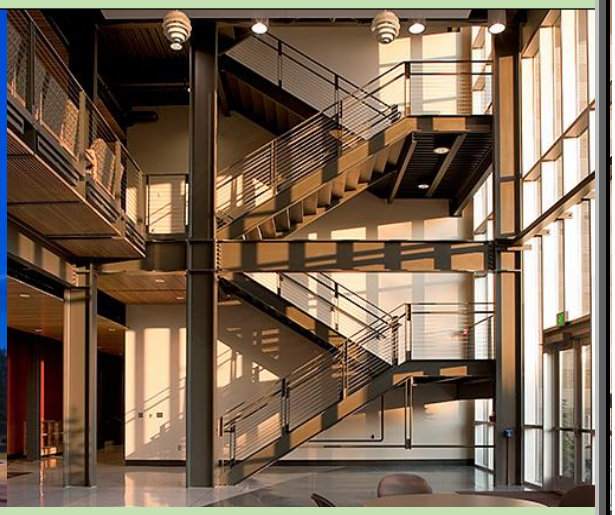

Centralia College – Walton Science Center LEED Gold

CENTRALIA COLLEGE
Celebrating 90 Years.

Project Specifics

Gross square footage:	69,984 SF
Construction cost:	$23,980,983
Project occupied:	April 2009
Energy savings:	$ 33,171.00 and 5,486 KBtu/Yr
Water savings:	$ 197.24 / 39,761.67 gallons
Waste recycled:	311.74 Tons / 96.493%
Added LEED cost*:	$ 291,296.00, 1.3% of Constr.
Incentives:	none
LEED Payback**:	8.7 Years
CO_2 savings:	194 Tons
Awarded:	LEED Gold 2009

Design and Construction Team

Owner's representative:	Steve Ward, Centralia College
Project manager:	Jim Copland, DES
Architect:	Leavengood Architects
Structural engineer:	Arun Bhagat, AKB Structural Engineers
Mechanical engineer:	Wood Harbinger
Civil engineer:	Saez Consulting Engineers, Inc.
Electrical engineer:	Wood Harbinger
Landscape architect:	Karen Keist Landscape Architects
LEED consultant:	Green Building Services
General contractor:	Schwiesow Construction

The Walton Science Center at Centralia College is designed as a platform for discovery, organized to activate a vibrant and friendly pedestrian environment. The new three story concrete and steel structure is sympathetic to the original order of the street, housing the science departments, the nursing facilities, general classrooms and administrative offices. The project's visual and physical connections between the interior and exterior, creates an environment that promotes strong campus and community links, while offering innovative new learning opportunities.

Designed prior to the Washington State Sustainable requirements, the project achieved a gold status, without any revisions to the design. This can be attributed to the straightforward approach to achieve the sustainable goals for the campus. Working within a tight budget and a building type that typically has a high-energy demand, the sustainable design is characterized by efficiency and a passive common sense approach to design, in lieu of expansive active systems.

The expression of the passive design is captured in the new structures sun control systems. Overhangs and louvers were designed and tested with the Lighting Lab in Seattle, to reduce energy loads while activating natural lighting and social connections. Rain gardens defined a new passive approach to Storm Water Control for the campus, eliminating the expense of underground water detention. In addition, the College sought sustainable directions in materiality that was not only durable, but also long lasting.

Sidney Hunt, LEED Green Building Advisor
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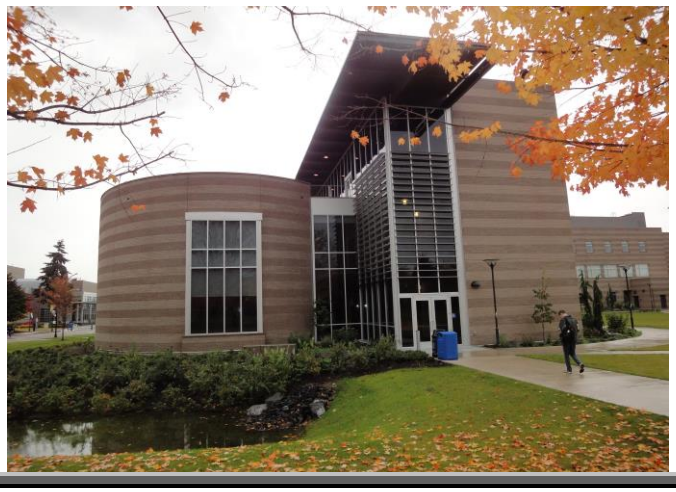
Washington State Department of Enterprise Services

