INTERFACE

A Cowork Environment

UNIVERSITY OF ARKANSAS

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U.S. GREEN BUILDING COUNCIL LEED SILVER USGBC

1/4 mile radius map

Surrounding Density and Diverse Uses
8/8 points; 1 Regional Priority credit

Calculation of the average density within a 1/4 mile of the project was required along with an analysis of the surrounding building and lot uses to ensure urban development rather than sprawl. Diverse uses were outlined in the guidebook and can be referenced with the above map and key. Around 75 use types were identified within the 1/4 mile radius with a density of 100190.9 square feet of building per buildable acre of land, earning a total of 8 points for the project.

Specific credits are more valued in certain areas of the country depending on the specific location's needs, called Regional Priority credits. In St. Louis, the Surrounding Density and Diverse Uses credit is one of those. Credits outlined as being of importance to the location must meet a minimum threshold of points. If all points are achieved in that category then a bonus point is earned. Since all points in this category were achieved, the Regional Priority credit was earned.

Access to Quality Transit
7/7 points; 1 Regional Priority credit

Significant multi-modal mass transit was necessary to receive points for this credit. At least 72 stops per weekday and 40 stops per weekend within a 1/4 mile radius are needed to earn points for this credit. Aggregate transit stops reached 405 for weekdays and 300 for weekends, earning all 7 points for this credit.

Regional Priority credits also applied to this credit and since all possible points were earned, the bonus Regional Priority credit was also earned.

Green Training for Occupants, Renters, and Managers

The Innovation credit for LEED allows professionals to develop their own credits. This credit, Green Training for Occupants, Renters, and Managers, was created based off the Green Training for Contractors, Trades, Operators, and Service Workers. The credit seeks to ensure the ongoing knowledge of sustainable practices with regards to the environment, economics, and community through the use of an education system. The sustainability training will help users of the space understand how to best utilize the sustainable aspects of the building, and how to translate sustainability in the workplace to sustainability in the home and community.

What is LEED?

LEED, or Leadership in Energy and Environmental Design, is a green building certification program developed by the United States Green Building Council (USGBC) used to rate the design, construction, operation, and maintenance buildings, homes, and neighborhoods. LEED recognizes best-in-class building strategies and practices by designers, contractors, builders, and building operators. To achieve LEED certification, projects must satisfy prerequisites and earn points for credits. LEED is helping to set the standard across the globe for sustainable design and construction, bringing us closer to a better, more sustainable tomorrow.

Why Design LEED?

Buildings consumer around 40% of the total energy usage in the United States. Americans spend approximately 90% of their time indoors. Less than 1% of the water on earth is potable. These staggering statistics are just a few reasons to design LEED. By decreasing the energy requirements in buildings, we can help to reduce their overall consumption and decrease the amount of total energy used in the US and world wide and decrease the amount of contaminants released into the atmosphere. Through the consideration of the indoor environmental quality we can improve the way people feel about their indoor environment and even increase productivity. By specifying fixtures that utilize 60% less water than average and installing rainwater harvesting techniques we can conserve potable water for more important uses. These are just a few reasons to choose to design to LEED standards or above.

LEED v4 for ID+C: Commercial Interiors
Project Checklist

Project Name: Interface Cowork
Date: 4/12/2015

Y	?	N			
0			Credit	Integrative Process	2
15	**2**	**0**	**Location and Transportation**		**18**
0			Credit	LEED for Neighborhood Development Location	18
6	2		Credit	Surrounding Density and Diverse Uses	8
7			Credit	Access to Quality Transit	7
1			Credit	Bicycle Facilities	1
1			Credit	Reduced Parking Footprint	2
8	**x**	**x**	**Water Efficiency**		**12**
Y		y	Prereq	Indoor Water Use Reduction	Required
8	x	x	Credit	Indoor Water Use Reduction	12
0	**10**	**0**	**Energy and Atmosphere**		**38**
Y		x	Prereq	Fundamental Commissioning and Verification	Required
Y	x	y	Prereq	Minimum Energy Performance	Required
Y		x	Prereq	Fundamental Refrigerant Management	Required
x	x		Credit	Enhanced Commissioning	5
x	10		Credit	Optimize Energy Performance	25
x			Credit	Advanced Energy Metering	2
x			Credit	Renewable Energy Production	3
x			Credit	Enhanced Refrigerant Management	1
x			Credit	Green Power and Carbon Offsets	2
1	**1**	**1**	**Materials and Resources**		**13**
Y		y	Prereq	Storage and Collection of Recyclables	Required
Y		x	Prereq	Construction and Demolition Waste Management Planning	Required
1			Credit	Long-Term Commitment	1
x	x	1	Credit	Interiors Life-Cycle Impact Reduction	4
0	x		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
0	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
0	x	x	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
x	x		Credit	Construction and Demolition Waste Management	2

