Section 5 – Cycle time and Crew Requirements

Craftsmen Homes, the builder, has delegated all responsibility for framing to the framing contractor, Lane Framing. Before construction began, Craftsmen Homes entered into a contract detailing the exact responsibilities to be performed by Lane Framing.

According to the contract, Lane Framing was responsible for designing the homes' framing plan, supplying all the framing material, and framing the homes. The following describes the framers responsibilities and tasks associated with framing the observed homes.

Panel Fabrication

The studs and tracks arrived to the fabrication area cut-to-length, according to the sizes dictated by the cut-sheet. The third-party cold-formed steel supplier was selected through a competitive bidding process, and has about a four week delivery time. The material was separated by length and thickness and stored near the fabrication area. The fabrication crew selects the studs and tracks as needed. The studs, tracks, and completed panels are stored outside with no cover, while screws, bolts, and other smaller accessories are stored in a metal container near the designated fabrication area.

Panel Framing

Foundation Preparation

The anchor bolts were wet-poured into the concrete slab by another contractor. The framing crew places chalk lines on the slab detailing the location of each load-bearing and non-load bearing wall. Before the panels are erected a layer of foam was attached to the foundation; to serve as a moisture barrier.

Standing and Securing Wall Panels

The wall panels were unloaded and carried over to the foundation by hand. Once a section of wall panels was laid out the framing crew began standing the wall panels. Most panels were maneuvered by five crew members, occasionally longer panels required up to eight crew members. Heavier panels, often with wood components already attached, were hoisted into place by the forklift.

The wall panels were temporarily secured using steel studs as bracing and nails with washers driven into the foundation. Immediately after being stood up, the panels were attached to adjacent panels using screws. Anchor bolts and hold-downs permanently secured the panels to the foundation. The size and location of the anchor bolts and hold-downs are determined by the engineer.

Standing and securing the first floor wall panels took about a day and a half to complete.

Second Floor Joists

The second floor steel joists were placed on top of the first floor wall panels by the forklift. The floor joists were arranged and sheathed by five members of the framing crew.

Second Floor Walls

After the steel floor joists were sheathed with OSB the forklift placed the second floor wall panel stack on the second floor. The wall panels were sheathed after they were erected.

One of the observed model homes changed from a one-story home to a two-story home after the first floor wall panels were fabricated. For this home, the second floor wall panels were stick-built instead of being panelized and took slightly more time than the other panelized homes.

The complete second floor took roughly two days to complete, including installing and sheathing the floor joists and second floor walls. The trusses for the first floor were installed simultaneously as the second floor was being framed. The second floor crew consisted of five individuals.

Trusses

The first floor roof trusses were installed at the same time as the floor joists and second floor walls were installed. The fully sheathed low-sloping first floor trusses provided workers with a platform when sheathing the second floor walls. The trusses were placed on the walls' sills by the forklift, in accordance to California law.

Installing the trusses took about two days to complete. The truss crew consisted of five individuals.

Crew

Lane Framing's fabrication and framing crews each consisted of ten individuals with one supervisor overseeing both crews. Every crew member worked from 7:00 a.m. to 3:00 p.m., five days a week. The lead supervisor has over thirty-five years of framing experience; twenty of those have been with steel. The rest of the crew averages twelve years of framing experience.

The crew members are divided into these four categories; Field Operations Manager, Journeyman Carpenter, Assistant or Apprentice Carpenter, Laborer. The Field Operations Manager's, or lead supervisor, salary ranges from $25 to $30 an hour and is responsible for supervising the framing and fabrications crews and overseeing on-site activities. The Journeyman Carpenter's salary ranges from $18 to $22 an hour and is highly skilled. The Assistant or Apprentice Carpenter's salary ranges from $10 to $16 an hour and needs minimum guidance and has a medium skill level. The Laborer's salary ranges from $8 to $10 an hour and is considered unskilled.