

Twin Lakes Park

Sarasota, Florida



Rebuilding Green

When the Sarasota County government decided to renovate and expand the Twin Lakes Park Office Complex in Sarasota, FL, they chose to build “green”. The complex reached a Leadership in Energy and Environmental Design (LEED) NC 2.0 Gold certification, a level of achievement in “green” building that recognizes buildings and grounds as environmentally responsible, profitable, and a healthy place to live and work.

Green Factors

When building “green”, the building site should not only be conducive to the surrounding environment, but it should also encourage its inhabitants to participate in more environmentally-friendly actions. The builders of the Twin Lakes complex took many environmental factors into consideration, including erosion and sedimentation, run-off reduction and storm water management on-site, and minimal site disturbance. Bicycle racks were installed outside of the

buildings, and showers inside, to encourage employees to choose an alternative method of transportation for their commute to work, such as walking or riding their bike.

Energy Efficiency

The complex was constructed and refurbished with energy-efficient features such as metal roofing, ENERGY STAR appliances, and autoclaved, aerated concrete walls. The buildings’ orientation to the sun and strategic window placement ensures maximization of northern sunlight for day-lighting within the buildings, which allows the sun’s heat in during winter months and keeps out the hot summer sun. What light is produced electrically in the building is set to automated controls that monitor and adjust light levels, reducing energy waste. These natural day-lighting methods lead to a lighting cost reduction of 40 to 60 percent, and may increase worker productivity, according to recent studies.

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Twin Lakes Office Complex interior offices

Integrated design optimizes energy performance to be 50 percent more energy-efficient than standard buildings.

Interior day-lighting methods decreased lighting costs by 40 to 60 percent.

This facility is equipped to use 58 percent less water than a typical code-compliant office building.

“Green” That Can’t Be Seen

Some of the most important details of “green” construction may not be visible. This complex used a number of recycled materials, such as ceramic tile, aluminum window and door frames, acoustical ceiling tiles, steel wall framing, and drywall. Many materials were produced within 500 miles of the site, including the parking lot gravel, aerated concrete wall panels, pervious and poured-in-place concrete, and landscape mulch, which came from the county landfill. The wood used during construction was certified by the Forestry Stewardship Council (FSC), and close to 90 percent of the waste at the construction site was diverted from landfills and recycled instead.

Research that Works

Key Green Features

- Encourages alternative transportation with bike racks and showers inside
- Low-flow plumbing fixtures and waterless urinals
- Rainwater used to supply 28,000 gallon cistern for toilets using water
- Metal roof with large overhangs to shade windows
- Building orientation maximizes cool northern sunlight
- Automated lighting controls
- 10 kW photovoltaic system
- Solar hot water heating system
- CO₂ monitors
- Low-VOC materials
- Recycled materials used throughout construction
- Insulated, low-emittance, impact-resistant windows
- Geothermal heating and cooling system
- Motion-sensor sink faucets

Accompanying the complex’s many energy-efficient features and adding to its energy savings are two sources of renewable energy. The complex features a solar hot water heating system, as well as a 10 kilowatt photovoltaic system.

Water Efficiency

Energy isn’t the only resource that requires efficient use: the Twin Lakes complex has a number of features to ensure water efficiency throughout the buildings as well. The simplest of these are low-flow toilets, waterless urinals, and automated sink faucets with motion sensors to reduce water use. The complex also utilizes a 28,000 gallon cistern that harvests rain water which is then used to flush the low-flow toilets. Outside the buildings, landscaping also plays a large role in water efficiency. By planting native, adaptive plants, grouping them according to their water needs, using recycled mulch to retain moisture in the soil, and installing a low-volume micro-irrigation system, the complex significantly reduces the amount of water used outdoors.

Quality of Indoor Life

Keeping buildings a healthy place for people and the environment is a key element of building “green”. By using carbon dioxide monitors throughout the complex and prohibiting smoking in buildings, air quality at Twin Lakes is constantly kept fresh. A special ventilation re-circulator also mixes fresh air from outside with re-circulated air within the building while trapping pollutants from the air in grates at vent entryways, also keeping the air fresh. Not only is the air kept clean as it comes into the building, but the use of low- or no-VOC (volatile organic compound) materials, such as adhesives, paints, coatings, carpets, etc., keeps the indoor environment quality high.



Photos by Dickinson Studios

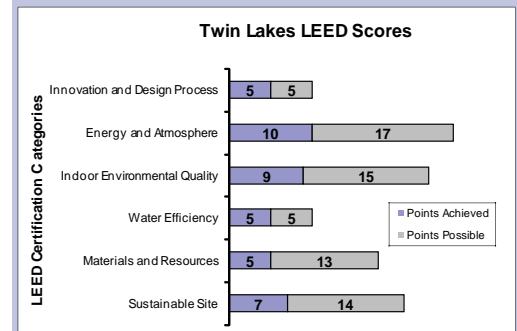
Twin Lakes Office Complex exterior

LEED Certification

Leadership in Energy and Environmental Design, or LEED, is the U.S. Green Building Council’s third party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas.

Certification Qualification Categories

- Sustainable Site
- Energy & Atmosphere
- Water Efficiency
- Materials & Resources
- Indoor Environmental Quality



Project Contributors

Architect: Carlson Studio Architecture