5	**2**	**0**	**Indoor Environmental Quality**		**17**
Y		x	Prereq	Minimum Indoor Air Quality Performance	Required
Y		y	Prereq	Environmental Tobacco Smoke Control	Required
0	1		Credit	Enhanced Indoor Air Quality Strategies	2
x	x		Credit	Low-Emitting Materials	3
x			Credit	Construction Indoor Air Quality Management Plan	1
x	x		Credit	Indoor Air Quality Assessment	2
1	x		Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
x	x		Credit	Daylight	3
1			Credit	Quality Views	1
2			Credit	Acoustic Performance	2
2	**1**	**0**	**Innovation**		**6**
1	1	0	Credit	Innovation	5
1			Credit	LEED Accredited Professional	1
2	**0**	**0**	**Regional Priority**		**4**
1			Credit	Regional Priority: Surrounding Density and Diverse Uses	1
1			Credit	Regional Priority: Access to Quality Transit	1
0			Credit	Regional Priority: Specific Credit	1
0			Credit	Regional Priority: Specific Credit	1
33	**16**	**1**	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80+

Total: 50

Legend
X = Could not earn
Y = Achieved Requirement
0 = Could have earned and did not
Blank = Nothing to be earned
Any Number = Points Achieved

Section

Quality Views 1/1

The purpose of this credit is to create a connection to the outdoors. Views are rated based on their size and proximity to occupants as well as what can actually be viewed through them. Interior glazing helps occupants who may not have direct access to a window still be connected with the rest of the interior environment and the outdoors.

The Design

The concept behind the design, promoting interaction among cowork members, was driven by the aim of the space: to create spaces where members from different backgrounds connect, share, and learn from each other. Diagonal line and warm hues were used throughout the space to encourage interaction.

Aside from the challenge of designing the 'new work' environment, the physicality of the building presented its own challenges. Maximizing the use of space was important so the main element of the design, the two-story glass meeting room, broke the shell of the building as an innovative solution to creating more space where necessary. The glass space exploding from the building also acts as a captivating element to intrigue viewers from the street. Overall, the design solution was successful through the creation of new forms that not only expand the space, but encourage interaction among members of Interface Cowork.

Second Floor

Design for Active Occupants

This Pilot credit required the building to have one main staircase that provides vertical circulation to all common use floors. The staircase must also be visible from the lobby, unenclosed, provide daylighting, and be visually encountered before any motorized vertical circulation.

Equipment and Appliances

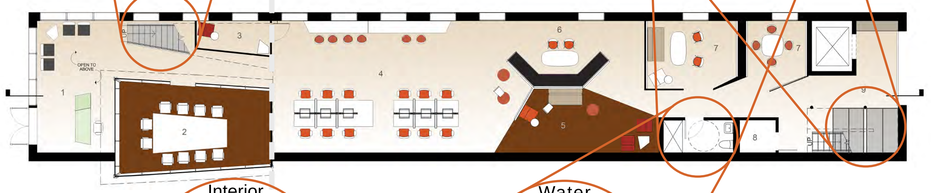
This section of the Optimize Energy Performance credit awards points for the specification of ENERGY STAR rated appliances. Projects can earn 1 point for 70% of all eligible appliances being ENERGY STAR rated, and 2 points are awarded if 90% are ENERGY STAR rated. This project earned 2 points.

Recycling

Providing collection and storage areas for recycling is a requirement for LEED Certification. The collection areas must include mixed paper, corrugated cardboard, glass, plastics, and metals. Safe collection for batteries and electronic waste must also be provided. This requirement has been met within Interface Cowork's design.

Bicycle Facilities 1/1

By providing space for bicycle storage, Interface Cowork promotes the option of bicycling to work, reducing vehicle miles traveled and encourages public health. A shower and large bathroom for changing are also provided to make the opportunity of cycling to work more appealing.



First Floor

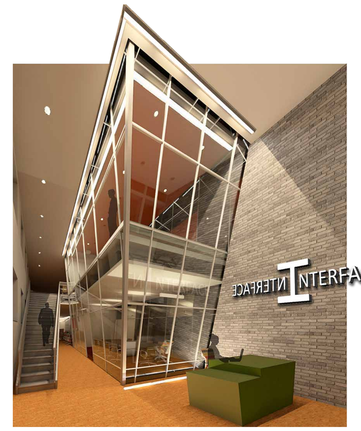
Interior Lighting

Proper interior lighting promotes the productivity, comfort, and well-being of occupants. Individual lighting controls and daylighting controls are provided along with occupancy sensors and a lighting power density of below .9 watts/sqft. Long-life and energy efficient luminaries were selected to earn 4 points for interior lighting.

Water Reduction 8/12

Water Efficiency is an important part of sustainable building to help reduce the amount of potable water that becomes gray or black water. It is required that total water consumption be reduced by 20% from a given baseline; this design achieved another 40% beyond the required 20%.

1. Entry
2. Meeting Space
3. Isolation Room
4. Workstations
5. Retreat
6. Open Collaboration
7. Closed Collaboration
8. Mechanical
9. Bike Storage
10. Break Area



Project Parameters

An existing building in downtown St. Louis was utilized for an interior renovation designed to achieve LEED Certification requirements. The space was renovated into a LEED Silver coworking office environment.