Sustainable Sites

Land Improvement:
The Walton Science Center not only energize an existing pedestrian environment, it invites students to explore the world of science. With generous amounts of break-out spaces, laboratories and classrooms, the Walton Science Center communicates its environmental goals by contributing to a vibrant and healthy community. The new structure fosters public participation, with indoor/outdoor spaces that flow together spatially and visually. The project is part of the existing residential neighborhood, lending 43,000 SF of open space to both the campus and the community,

The new structures replaces the existing science building and two classroom structures that have all reached the end of their building life cycle. Asbestos was identified in the existing science building, the site was classified as a brown-field and cleaned up prior to construction.

In the post development condition the new facility will add 0.16 acres of impervious surface. A passive approach to storm water management was set as a priority. Three infiltration rain gardens were implemented with a total bottom surface area of 1,453 SF. Sized for a 3-inches per hour infiltration rate, the rain gardens offset the storm water runoff and erosion from the site. Additionally a pervious concrete was provided for the ADA Parking and Service/Drop off area.



Alternative Transportation:
The primary means of transportation to the campus has historically been the automobile. To inspire alternative means of transportation, the site is located adjacent to existing city bus lines. Bicycle facilities are located adjacent to the structure and electric power has been provided for alternative transportation vehicles in selected parking spaces around the building. No additional parking spaces were added to the campus parking plan as a result of this project, other than two ADA parking spaces off Locust Street. As a result this leaves an open area on the east side of the building for outdoor activities, graduation ceremonies terraces and pathways that connect the building to the campus.

Light Pollution Reduction:
All new light fixtures for the site are shielded to prevent light pollution of the night sky, the natural environment and crossing the property boundary. Existing Campus Street Lights have been retrofitted to minimize the night sky pollution while providing a safe and secure campus.

Water Efficiency

Potable water has been reduced by 42.7 percent. The approach for the water harvesting, detention and conservation is defined as passive. With the exception of irrigated turf, Planting material chosen selected is native and drought resistant, once established irrigation will be not be needed. This helps offset the open lawn areas required as a programmatic requirement for graduation ceremonies.

Dual flush toilets, water efficient faucets, low flow urinals, lavatories and kitchen sinks, all contribute to reduce water use for the Structure.

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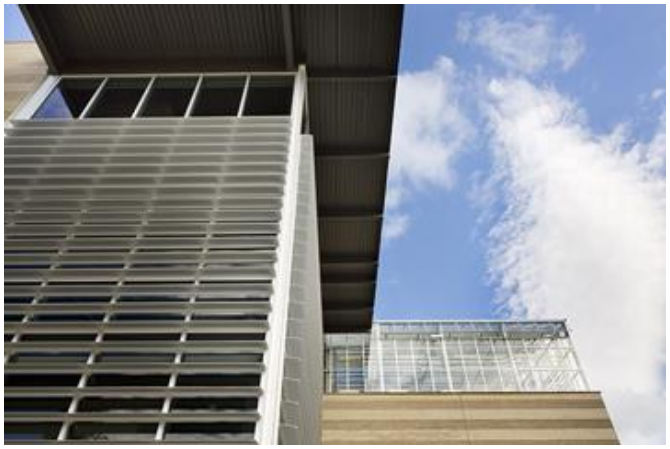
Energy and Atmosphere

