

**Seattle Green Roof Evaluation Project, Seattle, Washington**

Magnusson Klemencic Associates, Inc. – Seattle, Washington

*Grand Award*



Compelling results from a unique test project show that “green roofs” are an effective tool in mitigating storm water. During an 18-month test of green roof plots in Seattle, including a record-breaking month of rainfall, between 69 and 93 percent of the rainwater was absorbed and prevented from becoming measurable runoff. The project proved that green roofs can effectively use vegetation and other natural elements to attenuate storm water atop buildings, rather than allowing it to reach the ground and burden municipal infrastructure. The innovative application of engineering will propel the use of green roofs as an important storm water management tool.

**The Louisville Metro Hazard Information Portal, Louisville, Kentucky**

Fuller, Mossbarger, Scott & May Engineers, Inc. – Louisville, Kentucky

*Grand Award*

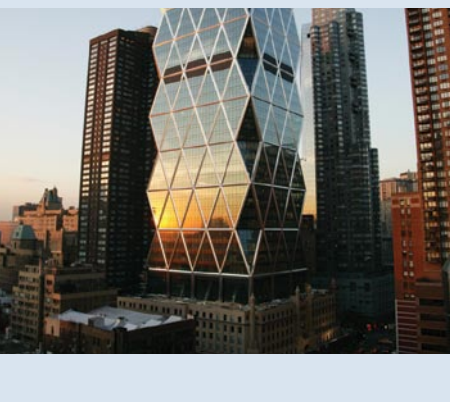


In response to Louisville’s number one natural disaster threat—flooding, the new Hazard Information Portal, or HazMap, provides life-saving flood risk and management information at the touch of a keyboard. The web-based HazMap integrates information technology with state-of-the-art assessment tools and the Geographic Information System (GIS) to help users coordinate pre-disaster planning and flood mitigation efforts. The program details flood mapping, floodplain determination, and specific at-risk areas, and serves as an effective preventative tool to aid Louisville’s flood management efforts.

**Hearst Headquarters, New York, New York**

WSP Cantor Seinuk – New York, New York

*Grand Award*



Situated within the frame of a 1928-era landmark art deco building, the new 46-story Hearst Headquarters is a glass and steel icon of engineering innovation. The new facility incorporates the original six-story art deco concrete facade, while adding a majestic 600-foot-tall tower in the center. The project team incorporated a diagrid structural system—the first high-rise building in North America to use the unique network of triangulated trusses with multiple paths to support horizontal and vertical loads. The project is the first New York City building to receive the Gold LEED certified rating for core and shell interiors, and exemplifies the balance of form and structure, the preservation of heritage and the environment, and the advancement of engineering design.

# 2007 *Engineering Excellence Awards*

## **Perry Street Bridge Replacement, Napoleon, Ohio**

HNTB Ohio, Inc. – Cleveland, Ohio

*Grand Award*

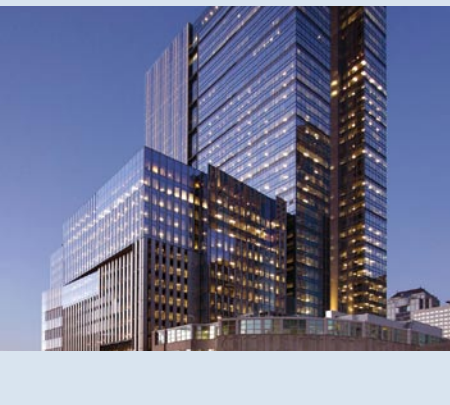


The new Perry Street Bridge is a larger, safer and more efficient version of the 1930-era landmark it replaced, yet maintains the original historic design and role as city's visual focal point. Time and deterioration had left the original bridge an antiquated two-lane structure that stifled the region's transportation capabilities. The project team used a unique combination of pre-cast and pre-stressed concrete arch construction schemes to match the original artistry, in addition to drilling through existing piers to allow construction without disturbing the river bottom. The now four-lane Perry Street Bridge successfully incorporates the historic design elements of its predecessor with improved transportation flow and safety for 16,000 daily motorists.

## **WaMu Center/Seattle Art Museum Expansion, Seattle, Washington**

Magnusson Klemencic Associates – Seattle, Washington

*Grand Award*

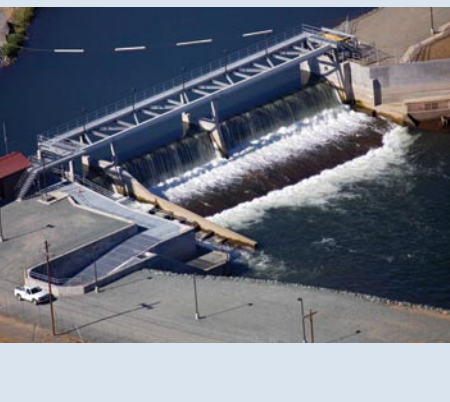


The new WaMu Center/Seattle Art Museum is a gleaming 540-foot-tall office building that houses 4,000 employees for the nation's fifth largest bank, and four floors of Seattle's most prestigious art collection, in cohesive harmony despite severe space restrictions. To compensate for the narrow building footprint the project team incorporated a new structural system—Performance-Based Seismic Design—which avoided the need for a bulky perimeter frame. The result expedited construction, increased layout flexibility and reduced the overall project cost.

## **Mokelumne River Project, Woodbridge, California**

Winzler & Kelly Consulting Engineers – Santa Rosa, California

*Grand Award*



The new 167-foot-long fish passage facility on the Mokelumne River in Northern California is a model for fish passages worldwide. For decades the river was a well-known Coho salmon and steelhead migratory stream. A series of irrigation dams built since 1910 contained crude fish ladders to mitigate migration, that over time became less and less effective. By 1995 no steelhead were counted and the salmon run was nearly non-existent. The project team designed the new facility to include pneumatically operated steel gates and three state-of-the-art high and low-water fish ladders. In the facility's first year of operation, over 16,000 salmon passed through the new ladders and 180 steelhead returned to their upstream hatchery beds.

## West Side Combined Sewer Overflow Project, Portland, Oregon

Parsons Brinckerhoff – Portland, Oregon

*Grand Award*



In response to a state mandate to reduce combined sewer overflow (CSO) discharges into Portland's Willamette River, the project team designed a 3.4-mile-long, 14-foot diameter tunnel that crosses under the river to connect to a 160-foot-deep, 220-million-gallons-a-day pump station. The project also includes five 100-150-foot-deep shafts to connect the city's current combined sewer system and the new tunnel to channel sewage and peak storm water flows. Large-diameter slurry-mix-shield tunnel boring machines—the first application of the technology in the U.S.—were used to tunnel through the saturated soils alongside and beneath the river. The project reduces the amount of CSO discharges into the Willamette River, provides a cleaner water resource, increases water-themed recreational opportunities and allows native fish species to thrive.

## HONOR AWARDS

### The Center for Health & Healing at Oregon Health & Science University, Portland, Oregon

Interface Engineering, Inc. – Portland, Oregon

*Honor Award*



The new 16-story, 400,000-square-foot Center for Health & Healing is a pioneer in energy efficient design. The project team incorporated several innovative on-site energy systems such as building-integrated solar photovoltaic panels, a site-built solar thermal collector to heat hot water, a 300-kilowatt micro-turbine power plant, and chilled beams for radiant cooling. As one of the most energy efficient buildings ever built in the U.S., the Center is a model all future green building design and is helping transform a former blighted urban Brownfield into a thriving Portland neighborhood.