



Green Infrastructure & Stormwater Management CASE STUDY

Magdalene Reserve

Location: Tampa, FL

Client: Mobley Housing Group

Design Firm(s): Florida Technical Services, Inc. and Ekistics Design Studio, Inc.

Landscape architect/Project contact: Thomas Levin, ASLA

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ASLA Chapter: Florida

Project Specifications

Project Description: This project is an example of a low tech approach to site planning and development that resulted in preservation of tree canopy and native vegetation reducing impacts on stormwater quality. Minimizing building footprints by the use of stemwalls, unconventional access to lots reducing roads and utilities by 20% in length. Cleared rights of way were reduced by 50% in width. Rear yard swales were utilized along wetlands to avoid impacts associated with conveying stormwater to the street. The stormwater system was a hybrid wet and dry system planted with native vegetation to promote biological assimilation of pollutants. Preservation of native understory vegetation resulted in a drought tolerant landscape with no conventional lawns thus reducing the need for fertilizer and pesticides that could impact stormwater quality.

Project Type:

Single family residential

Part of a new development

Design features: Bioretention facility, bioswale, downspout removal, and preservation of native vegetation and soils.

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

State statute, county ordinance

Impervious area managed: greater than 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? Property Value Enhancement

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$10,000-\$50,000 (Public funding: Not available)

Related Information: Increased cost over conventional stormwater system. Planning and design \$5,000 Stemwall construction \$80,000 Additional landscaping \$15,000

Was a green vs. grey cost analysis performed? Yes, the value of increased costs over conventional development was approximately \$100,000. Resulting cost savings were \$75,000 in reduced mass clearing, paving and utilities. Two additional lots were created and valued at \$60,000. The sales price for lots was increased by \$40,000 and sales were accelerated in a slow real estate market reducing project carry costs by about \$55,000.

Cost impact of conserving green/open space to the overall costs of the site design/development project: Increased cost for planning, lot by lot clearing and grading vs. mass grading, stemwall construction and increased cost of landscaping were offset by the reduction in infrastructure, enhanced marketability and the ability to add two lots to the site plan.

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: Not available

Job hours devoted to project:

Planning and Design: 150

Construction: Not available

Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

The stormwater system was designed to meet or exceed State standards. Due to the preservation of vegetation and native soils as well as increased opportunities for infiltration, the terminal pond does not routinely fill up and discharge thereby sequestering nutrients and pollutants on site.

Community & economic benefits that have resulted from the project: Established a new standard for low impact development in West Central Florida in 1990 over 20 years ago. Prior to this project subdivision regulations combined with standard development practices mandated significant site disruption. A new awareness by the public and regulatory agencies was cultivated. The residents have continued the legacy by managing the site and landscape in accordance with the original design philosophy.

Project Recognition

1992 ASLA Chapter Award of Excellence; Florida Design Arts Award, Planning Commission Community Award; Florida Native Plant Society; National Association of Homebuilders

Additional Information

Links to images: <http://casestudies.uli.org/Profile.aspx?j=8034&p=1&c=4>

<http://www.dmr.state.ms.us/CMP/Storm/APPENDIX-C/Appendix%20C.pdf>

<http://www.nrdc.org/water/pollution/storm/chap7.asp>

http://maps.google.com/maps?hl=&q=magdalene+reserve+tampa&rlz=1B3GGGL_enUS282US

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