

Universities Form Alliances to Pay for New Projects

By Lucy Bodilly

Universities in Oregon are forming new kinds of partnerships to fund new facilities, as evidenced by projects at Southern Oregon and Portland State universities.

In Southern Oregon, Southern Oregon University in Ashland teamed up with a Rogue Community College in Grants Pass about 40 miles north to build a \$22 million building at a central campus located in Medford. The two entities jointly financed, designed and constructed the 68,700 sq ft, three-story building, which includes classrooms, science labs, computer labs, Prometric Testing Center and Business Center.

The Prometric Testing Center is a complete academic and professional facility that Public universities in Oregon are going the extra mile to form partnerships, even with competing interests, to fund capital projects.

offers a full menu of tests, including the Graduate Record Examination (GRE), the Certified Public Accountant (CPA) exam and the Oregon Life Insurance exam (OLI). The Business Center integrates RCC and SOU resources to form a one-stop location for workforce training and professional development.

"We are now on the threshold of qualifying for Platinum Certification. When I took training to become a LEED Accredited Professional, Platinum Certification was portrayed as being nearly unattainable without incurring extraordinary costs. On the Higher Education Center, our goal has risen from Silver, to Gold, and now to Platinum without incurring a 'LEED Premium,'" says Larry Blake, Southern Oregon University's associate vice president for facilities management & planning.

"Credit for this accomplishment is shared by SERA Architects and its LEED consultant, Brightworks; Adroit Construction; the subcontractors on the project; and the building owners, Rogue Community College and Southern Oregon University," says Blake.

The project's budget was based on a typical classroom building and was established by the legislature before green design goals were considered. "The design team worked very hard to find low or no-cost green design strategies. All LEED and green design features had to be incorporated within the original budget—no additional budget was added," said Gregg Sanders, lead architect with SERA. For example, the window to wall area ratio was studied in an energy model to produce the optimum ratio of glass to wall, maximizing daylighting while minimizing heat loss.

Green design features include use of regional and recycled content materials, FSC Certified wood from sustainably harvested local forests, on-site stormwater detention and drought tolerant landscaping. Special attention was given to acoustics and the quality of lighting, including daylighting and shading strategies. Innovative strategies include heat wheel energy transfer to pre-heat ventilation air, evaporative cooling, over 50% reduction in water use. Additionally, the RCC/SOU Advisory Committee that oversees development of the center is exploring the possibility of installing solar panels for long-term savings on heating and cooling bills.



The design team hopes to reach the platinum level because:

- Total energy use is 37 percent better than Oregon Energy Code; resulting annual energy cost savings of approximately \$37,330 (based on 2007 dollars).
- Annual domestic water use is 53 percent less than code.
- A heat pipe transfers energy from exhaust air to preheat and pre-cool air supplied to science labs.
- Heat wheels transfer energy from exhaust air to preheat and pre-cool air supplied to all other spaces.
- The large window to wall ratio allows using daylighting controls to significantly reduce lighting energy use.
- R-19 batt insulation was installed in steel framing cavities in addition to 2" rigid insulation.
- High efficiency condensing boilers and water heaters are used for heating and hot water.
- CO2 sensors control the building ventilation rate based on the number of people in the building.
- Occupancy sensors installed for lighting control are also used for room temperature setback and to shut off heating, ventilation and air conditioning to each unoccupied space.
- Occupancy sensors in labs are used to reduce the minimum outside air from 10 air changes per hour (ACH) when occupied to four ACH when unoccupied.
- Ultra-low-flow water delivery is the result of 1.8 gallon per minute showerheads; 0.5 gallon per-minute aerators on all lavatories; 0.5 gallon-per-flush urinals; dual-flush water closets with two flush options (0.8 gpf low-flush, 1.6 gpf highflush) in all women's and unisex rest rooms; and low-flow 2.2 gpm aerators on kitchen sink faucets. Overall water use is reduced by 20 percent.
- The project includes on-site storm water management, and water-efficient landscaping means outdoor water usage is reduced by 50 percent
- The building design reduces urban "heat island" effect.
- Materials were selected for recycled content and regional sourcing.
- Interiors designed to promote healthy indoor air quality.
- The building is near public transit, and showers are provided for bike commuters.

Portland State University

The \$71 million "Academic and Student Recreation Center" (ASRC) will house a new recreation center for Portland State's 25,000 students when it opens in fall 2009. The sixstory, 180,300 sq ft facility will include much-needed classroom space and an auditorium, and will serve as the new home to PSU's School of Social Work. In replacing the Portland Center for Advanced Technology (PCAT), a low-density, underutilized and inefficient facility, the ASRC will complete the Urban Center Plaza, one block north. In addition, the city of Portland will move its historic archives to the center; the building will provide additional space for the Oregon University System's Office of the Chancellor, and will feature 19,300 sq ft of ground-floor retail space.

Skanska USA Building Inc., and Yost Grube Hall Architects of Portland, Ore., comprise the design-build team for the project. The university chose a design/build contract because, "we are on a very tight schedule," says Ernest Tipton, manager of capital projects and facilities management at PSU. "The building on the MAX light rail line and we had to get the structural steel in place before the wires for the light rail expansion were placed."

With the entire project value at \$71 million the ASRC represents a complex synergy of public and private partners. In December 2006, the state authorized \$43 million in bonds. Student recreation fees will provide debt service coverage for \$35 million of these bonds while another \$7 million will be covered by the retail leases on the buildings ground floor. Additional contributions include nearly \$10 million from the City of Portland (for the City Archives) with a \$10 million-match in bonds authorized by the state of Oregon during the 2007 Legislature. The Oregon University System also provided \$3 million to construct a new OUS Chancellors Office space, and the Portland Development Commission contributed another \$2 million (and a portion of the land) to the project. Finally PSU added over \$3 million from varied internal sources to ensure that the building would include several general access classrooms to accommodate growing instructional needs.

The design for the new project will incorporate state-of-the-art mechanical and electrical systems with operable windows to naturally ventilate offices, classrooms and recreational facilities to reduce energy use. Other sustainable design features include use of water efficient fixtures, rainwater collection, and development of roof terraces with drought-tolerant plantings to reduce landscape irrigation. Interior materials and furnishings including adhesives, paints, carpet and composites will be specified to eliminate toxic emissions and create a healthy indoor environment. Solar shading and lighting controls are also integrated with daylighting design to maximize natural lighting and reduce energy costs. Coupled with the use of recycled materials and specification of recyclable materials, the facility is targeted for a high Silver or Gold level LEED® rating.