

The Crossing San Bruno, Phase III

Bay Area Multi-Family Residential Completed
with Ultra-Span® Trusses

Project:

The Crossing
Phase III
San Bruno, CA

Ultra-Span® Fabricator:

TEAM Panels
Englewood, CO

General Contractor:

SNK Construction
Oakland, CA

Cold Formed Engineer:

Ficcadenti, Waggoner & Castle
Consulting Structural Engineers
Walnut Creek, CA

Truss Installer:

Daley's Drywall and Taping, Inc.
Campbell, CA



The San Francisco Bay area is home to some of the most beautiful vistas in the world. Framed by the Pacific Ocean, steep hills, and San Francisco Bay, the scenery is priceless--and so are real estate prices. According to a *US News and World Report*, the San Francisco metro area ranks top five in terms of housing cost, with an average home price well in excess of \$500,000.

In 2002, in an effort to bring more affordable housing options to the Bay Area, San Mateo County and the city of San Bruno approved a

massive re-development project that would come to be known as The Crossing San Bruno. The 20 acre parcel, part of a former US Naval facility, will eventually encompass 900 multi-family housing units, shopping, hotels, restaurants, senior housing. A portion of these units will be tagged as affordable housing and offer lower acquisition rates.

The first Phase of The Crossing San Bruno, known as The Archstone San Bruno, was comprised of 300 mixed income multi-family units. Construction was com-

pleted in 2004, and TEAM Panels of Englewood, CO provided the Ultra-Span roof truss system to complete the project.

Although several structures for Phase II of The Crossing were wood framed, Phase III developer SNK Construction reverted to a totally non-combustible structure. The Project team headed by Wally Allert, selected a combination of red-iron and cold formed steel framing for the 350 apartment units.

“Steel framing was selected in or-



Above Image: Coordination and sequenced bundles aid in the smooth installation.

der to comply with building codes respective to five story structures," Allert stated. "Wood just wasn't an option given the height and occupancy of our units. Steel framing also offers faster erection time than conventional wood framing."

Engineers Ficcadenti, Waggoner & Castle were tasked with designing the structural cold formed framing and intricate cold formed roof structures of Phase III. According to Tom Castle, PE of Ficcadenti, Waggoner & Castle:

"I specified the mansard roof construction to be stick-built with cold-formed steel rafters because I thought the challenge of providing pre-engineered trusses would be too great, given the building's structural steel frame design and

the large number of different configurations required."

"I authorized that pre-engineered trusses could be used on the condition that TEAM Panels maintained the same structural footprint, and that TEAM Panels would provide the lateral seismic/wind load designs."

Enter TEAM Panels and their experienced design staff. TEAM had first hand knowledge of the design requirements of the San Francisco Bay area, based upon their previous experience on Phase I.

"Archstone (Phase I) made us familiar with the scope of the San Bruno development," commented Gregg Miller, President, TEAM Panels. "We were pleased to see

Phase III specified in cold-formed, but we had to perform quite a lot of value engineering to convert the roof from conventional framing to pre-fabricated trusses."

Jon Moore, Design Manager, TEAM Panels explained some of the unique challenges Phase III presented:

"The project was extremely challenging since the truss-to-bearing connection designs had to account for both in-plane and out-of-plane lateral loads, in addition to the usual gravity and wind uplift loads. And, with almost 2,100 different truss types and only 4,400 total trusses for both buildings, we had an average of just 2 trusses per type. Fortunately, we utilize a Virtek laser projection system in



our plant, which is a God-send on "cut up" jobs like this."

Aside from the inherent design challenges, Phase III also presented significant logistical hurdles. Project Manager Dikke Anderson of Daley's Drywall was responsible for overseeing the Ultra-Span truss installation. He described the scene on-site:

"This project had no stocking or lay down area. As soon as the trusses were on site, they had to be installed. The schedule was fast paced, and the number of design changes required clear consistent communication between all parties."

"Bundling and delivery of trusses were critical to making this a successful project. TEAM panels pre-arranged how trusses were bundled, labeled and delivered to the project. This made installation highly productive and created a continuous work flow. I have not worked with another truss company that could have adapted and customized their delivery and packaging system to meet the needs of our company and this project the way they did."

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the more than 97,000 square feet of roof area was installed and decked; and Phase III of the Crossing San Bruno is on schedule to open in early 2010. The highly coordinated effort between TEAM Panels and Daley's Drywall has resulted in a project that is on schedule and on budget. SNK's Allert summed things up quite well when he commented:

"Daley's Drywall and TEAM Panels closely partnered their resources and efforts in meeting SNK's critical construction schedule. The entire team was attentive, responsive and proactive in committing to the project, and to SNK Construction, for which we are most appreciative."



Above Image: Roof trusses delivered on-site.