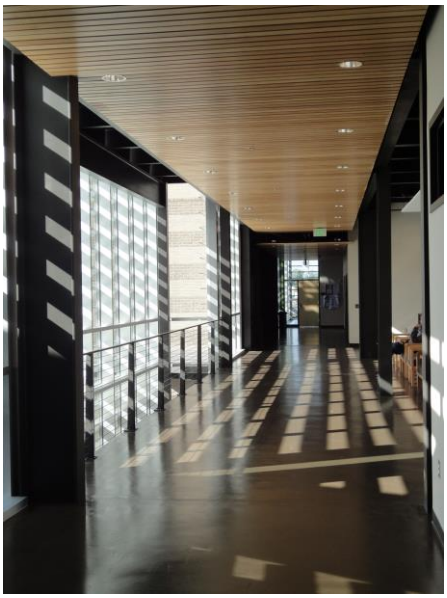
A number of energy conservation measures are designed into the Walton Science Center to reduce the overall energy savings for the site. Highly insulated building envelope including walls, and windows, high efficiency lighting and a highly efficient mechanical system all contribute to the calculated. Large roof overhangs, and sunshades located in large glazed areas minimize heat gain. The energy performance rating has been calculated at 31.2 percent according to the ASHRAE methodology.



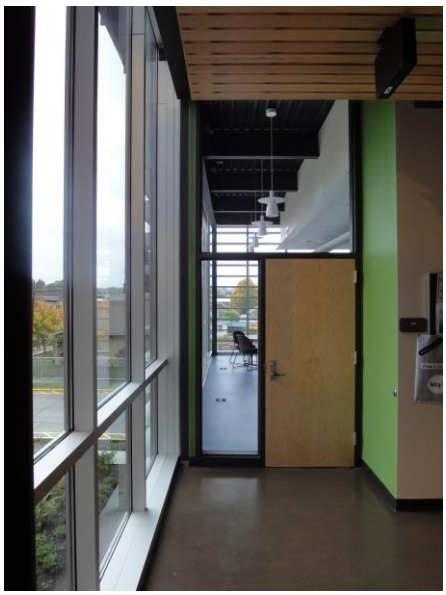
High efficient condensing gas fired boilers and hot water heaters are 13 percent more efficient than conventional boilers. Air conditioning systems will be provided to all HVAC systems from a central air-cooled chiller located on the roof.

Variable Air Volume controls at the Science fume hoods are balanced with the general exhaust air valves to provide a negative offset in the room to control fumes while reducing energy loads on the mechanical system.

Natural Light reaches 75% of the building floor area, while a direct line of sight to the exterior reaches 96 % of the structure. Large overhangs and solar shades reduce glare and minimizes heat gain, especially in the south and west facing elevations. Natural light is utilized to enhance the building and reduce energy consumption.



Lighting Daylight controls reduce total quantity of artificial lighting, dimming electrical lights when outside light is adequate. Classrooms are zoned to turn luminaries on only when electric lighting is needed along, thus reducing the electrical load on the project. When electric light is needed the luminaries that are zoned use power while still providing quality light to the space.



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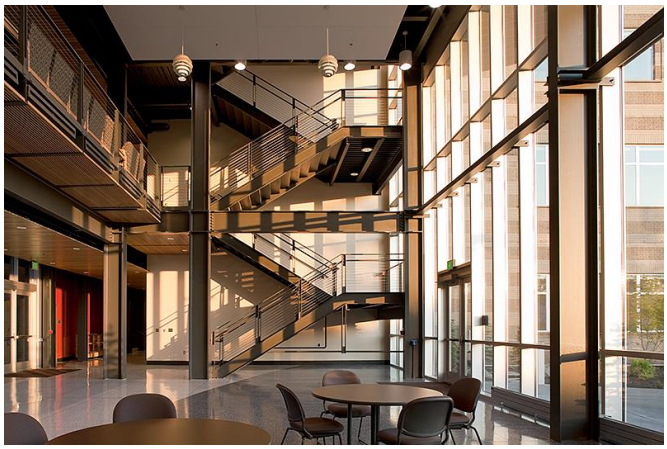
Material and Resources

Occupant Recycling:
A Recycling Center is established for the entire building. Concrete demolished from the existing structures on the site was removed and recycled.

