

New Call-Center Office Building

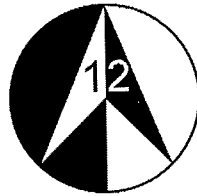
Oneida County Industrial Park

5992 Judd Road

Oriskany, New York

By

Twelve North Engineering



Engineering Report: LEED Accreditation

Table of Contents

Purpose

Page 1

Background

Page 1

Basis of Design

Page 2

Figures

Page 3

Purpose

This report details the background into our Leadership in Energy and Environmental Design accreditation for the call center project. A civil engineer's design can contribute to as much as 46 points of the total 110 credits in the LEED accreditation. These credits can fall in a variety of categories. It is necessary at the start of any project to determine what credits designers' will seek to attain. The overall design can continue from once these design parameters needed to qualify for accreditation have been determined.

Background

The overall project goal is to provide engineering plans and specifications for a commercial tenant at the site, which takes advantage of the proximity to major transportation routes, excellent location relative to the urban center of Utica, and the presence of government agencies to provide entitlement funding, also situated in Utica, New York.

The design team overall goal is to create a site that is not only functional, but also aesthetically pleasing. This should be a site that is easy for maintenance and ground crews to maintain, and one that will also be able to retain its value for several years without redesign or needless additions. Along with being functional, it is a goal to be self-sustaining and reuse as many natural resources as possible.

Our design is required to allow for ample parking for all employees, as well as easy access from the major transportation routes near the site, including Airport Road and Judd Road. The site must meet all ADA accessibility requirements, along with providing drop off zones for trucks, and allowing for vehicular traffic to flow freely without any requirement for operating in reverse except to depart parking spaces. Along with transportation standards we are to conform to New York State, Town of Whitesboro, and Oneida County building codes and regulations.

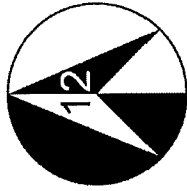
Basis of Design

In the call center project, designers sought for a silver rated LEED accreditation. A silver accreditation requires a minimum of 50 credits. The design for the call center achieved 19 of these 50 credits. The main goal of the LEED design was to seek realistic, attainable credits that would be beneficial to employees and maintain an appropriate level of sustainability in the site. The credits obtained fell in the following three categories of LEED categories: sustainable sites, water, and regional priority. Twelve credits were obtained from *Sustainable Sites*, which was where the majority of the credits were earned. A few examples of these earned credits came from designs such as parking for fuel-efficient vehicles, provisions for a bike rack and shower, and a roofing material that served as a heat island. Description and listing of all credits can be seen in Figure A. Four credits were obtained from the category *Water*. These four credits came from the team's choice to design water-efficient landscaping feature that would use potable water for irrigation. The last category where the remaining 3 credits came from was regional priority. Given the area code of the project, 13520, the design obtained one credit each for the credits SSc3, SS 6.1 and SS7.2. These "extra" credits are incentive credits awarded for certain LEED categories awarded based on the project's zip code. A full list and description and description of all LEED credits earned can be seen in Figure A.

Figures

A. LEED Accreditation Credits List

	LEED™ Credit Description	Points Available	Expected Score	Possible Additions	Not Possible	Comments
Sustainable Sites	SSp 1 Construction Activity Pollution Prevention		R			Must conform with 2003 EPA Construction General Permit
	SS 1 Site Selection - Avoid Inappropriate Sites	1	1	0	-	Site meets criteria
	SS 2 Development Density and Community Connectivity	5	0	0	5	Site does not meet requirements
	SS 3 Brownfield Redevelopment	1	1	0	-	Documented as a brownfield by Phase II ESA and effectively remediated
	SS 4.1 Alternative Transportation- Public Access	6	0	0	6	Site is within 1/4 mile from two or more bus lines
	SS 4.2 Alternative Transportation- Bicycles	1	1	0	-	Bicycle storage for 5% of occupants plus showers and changing rooms
	SS 4.3 Alternative Transportation- Fuel-efficient vehicles	3	3	0	-	Project will include discounted, preferred parking for 5% of FTEs
	SS 4.4 Alternative Transportation- Parking	2	2	0	-	Project provides preferred or discounted parking for carpools for 5% of FTEs
	SS 5.1 Site Development- Protect or Restore Habitat	1	0	0	1	Project includes native vegetation for at least 50% of open space
	SS 5.2 Site Development- Maximize Open Space	1	1	0	-	Owner will dedicate open space equal to the footprint of the building
	SS 6.1 Storm Water Design- Quantity Control	1	1	0	-	Stormwater Management Plan results in no net increase in runoff
	SS 6.2 Storm Water Design- Quality Control	1	1	0	-	Project captures and treats 90% of runoff with BMPs
	SS 7.1 Heat Island Effect- Non-roof	1	0	0	1	Project will not meet requirements
	SS 7.2 Heat Island Effect- Roof	1	1	0	-	Project roofing materials meet SRI requirements for at least 75% of roof
	SS 8 Light Pollution Reduction	1	0	0	1	Project will not meet requirements
		26	12			
Water	WEp1 Water Use Reduction		R			20% reduction in potable water use over baseline
	WE 1 Water Efficient Landscaping- 50% or elimination	4	4	0	-	Design eliminates potable water use for irrigation
	WE 2 Innovative Wastewater Technologies	2	0	2	2	Project will not meet requirements
	WE 3 Water Use Reduction	4	0	2	2	Project will not meet requirements
Regional Priority	SSc3	1	1	0	-	
	SS 6.1	1	1	0	-	
	SS 7.1	1	0	0	1	
	SS 7.2	1	1	0	-	
	Applicable Regional Priority Credit for 13502 Include: SSc3, SSc6.1, SSc7.1, WEc2, EAc2, MRc1.1					
	TOTAL POINTS	110	19	5	88	
LEED	Certified	40 - 49 Points		Summary:		The project requires a minimum of X of the possible additional X points to achieve a LEED Certified Rating. A - Rating is achievable if X of the possible additional X points can be obtained.
	Silver	50 - 59 Points				
	Gold	60 - 79 Points				
	Platinum	80 Points and above				



Suny Polytechnic Institute
Civil Engineering Technology
Capstone Presentation

New Call-Center Office Building
Oneida County Industrial Park
5992 Judd Road
Oriskany, New York

When: Thursday, April 30th, 2015 @ 6pm

Where: Student Center, Multi-Purpose Room #2

Light Refreshments will be Available