



CFSEI
COLD-FORMED STEEL
ENGINEERS INSTITUTE

2018 CFSEI DESIGN EXCELLENCE AWARD WINNER

SECOND PLACE – CEMCO ENGINEERING AND STRUCTURAL – PARK LANE ALA MOANA – HONOLULU, HI

**Park Lane Ala Moana
1388 Ala Moana Boulevard
Honolulu, HI 96814**

**Completed: October 2017
Construction Cost: \$1 billion**

Owner: Kobayashi/MacNaughton Group

Architect of Record: Solomon Cordwell
Buenz

Engineer of Record for Structural Work:
Magnusson Klemencic Associates

Cold-Formed Steel Specialty Engineer: Georgi Hall, CEMCO Engineering and Structural,
Hawaii

Cold-Formed Steel Specialty Contractor: Darwin Cabanas, Emil Bete and Ethylene Ipalari,
Group Builders, Inc.

Award Entry Submitted by: Akira Usami, CEMCO



Park Lane Ala Moana project completed -
Photo by Ren Shiroma Photography

Project Background

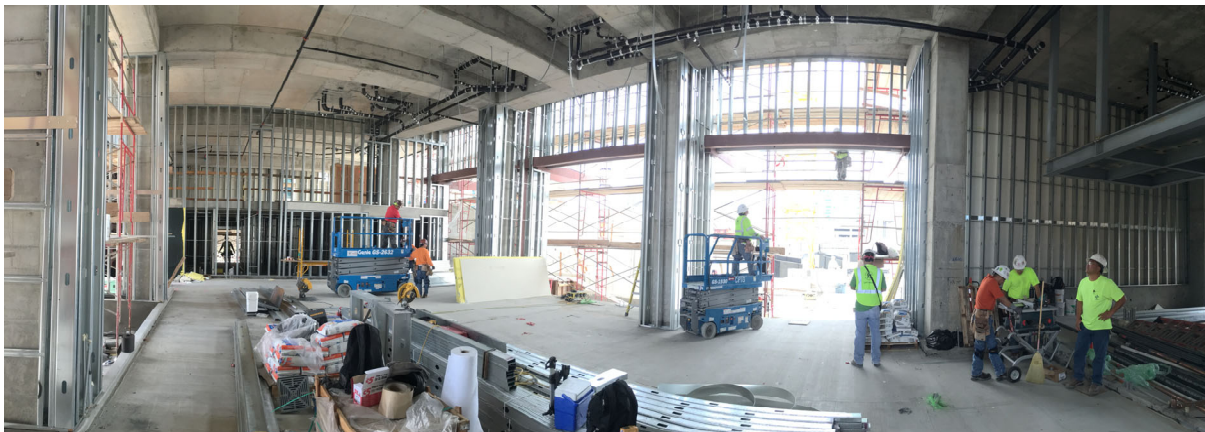
Park Lane Ala Moana is a luxury condominium development built on the property of Ala Moana Shopping Center, the largest retail complex in the state of Hawaii. It boasts unobstructed ocean views and is built across from the world-famous Ala Moana Beach Park. The project consists of seven eight-story buildings with 219 units ranging from one-bedroom units at 846 square feet to the grand penthouse at 6,273 square feet. There are six levels of living units built above two levels of parking. With the completion of this project, the ocean-facing landscape of

Ala Moana Shopping Center has been transformed from a retail parking structure to an ultra-modern, luxury mid-rise condominium development.

Design Challenges and Solutions

The structural shell was poured in place concrete with a post-tensioned slab floor system. Post-tensioned slabs present challenges for cold-formed steel framing, and the anchorage on this project was limited to a depth of 3/4-inch. The luxury finishes on the project required very stringent deflection limits ranging from L/600 to L/1000 for some stone walls.

Additional challenges included construction of mall anchor tenants at adjacent locations. There were three separate general contractors working in very close proximity on the Ala Moana mall property during the same timeframe for over one year. Since the seven-building complex was spread out, workers at the first building were completing their units as the seventh building was starting construction. All of this construction took place while the largest mall in the state remained in full operation.



Atrium interior framing – Photo by Group Builders, Inc.

Despite these challenges, specialty contractor Group Builders Inc. completed the project on schedule by utilizing CEMCO Engineering services and CEMCO proprietary products. All fire-rated head of wall details used CEMCO FAS Track 1000 and FAS J Track for Shaftwalls, which eliminated the slow and messy process of installing traditional fire caulking. It also simplified the inspection process of the rated head of wall details with a factory-metered dosage with

intumescent fire tape factory applied to the deflection track. Nonrated walls used slotted deflection track on the interior walls, and the exterior walls used deep leg deflection track with cold-rolled channel attached with Simpson Strong-Tie SUBH U-channel connectors for head of wall bridging. Various connection details used multiple Simpson Strong-Tie cold-formed steel connectors.

A unique design challenge occurred along the north wall of Building 2. The concrete contractor incorrectly poured the slab edge on Levels 6 to 8, which required Group Builders, Inc. to come up with a solution to maintain the original look. Adding to the complexity was the 50-foot-length of wall which had to be furred out to a taper on one end. The additional framing had to be built out in a triangular shape instead of a rectangle. Group Builders Inc. and CEMCO Engineering worked closely together to create a cost-effective solution for the client to keep the project moving on schedule.



Slab discrepancy framed –
Photo by Group Builders, Inc.

The design flexibility provided by cold-formed steel framing and the commitment to excellence exhibited by the construction team delivered a project which residents will enjoy for years to come.

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