U.S. GENERAL SERVICES ADMINISTRATION

FEDERAL CENTER SOUTH BUILDING 1202

USACE Seattle District Headquarters

The Federal Center South 1202 building is a 2009 American Recovery and Reinvestment Act (ARRA) funded project and part of the U.S. General Services Administration's (GSA) Design Excellence program. With reuse part of the directive, the new 1202 building transforms a brownfield industrial warehouse site into a 21st century workplace for the U.S. Army Corps of Engineers (USACE) Seattle District headquarters.

As a Design-Build team Sellen Construction and ZGF Architects LLP developed an integrated design and construction solution that balances programmatic, functional, and aesthetic objectives to set a new standard for high-performance, cost-effective and sustainable workplace environments. It is on-track to exceed the ARRA-set high-performance building requirements.

The design solution— 'the Oxbow'—respects the historic context of the site, including the natural oxbows past and present that characterize the Duwamish Waterway and adjacent historic warehouse designed by renowned architect Albert Kahn. Siting, orientation, building form and massing, material selection, and construction are structured to provide the most ideal workplace environment for the U.S. Army Corps of Engineers and to breathe new life into the historic campus.

The 1202 building expresses the distinct identity of the USACE and is in keeping with their mission of "Building Strong." The high-performance interior environment promotes user health and productivity. The U-shaped configuration with all shared services clustered around a central atrium provides the ideal collaborative workplace environment and the greatest flexibility to expand and contract around the needs of each user group.

The 1202 building is anticipated to be in the top one percent of U.S. buildings for energy performance and become the region's most energy-efficient air conditioned building. The innovative use of Phase Change Material (PCM) provides significant energy savings, and the project is one of the first in the region to combine the use of geothermal heating and cooling systems with structural piles.

SIZE: Three-story, 209,000 SF building
(180,000 SF of office and conference space)

PROJECT COST: $72 million
$270 / SF building only (excluding site work and warehouse demolition)

LOCATION: 4735 East Marginal Way, Seattle, WA 98134

CONSTRUCTION START DATE: July 2010

COMPLETION DATE: October 2012

TENANT: U.S. Army Corps of Engineers

OWNER: U.S. General Services Administration

CONSTRUCTION MANAGER ASSISTANT AND COMMISSIONING SERVICES: Heery

GREEN CERTIFICATION: Targeting LEED (Leadership in Energy and Environmental Design) Gold certification from the U.S. Green Building Council and will meet the requirements of the 2030 Challenge

FUNDING: American Recovery and Reinvestment Act (ARRA)

PROJECT TEAM

General Contractor Sellen Construction

Design Architect ZGF Architects LLP

Structural and Civil Engineer KPFF Consulting Engineers

Mechanical / Plumbing WSP Flack + Kurtz / University Mechanical

High Performance Design Built Ecology

Lighting WSP Flack + Kurtz

Telecommunications WSP Flack + Kurtz

Electrical Lane Coburn & Associates, LLC/Sequoyah Electric, LLC

Landscape Architecture SiteWorkshop LLC

Graphics and Signage Studio SC

Elevator Lerch Bates

Acoustical The Greenbusch Group

Life Safety Rolf Jensen & Associates / Tuazon Engineering

Geotechnical / Soils Hart Crowser & Associates, Inc.

MEDIA CONTACT

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PROJECT HIGHLIGHTS

Bird's eye view of Building 1202

Certifications & Benchmarks

- Anticipated to achieve LEED Gold certification, targeting Platinum
- ENERGY STAR score of 100
- 40% below ASHRAE 2007 benchmarks
- 2030 Challenge compliant

Energy

- Anticipated to be in the top 1 percent of office buildings in the U.S. for energy performance
- Estimated energy use index (EUI) of 20.3 kbtu/SF/year (an average office building in the Northwest has an EUI of 106)
- Energy management & verification devices will monitor energy use

Water

- Rainwater reuse system captures water from the roof and stores it in a 25,000 gallon cistern for toilet flushing, irrigation, rooftop cooling tower and water features in the atrium
- Rain gardens to treat and infiltrate all stormwater on-site
- Maximum efficiency 'Water Sense' fixtures utilized throughout the building

Biophilic Design

- Optimization of floor depth and façade design enables extensive daylighting with 90% of the building naturally lit
- Plant and tree species located throughout the central "Commons"atrium
- 100% outside air is filtered and distributed via underfloor ventilation
- "Source stone" water features in the atrium connect the interior environment to the exterior Duwamish Waterway and its historic tributaries

Lighting

- Occupancy sensors and continuous dimming ambient controls used for daylight harvesting, maximizing connection to nature, and reducing electric lighting loads during daylight hours
- Lighting design targeting a very low ambient power density of 0.68 W/SF
- Sunshades used on every elevation tailored to respond to specific solar conditions
- Site lighting with pedestrian scale poles are combined with low level lighting to provide safe and even light levels while highlighting architectural and landscape features

Heating, Cooling & Ventilation

- Thermal storage tanks with phase change materials (PCM) that takes advantage of free cooling to store energy for future use
- Geothermal heating and cooling loops integrated into structural piles (one of the first projects in the region to combine both systems)
- Shading devices to reduce heat gain and lower the required cooling
- Ventilation air provided by four rooftop air handling units with heat recovery and distributed via an underfloor air delivery system
- Supplemental heating provided at the perimeter zones using hydronic radiant system
- Cooling primarily provided using overhead passive chilled sails with a portion of the cooling provided from the ventilation air through the raised floor plenum
- 100% outside air continuously delivered to the occupied space to provide improved indoor air quality

