



Lower Columbia College – Myklebust Gymnasium

LEED Silver (Goal)



Project Specifics

Gross square footage: 13,650 sf
 Construction cost: \$27,943,868
 Project occupied: January 2015
 Energy savings: \$17,168/year / 552.5 MBtus/year
 Water savings: 35.38%

Students led the effort to renovate the Gym & Fitness Center through a fee of \$2.50 per credit in tuition.

Design and Construction Team

Owner's representative: Nolan Wheeler, LCC
 Richard Hamilton, LCC
 Project manager: Ronnie Hill, DES
 Architect: Rovelstad Architects
 Structural engineer: PCS Structural Solutions
 Mechanical engineer: Wood Harbinger, Inc.
 Civil engineer: SAEZ Consulting Engineers
 Electrical engineer: Wood Harbinger, Inc.
 Landscape architect: Karen Keist, Landscape Architect
 LEED Consultant: Green Building Services
 Contractor: JWC Construction

How does one breathe new life into a concrete structure from the 60's, with no windows, no public space, a limited buildable footprint and no connection to community?

The design of the new Fitness Center and the remodel of the Myklebust Gymnasium is a reflection of that search for a facility that is warm, attractive, open and inviting; and one that reflects the college's commitment to sustainability and building community. Within the structure, students experience a collage of program space. The functional arrangement fosters collaboration with sports programs and multiple opportunities for fitness activities: aerobics, strength training, team sports, climbing, yoga, and Zumba.

A large program with a very limited budget characterized the need for a passive approach to sustainability. Reusing the existing structure constitutes a major savings in the carbon footprint. Sculpting the solar exposure and harvesting daylight for new and existing spaces dominates the design as well as providing a welcoming atmosphere to inspire participation in fitness activities.

To integrate the new structure with the urban/campus context, construction follows a path of high-density development where building forms are designed to maximize transparency and are sculpted to reflect fire separation clearances. Site development allowed minimal disruption to existing conditions while maximizing open space storm water control.

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Sustainable Sites

Alternative Transportation: Located at the hub of the city bus lines, which is free for LCC Students, the structure takes advantage of its location with optimal mass transit. New bicycle parking and its proximity to bus lines allows choices for alternative transportation.

Water: Roof overhangs intentionally drip to rain gardens below. Water efficient Landscaping reduces water consumption by 50 percent. Efficient fixtures reduce water consumption inside by 35 percent. Water savings are projected at 35.38 percent with a baseline calculation of 125,500 gallons of water annually. The design case uses only 81,000 gallons annually. Based on residential rates for Kowlitz County, savings would be approximately \$399 annually and \$417 annual sewer charges.

Energy and Atmosphere

Natural Light: The project achieved a minimum 2 percent glazing factor or a minimum daylight luminance of 25 foot candles in 100 percent of the new addition. Translucent panels protect the structure from western solar exposure while allowing light to penetrate.



Heating and Cooling: Energy efficient methods include an improved thermal envelope, high efficiency glazing, reduced lighting power density. Optimized Energy Performance averages 23 percent with a collage of existing and new roof top packages. Energy Savings are estimated annually at \$17,168 @ 552.5 MBtus.

As an active space natural ventilation is manually controlled with low windows at the fitness addition and (3) garage doors at the second floor to flush the room without mechanical assistance. Air movement is supplemented by ceiling fans.

Material and Resources

Rapidly growing Material: The warmth of wood is complimented by the use of sustainable harvested wood as established by the Forest Stewardship Council (FSC).



Occupant Recycling: The facility has been provided with appropriately sized dedicated areas for the collection and storage of recycling materials, including paper, plastic and glass.

Recycled Materials: Hidden by layers of acoustical ceiling tile, the original glulam beams and the T&G wood decking were restored and exposed. The warmth of the natural materials set the design direction for the new structure. The glulam beams and exposed wood decking offset the carbon footprint of alternative construction types.

Local Materials: 10 percent of total building materials and/or products have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site.

Education: The project includes an educational display highlighting the building's sustainable design features as well as an educational outreach program. Details crafted for educational purposes include; controlled drips from roof drains to rain gardens below. Sun control that protects and captures light, translucent panels protect the structure from western solar exposure, while capturing the changing patterns of light and energy throughout the day.

