

NORTH BOULDER RECREATION CENTER
BOULDER, COLO.

COST-BENEFIT ANALYSIS

■ **SOLAR SYSTEM**

Cost: \$256,000
Annual savings: \$19,500,
or a 13-year payback

■ **HIGH-EFFICIENCY PUMPS**

Cost: \$1,500
Annual savings: \$800,
or a 3-year payback

■ **SKYLIGHTS**

Cost: \$20,000
Savings: \$1,430 savings,
14-year payback (estimate)



A SILVER MEDAL North Boulder's LEED-certified facility uses solar energy, high-efficiency pumps and heaters, and natural daylight to run its new aquatics facility.



PHOTOS COURTESY NORTH BOULDER RECREATION CENTER

The original plan wasn't intended to be so green. "We were 80 percent through the design process," says Bill Boyes, facilities and fleet manager for the city of Boulder, Colo. Then the mayor got wind of the U.S. Green Building Council's Leadership in Energy and Environmental Design program (aka LEED) and asked the city to investigate it further. Maybe it could work for the North Boulder Recreation Center. The facility could be environmentally friendly while saving the city thousands of dollars.

The green component added an extra

2 percent to the facility's bill, for a total of \$11.6 million. Along with LEED-silver certification, that price tag got the Boulder facility sun-fired swimming water; zero-depth leisure pool with water slides and play features; 8-lane, 25-yard lap pool with a wheelchair-accessible ramp; diving well and 4,400-gallon hot tub.

A total of 142 flat solar panels, measuring 4-by-10-feet, collect the sun's energy on the lap pool's roof. A glycol anti-freeze solution circulates through the panel collectors, absorbing the sun's energy. Using a heat exchanger, the energy is transferred

to the pool water. The same panels also heat water for the locker room showers.

The system cost nearly \$260,000, which included plans for snow loading and wind issues. But it saves nearly \$15,000 annually in natural gas. High-efficiency water heaters turn on only at night and when the temperature drops.

In addition, the facility uses high-efficiency pumps on a traditional chlorine treatment system. Officials rely on natural daylight from the overhead skylights to brighten the facility.

The air distribution system is designed specifically to eliminate chloramines and chemicals in the atmosphere as much as possible. The center does not have air conditioning, but has a heat-air exchanger to warm the interior.

A glass wall noise barrier between the lap pool and leisure pool allows lap swimmers to concentrate without having screaming children splashing nearby. The wall was installed in response to patron complaints about noise levels. Hot tubbers also can soak peacefully in the quiet area. A life-

guard off-duty station is situated in the middle so guards on break can keep one eye on the pools and help out if needed.

LEED also considers location efficiency important for certification. Thus, two bus lines pick up and drop off within a quarter-mile of the NBRC, and bike racks are available at the facility. The parking lot even has special reserved spots for carpool vehicles and access to electric charging stations.

Are plans in the works to upgrade to possibly a gold, or platinum, LEED level? Not yet, Boyes says, due to budget issues.

"If we really feel something is worthwhile, we can go to a 10-year or longer payback for special things such as the solar system," he explains. But currently any improvements require at least a three-year payback.

Still, the facility is already paying dividends in other, less tangible, ways. "It's right in tune with the goals that city council set," Boyes says. "I feel an overwhelming majority of the public think this was a good use of taxpayer funds." — R.Y.

Boulder than the Rest

Solar panels and high-efficiency equipment make this facility a real energy saver