School of Fisheries Building, University of Washington

Seattle, WA

Team

Owner:
University of Washington, Seattle, WA

Architect:
Bohlin Cywinski Jackson Inc., Seattle, WA

Engineer:
KPFF Consulting Engineers, Seattle, WA

General Contractor:
Turner Construction Co., Seattle, WA

Total Project Cost:
$33.6 million

Total Project Size:
125,000 sq ft

Photography:
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STRUCTURAL FRAMING SYSTEM

Administrators at the University of Washington decided to eschew the Gothic style of their main campus when they designed the School of Fisheries Building, one of the leading schools of fishery science in North America and a world leader in research related to salmonid species. Designers chose a cast-in-place, reinforced concrete structure as the best approach to housing state-of-the art equipment, consolidating the school's faculty for improved communication, and reflecting the facilities' technological sophistication.

The three–story building terraces toward Boat Street, maximizing the views along the city's waterfront and complimenting nearby structures. A reinforced concrete moment frame allowed greater flexibility for the varied configurations of plan elements and the large laboratory HVAC systems that were required. In addition, reinforced concrete was determined to provide the safest, most dependable, and most cost-effective way to control vibrations, which was required for the school's sensitive scientific instruments.

UNIQUE DESIGN FEATURES

Built in a Zone-3 seismic region, the building was designed to use 80% of the structure as concrete moment frames to resist seismic loads. This allowed for less reinforcement congestion than comparable structure types where only specific members are part of the lateral load-resisting system. Cast-in-place, conventionally reinforced concrete was used for all primary structural elements, including columns, beams, walls, slabs, foundations, stairs, and ramps.

The focus on function didn't detract from the school's aesthetic design. Designers played up the concrete elements, making them clearly visible throughout the building. This approach allowed the components to reveal their strength, versatility and integrity, which emphasized the school's serious approach.

The north and west elevations form a brick 'edge' to the site and relate directly in material and scale to other buildings along the street. These elevations were critical to establishing an approach to the campus and expressing the façades to the laboratories and service spaces. The south and east elevations feature a cast-in-place reinforced concrete frame with an aluminum and glass curtain wall to take advantage of water views. Great care was taken to articulate and reveal the nature of the two contrasting exterior skins, and to establish strong relationships between interior and exterior spaces.

REASONS FOR CHOOSING REINFORCED CONCRETE

Reinforced concrete allowed the architect to achieve a range of cost-effective contextual finishes and provide greater freedom of expression and flexibility. This can be seen in the three-story convening space, which features a glass and reinforced concrete staircase. This structure acts as a lantern for the major pedestrian route through the south campus. A second stairway ascends through the convening space to the third floor clerestory and connects all three floors.

To resist lateral seismic forces, reinforced concrete moment frames were used in 80% of all gravity-framing members.

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