



Green Infrastructure & Stormwater Management CASE STUDY

The Nature Conservancy Efroymson Conservation Center

Location: Indianapolis, IN

Client: The Nature Conservancy in Indiana

Design Firm(s): Rundell Ernstberger Associates (REA), Axis Architecture + Interiors, EMH&T, Elements Engineering, LandTech, Circle Design Group, Lynch, Harrison & Brumleve

Landscape architect/Project contact: Kevin Osburn, RLA, ASLA - Partner in Charge of Project, and Rundell Ernstberger Associates, LLC

Email: bmcnerney@reasite.com

ASLA Chapter: Indiana



Photo: Rundell Ernstberger Associates

Project Specifications

Project Description: The Efroymson Conservation Center (ECC), The Nature Conservancy's (TNC) new headquarters, is situated on a former industrial/commercial site that has been transformed into a model for sustainable urban infill development featuring an innovative site and building design. The \$4.5 million project completed in April 2010 includes the 20,000 sq/ft ECC, native plant gardens, and flexible outdoor spaces contained on a one-acre site. In

addition to expanded office space, outdoor gathering spaces, field operation staging areas, and sufficient parking, TNC's highly sustainable design program called for eliminating runoff to the combined sewer system, gardens of native plant communities, cutting edge green building and site systems, and achieving LEED Platinum certification.

Project Type:

Commercial

Part of a redevelopment project

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

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

County ordinance, local ordinance, 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: less than 5,000 sq/ft. The original site had almost no green/open space. The planting / stormwater areas utilize roughly 58% of the site.

The regulatory environment and regulator was indifferent to the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Since the gardens, green roofs, and bioswales are all part of a site representative of TNC's mission and conservation work, all these factors and several others were considered when designing the stormwater system.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$100,000-\$500,000 (Public funding: None)

Related Information: Our team can provided this information in the future if needed.

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: Utilizing more than half of the site for gardens / stormwater management areas, such as green roofs and a bioswale, saved the project several hundred thousand dollars in stormwater infrastructure. The design provided for all stormwater to be infiltrated on site. No connections were made to the City of Indianapolis storm / sanitary system.

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). See #12 comments and Fact Sheets on TNC website (above).

Number of jobs created: Not available

Job hours devoted to project:

Planning and Design: Not available

Construction: Not available

Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

100% of new developed site runoff is retained on site.

Community & economic benefits that have resulted from the project: The Efroymsen Conservation Center (ECC) is located in the Cole Noble Neighborhood on the east side of downtown Indianapolis. The ECC has been a trend-setting and inspiring addition to this redeveloping neighborhood. The City of Indianapolis has implemented new roadway stormwater practices such as porous concrete drive aprons, etc since the ECC project was finished.

Project Recognition

Chapter Honor Award, 2010; A Monumental Affairs Awards (AMA), Landscape Architecture, Honor Award, 2010 / AIA Indiana Honor Award, 2010 / AMA Architecture Award, Merit, 2010; SustainIndy Water, 2009 / SustainIndy Energy, 2010; Contact The Nature Conservancy in Indiana for a full list of local and professional awards

Additional Information

Links to images: TNC in Indiana site -

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/greenbuilding/efroymsen-conservation-center.xml>

Article by REA - <http://www.landscapeonline.com/research/article/14128>,

<http://www.reasite.com/>

The ECC will be featured in a documentary by WFYI in 2011.

Additional features: parking / field operation staging areas, minimal quantity to meet employee needs / maximize green space, highly reflective permeable pavers and concrete pavement,

primarily sheet-flow drainage to bioswale, three spaces for fuel-efficient / low- emission vehicles, doubles as special event staging area

Stormwater Management

- zero site runoff
- permeable pavements, bioswale, green roofs, native gardens - eliminated need for connection to the city's combined sewer system – substantial cost savings

Native Gardens:

- represent TNC's work in Indiana's natural landscapes
- cover approximately 33% of site
- common or relating species provide seamless transition between zones
- unique species not normally seen in urban environment

Green Wall

- 16' high planted retaining wall allowing more space for gardens
- enables natural light into basement meeting spaces, creating cost savings, reducing building sq/ft

Native Bioswale

- functional stormwater detention facility and native plant garden
- stormwater runoff from parking areas, alleys, and cistern overflow
- sandy soil allows high infiltration rates through perforated pipe system

Green Roofs

- intensive 24 inch planted system – visible from work spaces
- extensive 4 inch tray system – accessible from stairwell
- water collected in basement cistern – feeds building and supplemental irrigation