Department of Corrections – Mission Creek Corrections Center LEED Silver

Project Specifics

Gross square footage:	13,697 sf
Construction cost:	$4,033,162
Project occupied:	January 2010
Energy Savings:	$12,545/yr
Water savings:	$1,980
Waste recycled:	36.8 Tons / 98.41%
Added LEED cost:	$56,860
Payback period:	3.45 years
CO_2 savings:	48.18 tons
Awarded	LEED Silver 2009

Design and Construction Team

Owner's representative:	Edward Hampton
Project Manager:	Kevin Kobayashi, AAIA
Architect:	Freeman Fong Architecture, PS
Structural engineer:	Integrus
Mechanical engineer:	Inventrix Engineering, Inc.
Civil engineer:	PACE Engineers, Inc.
Electrical engineer:	DEI Electrical Consultants
Landscape architect:	Osborn Pacific Group
Telecommunications:	Hargis Engineers
Geotechnical engineer:	Shannon & Wilson, Inc.
Cost Estimator:	Roen Associates
General Contractor:	Shinstine/Associates LLC

The Washington State Department of Corrections has earned a national reputation for its efforts to make both its operations and facilities more sustainable. The 100 Bed Expansion project will be the first LEED certified building constructed on the Mission Creek Corrections Center for Women campus. Every opportunity was taken to reduce its impact on the environment while maintaining security.

The new housing facility is located on leased property from the Washington State Department of Natural Resources, where the harvesting of trees and effect on wildlife were reduced to minimize the impact on the environment.

The use of natural lighting through clerestories in interior spaces dovetailed nicely with the facility to minimize energy consumption. The building is oriented to maximize sunlight along with individually controlled direct/indirect lighting. All contribute to energy efficient, well-lit and comfortable spaces for offenders.

Because Mission Creek is depended on well water, all resources to minimize water usage such as drought tolerant plants and water efficient fixtures were explored and used.

The design team and General Contractor took every opportunity to provide LEED compliant materials. The team's exemplary performance made possible for the project to meet LEED Silver.

Sidney Hunt, LEED Green Building Advisor
Phone: (360) 407-9357
Email: sidney.hunt@des.wa.gov

Washington State Department of Enterprise Services

Sustainable Sites

Land Improvement: The harvesting of trees and effect on wildlife were minimized while maintaining a distance of over 150 feet from streams.

Alternative Transportation: The campus is providing parking spaces for hybrid vehicles and carpools. Bicycle storage and changing rooms are also provided.

Heat Island Effect, Roof: A SRI 29 rated cool roof was used to conserve on energy usage.

Water Efficiency

Irrigation: Landscape chosen will not require permanent watering. Only native plants were installed. No potable water will be used for irrigation after plant establishment.

Water efficient fixtures: Low flow fixtures were used throughout the facility for sinks, lavatories, toilets, and showers to reduce water usage.

Energy and Atmosphere

Natural light: All habitable spaces are naturally lit. The interior day room with its high ceiling and clerestories bring in natural light to the interior of the spaces.

Heating and cooling: 3 air handling systems – 2 serving the housing area, separated by building exposure for improved temperature control; and one dedicated to common areas. High-efficiency heat pumps with backup electric resistance provide heat during extreme cold conditions. A flat-plate heat exchanger provides high-efficiency energy recovery.

Lighting: All spaces have daylight zones switched separately from non-daylight zones. The day room includes pendant-mounted direct/indirect lighting with dimmer controls for occupant comfort. Sleeping rooms have separate switches for personal reading lights.

Measurement and Verification: An energy management and controls system provides control and monitor of the building mechanical system.

Material and Resources

Construction Waste Management: The contractor diverted close to 100% of the construction waste from landfills.

Occupant recycling: MCCCW has a recycling program in place, including bottles, cans and paper.

Recycle materials: Materials used on the project included recycled concrete, top soil, reinforcing rebars, fiber mesh, structural steel, metal flashing, acoustical tile ceiling, plastic wainscot, and particle board.

Local materials: Local materials used included recycled concrete, top soil, reinforcing rebars, structural steel, rough carpentry materials, building insulation, asphalt shingles, cementitious siding, metal flashing, hollow metal doors and frames, wood doors, vinyl windows, and particle board.

Indoor Environmental Quality

Low-emitting materials: Formaldehyde-free MDF and low- or no-VOC paints were specified, all carpet is Green Seal compliant, and all sealants and coatings were reviewed by the construction team prior to use in the building.

Chemical and Pollutant Source Control: Permanent recessed walk-off mats were installed, MERV-13 filters were installed in air handlers, and all copy and work rooms were exhausted separately from the main building return air.

Views: Over 75% of the spaces are naturally lit. Over 90% of the spaces have access to views.

Innovation in Design

Green Cleaning: MCCCW is committed to having all its occupants use sustainable cleaning products.

Exemplary Performance:

Water Use Reduction by 40%: Timed faucets and showers contributed in reducing water usage to meet this requirement.

Construction Waste Management: The contractor diverted 98.41% of construction waste from landfills.