



Green Infrastructure & Stormwater Management CASE STUDY

Green for Life!

Location: Boykin Community Center, Auburn, AL

Client: City of Auburn Recreation Dept., Auburn, AL

Design Firm(s): Auburn University Landscape Architecture - student work

Landscape architect/Project contact: Charlene LeBleu, ASLA, Associate Professor of Landscape Architecture

Email: leblecm@auburn.edu

ASLA Chapter: Alabama

Project Specifications

Project Description: For the last two years, teams of students from various CADC programs under the direction of Charlene LeBleu, Associate Professor of Landscape Architecture, Rebecca O'Neal Dagg, Interim Dean of CADC and Carla Jackson Bell, Director of Multicultural Affairs, have been working with the Boykin Community Center on the Green for Life! demonstration project that corrects a stormwater runoff problem and provides a watershed education program. Fixing the erosion and drainage problems on the playground and in landscaped areas has created a more attractive and usable place for children to play and stops sediment from polluting the Saugahatchee watershed. The project integrated their design with a watershed education program, Green for Life!, and educational signage around the community center. This curriculum targets after-school students, GreenKidz for Life! for grades K–8 and GreenTeenz for Life! for grades 9–12, by providing special indoor and outdoor classroom field days that offer green educational opportunities in a non-traditional environment.

Project Type:

Other (please specify)

A retrofit of an existing property

Design features: Bioretention facility, rain garden, bioswale, cistern, downspout removal, porous pavers, and infiltration trenches.

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

State statute, mitigate sediment & nutrients to adjacent 303d listed stream

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? No

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$50,000-\$100,000 (Public funding: Federal, state, regional, local, watershed grant/ CWA 319 dollars)

Related Information: Total \$18,965 (supplies), grading \$760, topsoil/ amendments \$600, stone \$400, drain tile \$300, drain boxes \$40, solid PVC pipe \$75, PVC pipe fittings \$50, tools \$50, landscape fabric \$500, plant material \$1,200, sod \$800, mulch \$400, cisterns (4—1,000 gal) \$11,500, signage \$1,200, 700+ hours of volunteer labor...priceless!

Was a green vs. grey cost analysis performed? Yes, \$120,000 (underground piping) verses \$20,000

Cost impact of conserving green/open space to the overall costs of the site design/development project: \$100,000 was saved - money that the city recreation department didn't have to spend.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings).

Number of jobs created: None, volunteer work

Job hours devoted to project:

Planning and Design: 80 hrs. volunteer

Construction: 719 hrs. volunteer

Annual Maintenance: 16 hrs. volunteer

Other: Education 40 hrs.

Performance Measures

Stormwater reduction performance analysis:

85%

Community & economic benefits that have resulted from the project: Reduced down stream flooding, increase in property values (down stream) and aesthetics.

Project Recognition

Student Award---Award of Merit--Best Community Design; Alabama Chapter APA--Best Student Planning Project Award

Additional Information

Links to images: <http://www.cadc.auburn.edu/Default.aspx?DN=20aa5b33-7593-46a2-9538-5b3ae6275c0d>

The Boykin Community is situated in northwest Auburn, AL in the Saugahatchee Watershed. The Saugahatchee Watershed is currently listed on ADEM's 303d list for impaired watersheds for nutrients and organic enrichment/dissolved oxygen. Numerous non-point source (NPS) pollutants are listed including excess nutrients, sediment and pathogens. Green building and living practices have been suggested to improve the quality of the water and the overall health of the watershed. Green practices known as Low Impact Development (LID) are Best Management Practices (BMPs) for stormwater that seek to maintain a site's pre-construction hydrology through "micro-site" management of stormwater. This grant provided funding to install demonstration BMPs for SWaMP educational use and to assist in the implementation of the Green for Life! educational program.

The Green for Life! program is two-fold. First, the program provides green retrofits to the community center and secondly, a green education curriculum will empower children and students to take their new "green knowledge" home and to learn how "greening" the community will help to make communities stronger. The pilot program targets after school students [GreenKidz for Life! (K-8) and GreenTeenz for Life! (9-12)] at the Boykin Community Center by providing special indoor and outdoor classroom field days offering green educational opportunities and career development exposure in a non-traditional setting. The program format works with the existing after school curricula to stimulate academic achievement in science and arts through the age appropriate hands-on building of "green retrofits" to the local community center. After school participants at Head Start, Joyland Child Care Center, and Auburn Day Care were taught hands-on activities by CADC architecture and landscape architecture design coordinators (LeBleu and O'Neal Dagg), an academic program coordinator (Dr. Jackson Bell), student volunteers (approximately 40 – 60 volunteers) from the Auburn University CADC Learning Communities and neighborhood volunteers.

This program emphasizes the understanding of core principals of environmental education and why they are important to childhood education and family development. It builds capacity in support of No Child Left Inside Act (NCLI Act -- H.R. 2054 / S. 866; pending). The Green for

Life! program acts as a stimulus to combat sedentary lifestyles in children in an underserved community while laying a foundation to promote water quality, environmental education and green building education.