

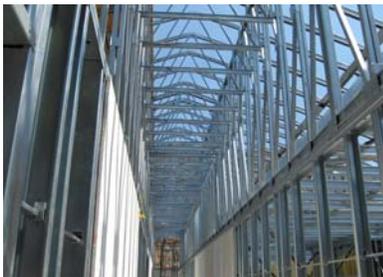


Poly Canyon Village Student Housing

Cold-formed steel framing was used for structural members in nine different four and five story student housing buildings

Project completed 6 months sooner than original schedule

Poly Canyon Village is a LEED Gold project



Poly Canyon Village is the largest cold-formed steel (CFS) load-bearing framing project in California and the most sizable student housing complex ever undertaken by an American university in a single construction project. Spanning 30 acres at the base of the picturesque Poly Canyon, the project is comprised of nine buildings, each with a four or five story CFS structure on a slab foundation or over a podium. The complex provides housing for nearly 2,700 additional students at California Polytechnic State University (Cal Poly) in San Luis Obispo.

The scale of Poly Canyon Village is 820,000 square feet with 11,000 load-bearing wall panels. Originally planned for a twenty month schedule, the project was successfully completed in fourteen months, shaving off six months from the original schedule.

Cold-formed steel, wood, and concrete masonry were all initially considered for the project, but the final decision came down to steel given its many attributes – such as lower construction costs, reduced insurance costs, its non-combustibility and a mandatory requirement that the project be LEED®-certified.

CFS Use At Poly Canyon Village

CFS for this particular project was used for the wall framing exclusively relying on four-inch studs ranging from 33 to 68 mil thickness. The thicker 68 mil studs were used at the ground floor and the stud thickness decreased as additional floors were added. Floor framing was accomplished with Dietrich TradeReady® CFS floor joists with 9/16-inch shallow metal decking, and USG Levelrock® was poured one inch over the top of the decking for the subfloor. Roof framing consisted of steel trusses fabricated by Pacific Coast Truss Fabricator, a CEMCO Company. Fire-treated structural plywood was used on the roof.

In addition to the design criteria calling for Type II construction and a one-hour fire rating for multi-story residential construction, another significant reason the university ultimately chose steel was its mandatory requirement that the project be LEED®-certified.





“The manpower on site along with the faster construction schedule makes the system with cold-formed steel ideal for low-rise and mid-rise multifamily construction projects.”

- *Design Team Leader*



Tegan Sullivan of Clark Design/Build, who has served as the captain for the team, confirms the LEED® certification requirement is one of the main reasons steel framing was selected. “When they were deciding how they would build, cold-formed steel and the panelization process was attractive because of the off-site plant,” Mr. Sullivan said. In addition to qualifying for LEED® credit because of steel’s recycled content, the project also earned LEED points because the manufacturing plant was located within 500 miles of the job site. The project achieved a LEED® Gold Certification from the U.S. Green Building Council.

The 30-acre complex was master-planned and designed by MVE Institutional of Irvine, California. The design/build team was made up of Clark Construction, Bethesda, Md., and Niles Bolton Associates, Atlanta.

Construction Cycle Time (Schedule)

By all accounts, Poly Canyon Village has been a resounding success. The construction was completed in six months less time using CFS framing compared to the schedule for a concrete structural frame. The entire project could have been turned over a year early but the lead time for some of the logistics like furnishings, retail build-out and training of facility managers was not enough to advertise and lease the rooms.

According to Mark Blackmon, Clark Design/Build of California, Inc, Oakland, CA, “Cold-formed steel framing was the primary factor in this job’s success. The flexibility to pre-fabricate panels off-site definitely contributed to the project’s success, and the speed at which the steel framing installer, KHS&S of California, was able to install the structures on site allowed for all the subcontractors to be productive. The efficiencies gained through pre-fabrication made it possible to start several components in several places at the same time, which significantly cut down on any potential downtime for workers and subcontractors.”

“I would absolutely use this system again, especially for these kinds of projects. The manpower on site along with the faster construction schedule makes the system with cold-formed steel ideal for low-rise and mid-rise multi-family construction projects,” Blackmon added.

The increased use of new techniques using steel helps reduce costs of the overall project and makes projects like Poly Canyon Village more marketable since steel is inherently a stable, engineered material with consistent properties and attributes. On completion in late 2009, Poly Canyon Village is an impressive apartment development and new home for Cal Poly students with amenities including a swimming pool, community center and a central retail plaza.





Further Information And Project Participants

- Project Owner:
California Polytechnic State University (Cal Poly)
- Project Design-build team:
Ed Palmer, Niles Bolton Architects,
3060 Peachtree Road N.W.
Suite 600, Atlanta, GA 30305

MVE Institutional of Irvine,
1900 Main Street Suite 800
Irvine, CA 92614, and

Clark Construction Group,
7500 Old Georgetown Road,
Bethesda, MD 20814
- Steel framing installer:
KHS&S,
5109 E. La Palma Avenue,
Anaheim, CA 92807

