CASE STUDY

LEEDing the way: Kansas City developer of EcoWorks proves "green" also means profitable

Sustainable design using McQuay vertical self-contained and rooftop units

EcoWorks, one of the first speculative office buildings in the U.S. to receive LEED™ certification, was developed with a straightforward approach: design a building that isn't overpriced and that helps clients attract and retain well-qualified employees. According to Hugh Zimmer, chairman and CEO of The Zimmer Companies, this approach is good for the client and thereby good for his Kansas City real-estate development firm. To many developers and building owners, "green" can be comfortable, but not profitable. With EcoWorks, Zimmer has proved that "green" can be both.

Located in Lenexa, Kansas, EcoWorks contains 350,000 square feet of office space in six buildings designed for multi-tenant occupancy. As part of the 300-acre Southlake Office Technology Park, EcoWorks gives employees access to lakes, trails, exercise stations and picnic areas. Wind turbines and solar power reduce energy consumption; hands-free faucets and low-flow toilets reduce water consumption; recycled materials are used throughout. And it's comfortable, with plenty of natural light and circulating fresh air.

McQuay SWP Vertical Self-Contained System

"The consensus among developers and owners is that LEED is a good thing, but it costs too much," said Zimmer. "And we knew that no tenant would pay a premium just because a building is LEED-certified. Our goal was a LEED-certified speculative office building that is competitive with other buildings in Kansas City." The building received certification according to LEED 2.0 criteria. Patti Banks, consultant and LEED-certified project manager, coordinated the effort on behalf of Zimmer Companies.

Zimmer's rule of thumb is that a sustainable building should not run more than five percent above comparable projects. "We discovered that, if you work at it, you can bring the costs to where they are competitive. We spent a lot of extra time just going back to the drawing board. If something came in at more money than we thought it should be, we just went back and looked again at our options."

Reviewing all the options gives developers the preferred HVAC system

Take, for example, the air conditioning system. "A typical office building uses air-cooled condensers because they are economical to install and operate," said Zimmer. "But water-cooled recirculating systems are even more efficient and

environmentally sensitive. They're quiet, they don't require a separate chiller room, and they help boost indoor air quality. That's what we wanted, but they cost more money." So Zimmer and his team did some more research. As a result, six McQuay vertical self-contained water-cooled units are installed at EcoWorks I, three per floor. In addition, two McQuay RoofPak™ 100 percent outdoor air heating and cooling units provide fresh air to meet the building ventilation requirements.

The solution, said Zimmer, was to install a reflective roofing system which reduces heat islands. "We paid a premium for a white roof, but it cut our air conditioning tonnage by 10 percent and allowed us to move to a water-cooled recirculating system. The key to developing a green building is to review all the options."

HVAC system meets requirements for IAQ, low noise and economical operation

The HVAC system at EcoWorks meets sustainability requirements because it is energy efficient and quiet, even though the McQuay SWP vertical self-contained units are adjacent to work areas on each floor. The units help boost indoor air quality because they are equipped with four-inch panel filters and constructed with double wall panels. Double-sloped, stainless steel drain pans help eliminate stagnant water and bacterial growth. To help keep offices quiet, the supply-air plenum and fans are designed for exceptionally low sound levels.

From a developer standpoint, the HVAC system must provide economical installed and operating costs. Self-contained units do not require insulated chilled water piping systems or a separate chiller room, and they require less floor space than standard chilled water air handling units. For these reasons, their installed costs are often lower when compared to traditional chilled water systems.

Operating costs, too, are usually lower when compared to alternative systems. McQuay self-contained systems combine high efficiency scroll compressors, direct expansion cooling, water-cooled condensers and VAV control, all of which add up to high operating efficiencies. Waterside economizers reduce compressor run hours by using available "free cooling." MicroTech II™ controls regulate the entire system, which can be metered floor-by-floor to accurately proportion utility costs to tenants.

McQuay RoofPak™ Applied Rooftop System

Clean, conditioned air and plenty of daylight make EcoWorks a natural for productivity and well-being.

EcoWorks – a natural for comfort and profitability

EcoWorks may be the first, but it is hardly the last building that Zimmer Companies will develop with an eye toward LEED certification. "We recognize that there are some instances where sustainability probably wouldn't make sense," said Zimmer. "But now our approach with any new project is to ask ourselves why we shouldn't make every project LEED compliant. We think that American business is becoming more environmentally and energy conscious, and sustainability will become an important issue for office and factory space."

Now open for business, and already partially occupied, EcoWorks is living up to its name. The HVAC system's clean, conditioned air, combined with plenty of daylight, make EcoWorks a natural for productivity and well-being. And that helps the bottom line.

For more information, contact your local McQuay Representative or call 800-432-1342.
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McQuay® Air Conditioning