Sonoma State University
Student Recreation Center

The Student Recreation Center provides space for a variety of fitness activities. Students can also enjoy the facility’s perks, which include a hot tub, climbing wall, and game room. Located in a highly visible area of campus, the building is a public statement of the university’s growing dedication to sustainability.

A new approach to design and construction is emerging at Sonoma State. The campus is creating a sense of place that is currently absent by drawing connections between new structures and the university’s natural surroundings. The Student Recreation Center is the first building designed to reflect the rich scenery and shift the campus towards a fresh identity rooted in the regional landscape. The Center also supports a second major campus ambition: a transition towards sustainability.

Located on the campus’s primary pedestrian pathway, the Recreation Center is a highly visible statement of the university’s growing commitment to sustainability. The Alaskan yellow cedar, stone, and glass of the building’s facade create an inviting aesthetic in the campus’s entry courtyard. Great care was taken to select sustainable building materials that harmonize with the campus’s rural setting and existing structures.

Green materials used extensively in the interior demonstrate that a highly sustainable building can be constructed with the budget of a conventional recreational facility. A certified-cedar reception desk greets building users in the lobby as they walk across a natural slate floor. The office furniture is made from sunflower seed hulls and required no lumber to manufacture. The furniture contains no toxic adhesives, formaldehydes, or VOCs, which improves indoor air quality and occupant health. The flooring in the gym is Smartwood certified by the Rainforest Alliance, an organization that promotes ecologically and socially responsible forestry practices through its certification program.

Numerous materials at the Recreation Center contain a high percentage of recycled content to reduce the environmental impact of extracting and manufacturing virgin resources. The carpet was selected to address the entire life-cycle of a product typically destined for landfill. It has a minimum of 82 percent industrial reclaimed content, and will be accepted by the manufacturer at the end of its life at the Recreation Center for recycling into new carpet. A grant from the California Integrated Waste Management Board funded the installation of recycled rubber flooring around the climbing wall. This purchase diverted 747 used tires, or 8,964 pounds of rubber, from landfills. Toilet partitions and the lockers are made of recycled resin. Chairs and benches inside the building are made from reclaimed seatbelts.

Of the 290.2 million scrap tires generated in the U.S. annually, 80% avoid landfilling through reuse and recycling markets. Nearly 10% are used in ground rubber applications such as sports surfacing.

In addition to green materials, the design team focused heavily on energy efficiency. The building uses 43 percent less energy than mandated by Title 24. This is achieved through building orientation, an efficient exterior skin, low-e window glazing, solar shading devices, and efficient lighting and HVAC systems.

Nearly 70 percent of the Recreation Center is naturally ventilated. Air enters the interior through operable windows and vents located...
underneath bench seats, and rises upward as it warms to vented skylights. A night flush mechanical sequence purges hot air from the building and pre-cools it for the coming day. In areas that require mechanical cooling, including offices, multipurpose, and fitness rooms, an indirect evaporative cooling system cools air by forcing it through a water-soaked media. The chilled, moistened air is then passed through a heat exchanger which prevents water vapor from being introduced into the building. An energy-efficient destratification ventilation system supplies air to the small gymnasium directly into the occupied zone.

The lobby is heated by a radiant floor system that circulates hot water through coils to heat a concrete slab. The offices are served by an overhead VAV-reheat system.

Daylighting and views are of central importance in the design of the Recreation Center. Daylighting helps create a comfortable and inviting space, while providing views to the exterior is essential for enhancing the connection between building occupants and the landscape. To achieve these goals, the building is positioned on a north-south axis. Light is introduced to the interior via a glass facade located on the southern side of the lobby and gallery, operable windows, clerestories, and an 80-foot long skylight in the main gymnasium. Wooden trellis canopies on the southern exposure shade the glass facade to limit solar gain. Additional smaller, translucent skylights allow daylight to enter the building without contributing to higher indoor temperatures. An energy saving lighting control system senses to the level of daylight present in the interior and automatically adjusts the level of electric light, producing a blend of natural and artificial light. With these numerous strategies in place, 85 percent of the Recreation Center’s interior receives natural light.

Exterior shading reduces interior heat gain and glare. Photo: Costea Photography.

The U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED®) rating system was used to guide the sustainable design and construction of the Recreation Center. The building is designed to a LEED Silver level.

As Sonoma State’s first major sustainable facility and a primary feature at the campus’s entrance, the Recreation Center marks a renewal of the university’s identity. Buildings that celebrate the region’s ecological heritage are beginning to replace the campus’s existing structures. By honoring the surrounding environment through its infrastructure, Sonoma State is poised to become a low-impact member of its ecosystem and pursue its sustainability ambitions with success.