

Erie Western Pennsylvania Port Authority Cruise Boat Visitors' Terminal

ERIE, PA**JUROR COMMENTS:**

The use of a repeating graceful module creates a sculptural building that responds to water and is a light and economical response to the program.

The new Cruise Boat Visitors Terminal is situated at the end of the Holland Street Pier in Erie's Bayfront district. Formally an industrial site squarely in the country's "Rust Belt," the Erie Western Pennsylvania Port Authority was looking for a signature building to continue Erie's bayfront renaissance.

With the building serving as first contact to the City of Erie and possibly the United States, the owner wanted a bright, modern facility that also evoked the area's industrial heritage.

Using this as the backdrop, the architects at Weborg Rectenwald Buehler seized on the prototypical industrial sawtooth—updating it with curves and

offsets that added both visual interest and mimicked the waves in the adjacent bay.

The site and resulting building shape also accommodated the building's primary tenants—U.S. Customs and the Immigration and Naturalization Service. Programmatically, both tenants required a controlled, linear path through the building to control the flow of arrivals to the area that still maintained an open, welcoming feel.

The structural engineers at Steele Structural Engineering were tasked with providing an economical structural system that could be quickly and easily constructed. A laminated timber/deck system was quickly eliminated as being too heavy in appearance

STRUCTURAL ENGINEER

Steele Structural Engineering,
Erie, PA

ARCHITECT

Weborg Rectenwald Buehler
Architects, Inc., Erie, PA

STEEL FABRICATOR/DETAILER

Amthor Steel (AISC member),
Erie, PA

STEEL ERECTOR

Cararra Steel Erectors
(AISC member), Erie, PA

ENGINEERING SOFTWARE

RISA-3D, RISABase, RISAFoot,
Enercalc Structural Engineering Li-
brary



and outside of the project budget. The design team turned to a combination of wide-flange and hollow structural shapes to provide the ideal combination of clean lines, strength and cost effectiveness.

Using RISA-3D to perform the finite element analysis, a modular frame was designed that could be repeated through the building and be used as the primary structure. Save the front and rear building canopies, the frames utilized bent HSS sections for the roof and W8 shapes for the column assembly. Spaced at 17' centers and using

4½" long-span deck, the system easily resists the high winds and lake effect snows coming off Lake Erie while exhibiting minimal drift—critical to the exterior cladding.

The frames relied on bolted end-plate moment connections throughout to eliminate field welding. Additional HSS and channels were used for supporting both the continuous clerestories in each sawtooth as well as the large expanses of glass block in the building cladding.

Mechanical spaces were framed with wide flanges to support the units

and 4½" long-span deck for the floor (with plywood walking surface). The sloped ceiling in the private spaces throughout the building used a lighter gage of the same 4½" long-span deck.

The project was completed in fall 2002, providing an effective programmatic and structural solution for the City of Erie's newest landmark building. ★

