



Green Infrastructure & Stormwater Management CASE STUDY

Fed Ex Cargo Sort Building

Location: O'Hare Airport, Chicago, IL

Client: Federal Express

Design Firm(s): Solomon Cordwell Buenz

Landscape architect/Project contact: Kurt Horvath

Email: greenroofer@intrinsiclandscaping.com

ASLA Chapter: None



Project Specifications

Project Description: The Fed Ex green roof is the largest unirrigated stormwater management project in north America. Chicago requires 50% of each new construction project to be covered with a green roof. Federal Express committed to covering the whole building to reduce the impact of development on storm sewers. The project was completed in 17 days on May 1st, 2010.

Project Type:

Commercial

Part of a new development

Design features: Green roof.**This project was designed to meet the following specific requirements or mandates:**

County ordinance

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?** Electronic leak detection was used to ensure the membrane was kept intact during install.**Cost & Jobs Analysis****Estimated Cost of Stormwater Project:** \$1,000,000-\$5,000,000 (Public funding: None)**Related Information:**

- \$420,000 in components
- \$220,000 in drainage aggregate locally sourced
- \$800,000 in labor
- \$1,000,000 in locally grown sedum mat

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:** Typical roof treatment is white. Increasing the population of winged pollinators had to be considered as a risk when building such a project in an airport. The previously open space was annexed in the O'Hare modernization project.**Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)?** Significantly increased. Long term return on investment was achieved by doubling the roof investment life and remediating long term stormwater tax increases.**Number of jobs created:** 12

Job hours devoted to project:

Planning and Design: 3,000

Construction: 250

Annual Maintenance: 200

Performance Measures**Stormwater reduction performance analysis:**

Estimates of 90% of an average storm event is detained for three hours in this 4" deep Extensive system. No irrigation is required to sustain it beyond initial establishment protocol.

Community & economic benefits that have resulted from the project: Impact from the air is remarkable. The building is almost invisible from Google Earth. Other airport tenants are making the same investment in O'Hare facilities and O'Hare has more green roofs than any other airport in the world.

Additional Information

Links to images: <http://www.greenroofsolutions.com/about-grs/projects/>