



GONSALVES & STRONCK
Construction Company Inc.

Morgan Hill's New Aquatics Center Receives LEED Silver Certification

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The \$9 million Morgan Hill Aquatics Center recently became the first aquatic facility in California to receive a LEED rating in sustainable design.

The center was awarded a LEED silver certification by the U.S. Green Building Council.

The center, owned and developed by the city of Morgan Hill, was also awarded a 2005 Savings By Design Energy Efficiency Integration Design award, cosponsored by the American Institute of Architects, California Council, which annually recognizes professionals who achieve such results in their designs.

Designed by ELS Architecture of Berkeley, the center is sited alongside the Highway 101 corridor south of San Jose. The most prominent feature of the otherwise low-scale project is the 30-ft. high windscreen designed to protect against the prevailing north-south valley winds, which minimizes evaporation and heat loss from the pools. Together with an adjacent 14-field regional sportsfield, the aquatic center has been master planned to maximize shared concessions and support facilities, and to optimize parking and pedestrian access opportunities.

The four-pool complex was built by Gonsalves & Stronck, the San Carlos-based general contractor, and the mechanical engineer was Rumsey Engineers of Oakland.

The facility features a “sprayground” for toddlers and a 25-ft. waterslide for juniors, a lap pool for seniors, an all-deep 50-meter competition pool, grassy areas, shade structures, group picnic areas, picnic tables and birthday party rooms.

The buildings were sited to take advantage of prevailing breezes and solar orientation. The energy efficient design includes solar panels to heat water for the competition pool and two new recreation pools, passive ventilation for summer time cooling of the buildings and a 57 percent reduction in water use for site irrigation. Building materials were selected for their recycled content and low chemical emissions, and mechanical systems use greywater, captured rainwater, and underground heat recovery. The design

process included stakeholder meetings with the city council, aquatics groups and the community.

Sustainable strategies include using new and recycled materials in untraditional ways. The pool building's exterior siding is horizontal planking composed of recycled milk cartons mixed with rice hulls for a durable, low maintenance finish. The building contains restrooms, lockers, changing rooms and showers, administrative offices, ticket purchasing, staff area, first aid, concessions and an events room for parties or classes. A separate building houses the pool mechanical equipment, chemical storage and pool equipment storage.

The gently sloping roof of the building echoes the surrounding mountain slopes, its pitch and orientation optimizes the exposure for Phase II solar hot water panels mounted on the rooftop to supplement pool water heating.

The budget and design energy cases were modeled in Energy Pro, which calculates the heating and cooling loads and the building energy consumption. The building energy efficiency measures include high efficiency lighting controls, occupant sensor controls in the offices and lifeguard room to switch off lighting when unoccupied, and daylighting controls with photosensors and continuously dimmable ballasts. The buildings have additional insulation and high efficiency glazing in addition to high efficiency systems for HVAC and hot water.

Energy efficiency achievements include reduced energy costs (performs 24 percent better than T-24 standard requirements); windscreen protection that reduces pool heating energy costs by 40 percent for the competition pool, saving more than \$15,000 per year; use of waterless urinals, efficient fixtures, and automatic sensors in the building; a construction waste management program that diverted 95 percent of construction, demolition and land clearing debris from landfill disposal; use of recycled materials, such as cotton batt insulation and fly-ash concrete; and use of low emitting adhesives and sealants, paints, carpets and engineered wood.

The strong interest by the City of Morgan Hill to achieve a sustainable facility resulted in a "whole building" design approach, utilizing energy saving features such as passive solar design, natural cooling techniques, vegetative shading, daylighting, natural ventilation and operable windows.