Recycle Materials:
Exposed Steel and Concrete constitute a visual expression of recycled and local materials utilized in the structure.
Recycled Materials with over 40 percent content are used and expressed in the design and itemized as follows:
Steel, Cast in Place Concrete, Rebar, Precast Concrete, Suspended Ceiling Panels, Mortise Locks, Insulation, Dens Glass Gold Sheathing, Casework,



Local Materials: Local Material used on the project include: Rebar, Steel, Cast in Place Concrete, Casework, Steel Studs, Dens Glass Sheathing, Specialty doors, and Pea Gravel.

Indoor Environmental Quality

Low-Emitting Materials:
Indoor air is protected by the choices of carefully researched finishes and other potential source of fumes. All sealants, paints and adhesives were selected for low volatile organic compounds (VOC) content. Floor finishes all Low VOC as follows; carpet, exposed concrete, concrete sealers, linoleum, and terrazzo. Filtration in the mechanical system exceeds standard industry practice. Operable windows in the administrative areas allow users to control fresh air entering their spaces.

Innovation in Design

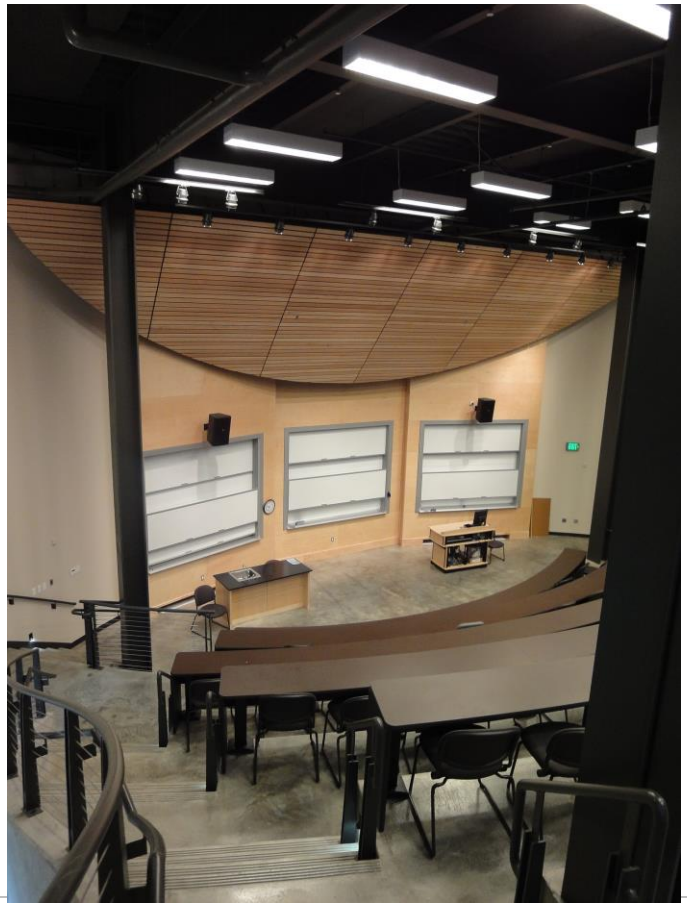
Education:
Signage is currently being developed to teach the different aspects of sustainable design to the users. Signage is being organized to show how the structure achieves sustainable design in each of the following categories:

Construction Waste:
The construction team selected division methods to divert over 95 percent of the construction waste from landfill.

Recycled Material:
Over 40 percent of the construction material was recycled

Water Efficiency:
This project used a combination of high efficiency fixtures including low flow water closets, low flow urinals and lavatories to achieve a 42.7 percent water use reduction.

Material Recourses:
The project team selected certified wood materials that allowed them to exceed a 95 percent threshold of FSC certified wood products.



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