



Framing the first partition



Partitions in the container

# Prefabrication of Exterior Partitions for GNS

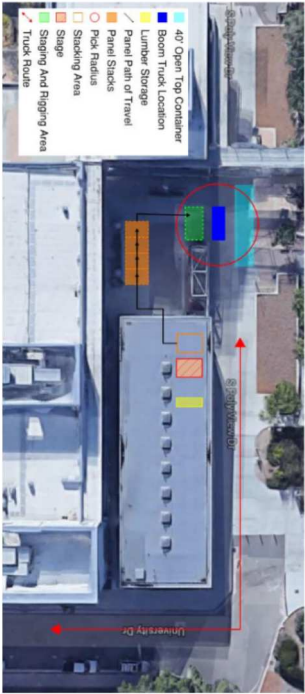
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In the wake of a wildfire in Weed, CA that destroyed 450 homes, a non-profit organization called Great Northern Services (GNS) reached out to Cal-Poly San Luis Obispo about a service-learning opportunity that involved designing a single-family home and prefabricating the exterior partitions in San Luis Obispo. In Fall 2017, interdisciplinary teams of students delivered design proposals in the Integrated Project Delivery studio. The selected design was then finalized into a permitted set of drawings and planning for the prefabrication began. The extent of the prefabrication was limited to the framing and sheathing of the exterior walls. The length of each panel was changed from 6'-11" to a custom length for each to optimize panel weight, material usage, and maintain the studs at 16" on center. The prefabrication took place in the Simpson Strong Tie Demonstration lab at Cal-Poly, where space was allocated between other building labs and projects. An estimate was prepared, and material was sourced from a local lumber supplier. The panels were stacked in the construction management plaza as they were built. They were loaded vertically into a 40-foot shipping container, which was then shipped to the project location.

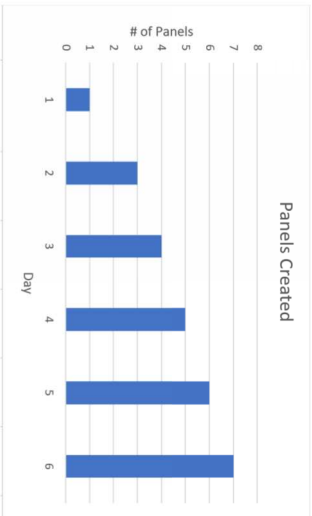
Key Words: Prefabrication, Modular, Residential, Carpentry, Planning



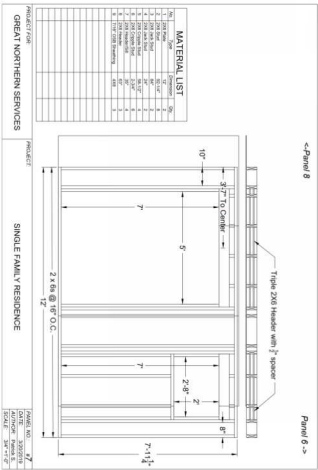
Preparing to add sheathing to the partition



Final iteration of the site logistics plan



Panels built each day



Iteration of Spool Drawing for Prefabrication



Fitting and nailing the sheathing



Stacking the partitions as they are built



Loading the partitions to be sent to Weed, CA