Coworking is an office concept that allows people who are self-employed, freelancers, engaged in startups, or interested in a new work environment the opportunity to work under one roof and connect with each other to share ideas and expertise. The space allows users to rent desks on an hourly, daily, weekly, or monthly basis. Coworking acknowledges physical, emotional, and spiritual needs by providing a space for socialization and collaboration, thus keeping sustainability at its core.

Methods + Results

To achieve a sustainable design solution each design decision was carefully considered. To gain a better understanding of the challenge, research was conducted before any design began. Research about the new work environment compared to traditional work environments was done through observation and through reading books about cowork environments. Precedent studies of various cowork spaces were completed and analyzed for their approach to the design solution. After a thorough understanding of cowork spaces, schematic design began and eventually a well-thought out sustainable solution emerged.

Once design development was completed, LEED documentation began. With the help of my LEED Accredited faculty advisor, I went through each category of the LEED v4 for Interior Design and Construction Guidebook to determine which credits my project qualified for and how I had already achieved them or how I could alter my project to achieve them. When my project was ineligible for a credit, understanding why it was ineligible, what the credit meant, and how it would be achieved in a real life situation were important and addressed in my report. After I understood and analyzed all the credits in the Guidebook, I calculated the level of LEED certification my project achieved based on the number of points received from different credits. Fifty LEED points were reached, making the project LEED Silver Certified.

Acoustic Performance

Effective acoustic design results in spaces that promote occupant well-being, productivity, and communications. The design and construction of Interface Cowork reduces sound transmission and reverberation time in the space. Materials such as cork floors and felt wall panels aid in this solution. Both points earned.

The Four Systems

Sustainability is a broad term that refers to the meeting the needs of the present without compromising the ability of future generations to meet their needs. These needs can be broken down into four systems: social, managed, natural, and built. Each system depends on the other three so they should not be analyzed on their own. Looking at all the pieces of the puzzle puts sustainable actions and decisions into perspective and gives an overall view of how actions can affect the larger system. By considering all aspects of sustainability, a truly sustainable solution can be reached.

Social System

Coworking spaces create opportunities for people to connect with others, who may or may not be from the same field, to improve and create ideas as well as to solve problems. This allows for innovative solutions that in turn create an increased income for those participating in the cowork community. Coworking also provides networking opportunities for people and opportunities for others to learn of their services, which can benefit their business. A social network is built within coworking communities that provides support and encouragement between members. By providing a space outside the home or coffee shop, coworking connects members of the community together, creating stronger, more sustainable communities.

Managed System

When people belong to a cowork community, their collaborative ideas and innovations fuel each others businesses and benefit their personal and business financial situations. This financial benefit can in turn promote the local economy as business buy goods and services from each other as a result of cowork connections, and as the families of cowork members spend money in the community, promoting local businesses. Interface Cowork as a business is also benefiting from the members who rent space there. The competitive prices and services should be enough alone to draw coworkers into the space, but its high design, ideal location, and sustainable environment only improve the edge Interface Cowork has over the competition.

Natural System

The location of Interface Cowork lends it to being environmentally sustainable. Because of its prime space in downtown St. Louis, it is surrounded by several diverse spaces for workers to access such as lunch spots and postal offices, all within walking distance, reducing the need to utilize your car on your lunch break. It location near several mass transit stops and the provided bike storage also makes it ideal for commuters, reducing the amount of carbon released into the atmosphere. By specifying fixtures that use 40% less water than mandated by LEED guidelines and by reducing overall building energy usage through several strategies, the building is using less resources and putting fewer contaminants into the atmosphere.

Built System

When designing the space, occupant health within the build environment was carefully considered. Materials were selected based on not only their aesthetics and performance abilities, but also on their environmental qualities, such as their life cycle impact, and the effect they would have on the indoor environmental quality and indoor air quality. Thermal, acoustical, and lighting factors were all addressed to meet at least the minimum LEED requirements which provided the most comfortable environment for all workers. The large glass conference room and several windows on each floor provide access to natural light and exterior views, connecting occupants with the outdoors, an important factor in having a high indoor environmental quality. Other features include only one printer per floor to reduce printing, a recycling program, and a sustainability education program.

Learned

As people are becoming more conscious of the repercussions of their decisions, they are becoming increasingly interested in how they can change what they have done and how they can contribute to a better life for future generations. As a result of this, sustainable design is becoming more prevalent across the globe and some municipalities in the United States are even requiring new construction to meet specific standards or guidelines with regards to sustainability. This means that it is even more important for me to understand sustainable building practices, such as those outlined in the LEED guidelines. Having analyzed my project for its sustainable design using the LEED guidelines I gained experience that will be necessary for me when I join the workforce and am needed to provide LEED documentation for a building, design a new building to LEED or other green standards, and take the LEED AP examination. This is a valuable skill that not only makes me more marketable to potential employers, but also benefits the users of the spaces I design.