garden.

There are thirteen gutters with down spouts around this space that dump large amounts of rainwater runoff into the lawn. These down spouts will be modified to carry the rain water over head in metal scuppers that bridge the sidewalk and deposit the water in to cisterns with hand pumps for each classroom garden. These cisterns will have an overflow that spills into a rill which carries the surplus rainwater to a sunken wetland garden planted with native wetlands species such as iris, rush, and bald cypress. The wetland garden then retains and filters the water.

A 14' x 28' open air classroom pavilion will be placed within this wetland garden. This structure creates an environment where the natural processes around us can be experienced first hand and how we can impact those processes in a positive and responsible way.

Project Type:
Institutional/education
A retrofit of an existing property

Design features: Rain garden, bioswale, cistern, and downspout removal.

This project was designed to meet the following specific requirements or mandates:
Developer/client preference

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: 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? All of the above.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $50,000-$100,000 (Public funding: Federal - DEQ-Control of NPS Pollutants from Facility Runoff)

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: This was the purpose of the design. There was no alternative. A problematic space on campus was converted to a usable recreation space and teaching tool.

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 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 site which was

unused and described by many as a maintenance and security nuisance became a teaching tool and outdoor recreational space enjoyed by not only the elementary student body, but also the surrounding community. It has also gained attention and interest from local contractors, garden clubs, and other developers.

Project Recognition

Additional Information

Links to images: http://www.tonytradewell.com/7901/7922.html