

November 2011

Miron Construction Co., Inc. – Corporate Office Renovation & Expansion – Pursuit of Gold LEED Certification

Challenge

Miron Construction Co., Inc., headquartered in Neenah, specializes in providing pre-construction, construction management, design-build, industrial and general construction services to the Midwest with an expanding geographic reach. Miron is one of Wisconsin's largest construction firms, having posted sales exceeding half a billion dollars in 2010.

In June 2008, Miron began the process of expanding and renovating their corporate office. They desired a space that would maximize daylight, reduce energy and water consumption, and enhance indoor air quality, while creating a transparent and team-like atmosphere that would bring Miron's corporate culture, including their six core values, to life. The building was also to serve as a teaching tool that would enable Miron to educate their clients and partners on what sustainability is and how it is incorporated into the design and construction of a facility.

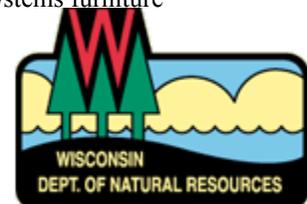
Strategy

Originally completed in 2002 in the Town of Menasha, the existing 60,514-square-foot Miron corporate office was designed and constructed for future expansion in both the east and west direction. Precast panels were selected such that the majority (98%) of the existing structure and envelope could be reused. The 2008 renovation included a major lighting retrofit to reduce the lighting power density from 3 watts/square foot to 1 watt/square foot. Both occupancy- and daylight-sensors were incorporated to maximize energy-efficiency. The existing "traditional" HVAC system was intentionally left in place. The 51,549-square-foot two-story additions included a white concave roof to reflect heat gain, a high-efficiency building control system, and a geothermal ground-source heat pump heating and cooling system. These measures reduced energy consumption 40% below a code-compliant facility, saving Miron nearly \$41,000 in annual energy costs (28.4% energy cost reduction), and provided an opportunity to compare the annual energy costs of the existing facility's "traditional" system to the addition's geothermal system.

Low-flow plumbing fixtures were retrofitted and/or installed throughout the facility, resulting in a 40% reduction (96,167 gallons/year) in potable (drinkable) water compared to baseline (EPA 2005). Additionally, native/adaptive plantings were selected to minimize water for irrigation and recycled rubber mulch and/or rocks were chosen as bedding to reduce evapotranspiration. In areas where grass was planted, a high-efficiency drip irrigation system with moisture sensors was selected which resulted in a 60% reduction (3,503 gallons/year) in water usage for irrigation.

The site has multiple outdoor spaces where employees can take a break from their daily activities. To further promote a healthy and active lifestyle, a fully-equipped on-site wellness center complete with full locker rooms and outdoor storage for bicycles is provided for employees. Additionally, preferred parking is provided for those that carpool and/or drive low-emitting/fuel-efficient vehicles.

The interior is outfitted with low-emitting materials and has an abundance of daylighting. The existing systems furniture was reused and recovered with Greenguard certified fabrics to match the new systems furniture and seating, helping to achieve 26% material reuse. Reconfiguration of the systems furniture



allows 99% of employees to have a direct view to the exterior. Over 66% of non-structural and interior components were reused, 25% of new materials had a high-recycle content, and 57% of materials were locally sourced. Ninety-five percent of the construction waste was diverted from the landfill. The ventilation system is filtered with MERV-rated filtration media to help provide a high-quality indoor environment.

The \$12 million expansion and renovation project was completed in October 2009.



Results

The Gold LEED certified building is a unique sustainable teaching tool, enabling Miron to demonstrate that buildings can drive change. As guests tour the facility, an educational “LEED Wall” features US Green Building Council’s LEED symbols for each of the 6 categories of the LEED rating system. Over 90 LEED category symbols are strategically placed throughout Miron’s office highlighting sustainable design features, equipment, systems and materials giving guests a hands-on approach to understanding what a green building is.

Miron’s corporate office was awarded Gold LEED certification under the LEED for New Construction v2.2 rating system, earning 43 out of the 69 available points. When asked about whether it was worth pursuing LEED certification, Theresa Lehman, director of sustainable services, responds; “Miron’s owners are savvy businessmen. They did not ‘buy’ LEED points for the sake of buying points. Miron’s vision is to ‘lead by example’ so anything we did, especially when it came to making an investment, needed to meet the owner’s financial goals. The building is used as a strategic tool that differentiates Miron in the marketplace. It needed to reflect our corporate culture, the quality of our craftsmen and be used as a living teaching tool enabling us to demonstrate what sustainability is and that it makes sound financial sense from a lifecycle cost perspective.”

The design goals that were set for the building were centered on the idea of getting the most value out of each and every dollar. Engineers and architects analyzed numerous design concepts from a lifecycle cost perspective and, if the concepts met the financial goals, they were approved and incorporated into the project. The key to neutralizing the cost of LEED certification was to understand the owner’s expectations regarding building performance, construction quality and sustainability from the beginning of the planning process with all of the stakeholders sitting at the table. **At the end of the day, the building earned Gold LEED certification without incurring any additional costs.**

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