Materials & Resources

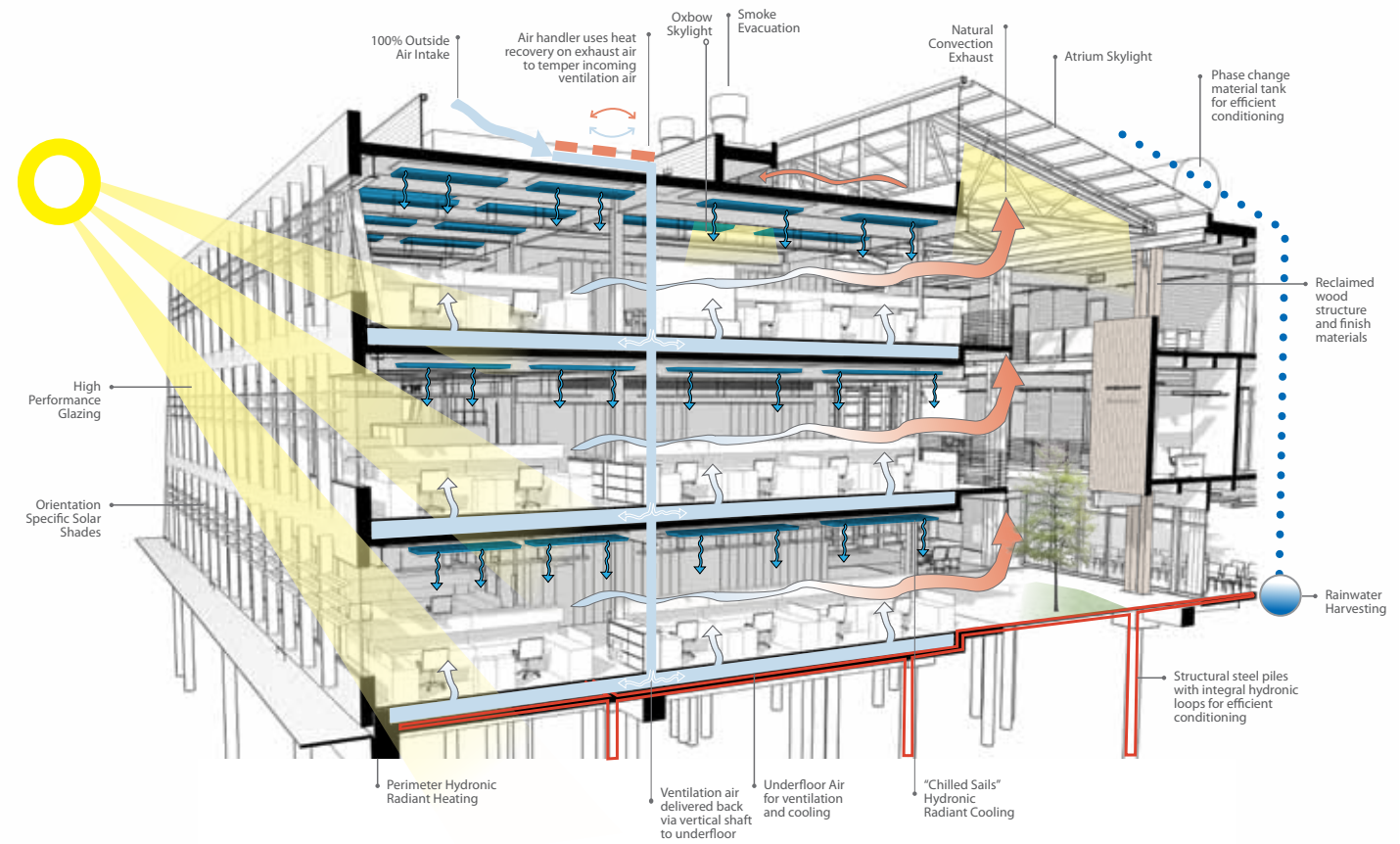
- Reuse in the atrium Commons of 200,000 board feet of reclaimed timber and 100,000 SF of decking from the existing warehouse that was deconstructed
- Recycled or salvaged more than 98% of construction waste
- Low-emitting materials used throughout the building
- Over 20% use of recycled content materials and 50% of the new wood was certified

Site Development & Remediation

- Redevelopment of a brownfield site adjacent to Duwamish Waterway, a Superfund site
- Wetlands restoration, converting large areas of hardscape to green space
- 9-acres of existing impervious surfaces was reduced by 50%, creating 4.5 acres of pervious landscaped site
- Existing soils reused and amended rather than importing new material

Green Job Training & Strengthening Local Economy

- On-site green job training to enhance skills by learning new technologies
- Approximately 35% of the companies involved in the project were small businesses



The aggressive energy performance and sustainability goals for the building are met through integrated systems performance. This section depicts the various sustainable systems at work simultaneously throughout the building.

The vertical and horizontal sunshades are tuned to latitude and orientation to increase glazing performance and add an additional layer of texture to the building facade.

Daylit interior atrium Commons with skylight overhead