



Materials & Resources

encourages the selection of sustainably grown, harvested, produced and transported products and materials. Promotes reuse, recycling and waste reduction.

Recycled-content materials were used throughout the building. For example, the siding and carpeting have 65 and 34 percent pre-consumer recycled material, respectively. The structural steel is 80 percent post-consumer recycled material.

Reused materials include timbers salvaged from the old Tacoma Municipal Dock. Douglas fir beams were remilled and used for conference room walls, and the walls, ceiling and reception desk in the lobby. Old granite curbs, recovered from street improvement projects, were recycled into benches.



Above: S.S. Indianapolis at Tacoma Municipal Dock, circa 1912
Washington State Historical Society

Sustainably produced lumber, certified by the Forest Stewardship Council, was used in more than 50 percent of the wood-based products and materials.

Local/regional materials make up more than 30 percent of the building materials. Products have been extracted, harvested or recovered and manufactured within 500 miles of the site.

Construction waste management resulted in the recycling of more than 99 percent of the waste generated during construction.



Energy & Atmosphere

encourages sound energy strategies; building commissioning; energy use monitoring; efficient design, construction, appliances and lighting; and the use of clean, renewable energy. These strategies result in the Center for Urban Waters using 34 percent less energy than a standard building.

Ground source heat pump uses the constant temperature of underlying groundwater to heat and cool the building.

This is accomplished by 84 geothermal wells, each approximately 280 feet deep, under the esplanade and parking lot.

Above: Waste materials segregated for recycling during construction
Courtesy of Turner Construction

Natural ventilation and radiant heating and cooling are used in the building, along with **energy-efficient mechanical systems**.

Solar shading is accomplished with fixed sunshades on the south side of the building and motorized shades on the west. The shades prevent sunlight from landing directly on the windows and heating up the interior.



Indoor Environmental Quality

promotes strategies that improve indoor air quality and provide access to views and natural daylight.

Windows on the south and west sides of the building can be opened to provide natural ventilation and allow the breeze off the Thea Foss Waterway to cool the building. Indicators inside the building tell occupants when to open windows to maximize natural cooling.

Daylighting of the interior is supported by the building's long, narrow shape, permitting natural light to illuminate many of the office areas.

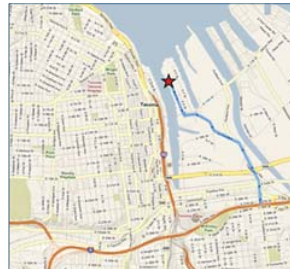
Light shelves in open office areas extend natural light deeper into the building. These shelves, placed above eye level near the windows, are made of reflective materials that reflect daylight onto the ceiling, which conveys light further into the space.



Low VOC (volatile organic compound) adhesives, sealants, paints, coatings, carpet and wood reduce the level of potentially toxic or harmful organic chemical compounds that can enter the atmosphere as gases or vapor.

Lighting in open office areas is equipped with daylight sensors that automatically adjust light levels based on the amount of natural light.

Views are available to more than 90 percent of the regularly occupied spaces in the building, giving most occupants views of the building's surroundings.



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CENTER FOR URBAN WATERS

THE CENTER FOR URBAN WATERS: SOLUTIONS FOR URBAN BAY COMMUNITIES



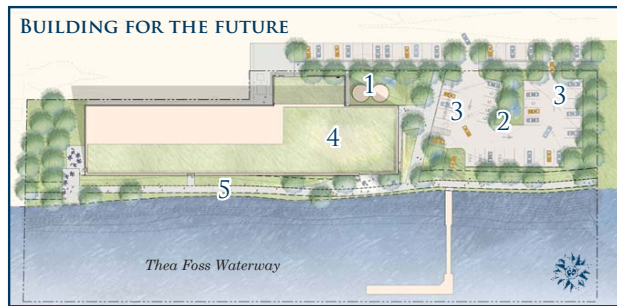
The Center for Urban Waters is a 51,000-square-foot building housing City of Tacoma Environmental Services labs and offices, University of Washington Tacoma researchers and Puget Sound Partnership staff. This collaboration brings together environmental scientists, analysts, engineers and policymakers to develop and apply the best possible science to restoring and protecting Puget Sound.

This project is the result of years of work by many individuals and organizations, led by the Urban Waters Board of Directors, who dreamed of a premier research center committed to developing solutions to the problems facing urban bay communities.

In launching construction, the Tacoma City Council aimed for a LEED® Platinum rating (v2.2), the highest possible designation under the U.S. Green Building Council's Leadership in Energy and Environmental Design green building certification system.



Center for Urban Waters
326 East D Street, Tacoma



LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

The LEED® (Leadership in Energy and Environmental Design) Green Building Rating System, developed by the U.S. Green Building Council, is the nationally accepted benchmark for the design, construction and operation of high performance green buildings. This voluntary certification program promotes a whole-building approach to sustainability by recognizing performance in five key areas: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

MAP LEGEND

1. Water storage tanks
2. Rain garden
3. Pervious pavers
4. Green roof
5. Snag bird perches

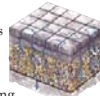


LEED® AT THE CENTER FOR URBAN WATERS

Sustainable Site minimizes a building's impact on ecosystems and waterways; encourages appropriate landscaping and smart transportation choices; controls stormwater runoff; and reduces erosion, light pollution and heat island effect.



Pervious pavers, also known as permeable or porous pavement, allow rain to pass through the parking lot and drain into the soil, rather than pooling on top and running into the stormwater system.



Light pollution is reduced by systems that automatically turn off all interior non-emergency lighting during non-business hours and provide light in exterior areas only where needed for safety or comfort.

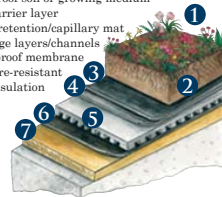
Native and adapted plants require less water and fertilizers, provide habitat for birds and animals, and protect water quality in Puget Sound.

Cedar and Douglas fir snags along the waterfront provide staging, feeding and nesting habitat for birds and small animals.

Green roofs absorb rainfall and filter pollutants from the air and stormwater. They reduce heating and cooling load by naturally insulating the building.

Green roof anatomy

1. Hardy, low maintenance plants
2. Green roof soil or growing medium
3. Root barrier layer
4. Water retention/capillary mat
5. Drainage layers/channels
6. Waterproof membrane
7. Moisture-resistant rigid insulation layer



Bike storage racks, lockers and shower facilities

accommodate and encourage alternative commuting.

Rain garden collects stormwater runoff from the parking lot. A shallow depression with native plants, the rain garden filters pollutants from stormwater.



Coastal strawberry
Fragaria chiloensis

Red-osier dogwood
Cornus sericea

Oregon grape
Mahonia repens

Red-flowering currant
Ribes sanguineum

Water Efficiency encourages smarter use of water, inside and out, through the use of efficient appliances and fixtures and water-wise landscaping. These strategies result in the Center for Urban Waters using 46 percent less water than a conventional facility.

Water-conserving plumbing fixtures are incorporated to reduce water consumption.

Water reuse is facilitated by two water storage tanks located near the parking lot. Tanks collect roof runoff and water rejected by the laboratory's pure water system. Green LED lights on the sides of the tanks show the water level. Water collected in the tanks is used to flush toilets and irrigate plants.

Water-wise landscaping uses native and adapted plants requiring less water. Plants with similar water needs are grouped to conserve water, and those located close to the waterway are tolerant of saltwater spray.

