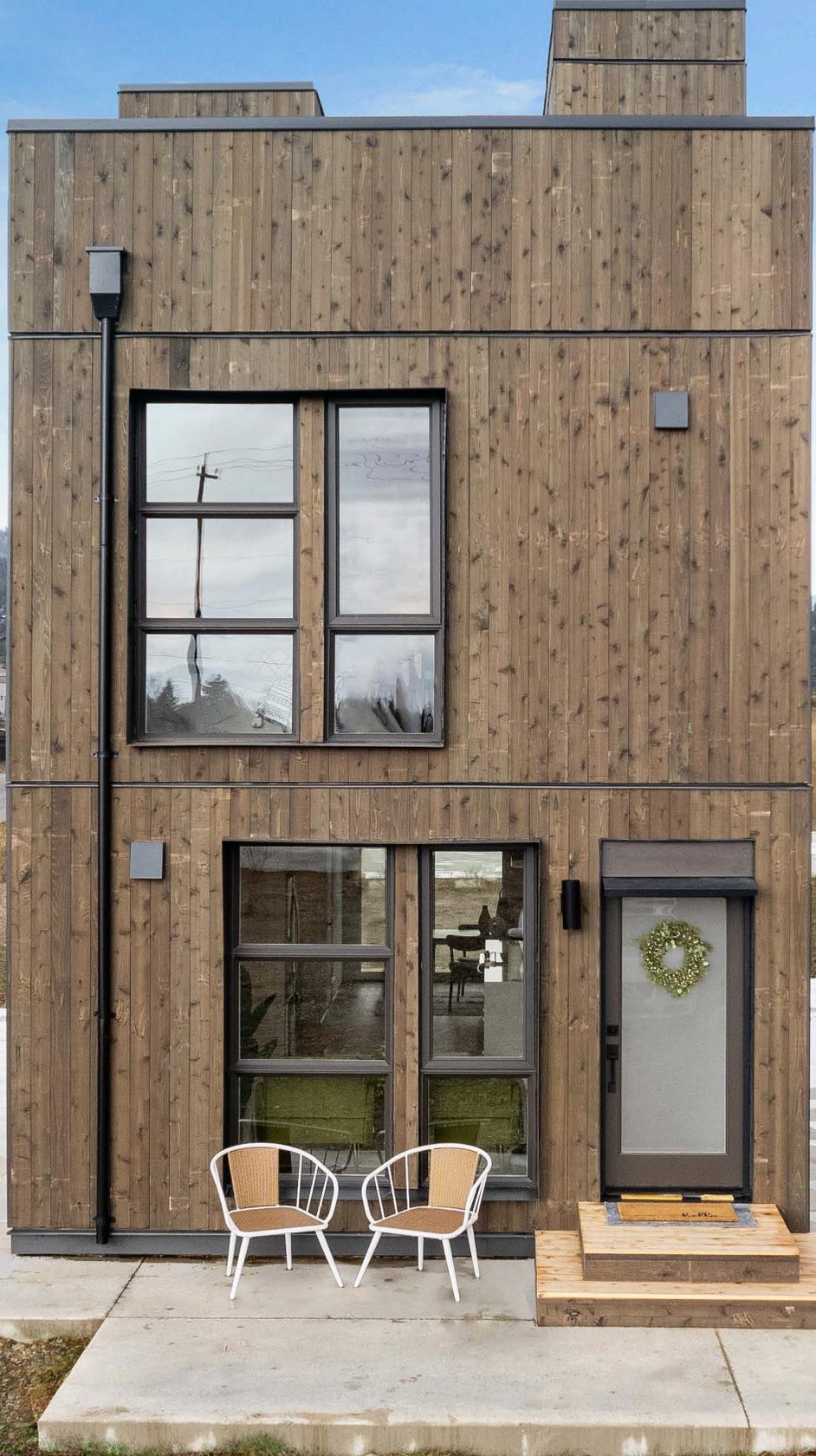




Green Canopy NODE

Case Study

Integrated Kit for Workforce Housing



Innovation and manufacturing deliver sustainable housing faster.

Green Canopy NODE is building the future of housing, bringing the power of manufacturing to help regenerate communities and environments with state-of-the-art construction technologies.

GOAL

A prefabricated building system that allows developers to deliver housing for **reduced costs, reduced timeline, and can be manufactured at scale**. The building system needs to enable enough **configurability** to meet diversified project needs and be adaptable for modular or flat-pack delivery based on site requirements. Ultimately, the system must accelerate the net zero transition with a **carbon negative building** that integrates into the circular economy.

THESIS

Using new technologies to increase productivity, including standardizing building components, helps **modernize housing and the associated workforce**. Off-site manufacturing is a natural progression of sustainable development. Mass Timber is an ideal material for off-site manufacturing because of its **precision manufacturability, engineered structural qualities, and carbon storage**.

PROJECT

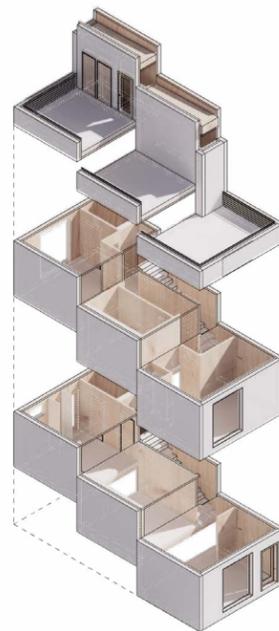
The Mass Timber Model Home is our Integrated Kit, based in our prefabricated building system - testing prefabrication, installation, and logistics. Components were manufactured off-site and assembled on-site in Spokane, WA. The 1,200 square foot, two-story + rooftop deck modular home consists of 2 bedrooms and 1.5 baths, and is modeled for workforce housing.

Key Learnings

- Costs controlled with pre-planned and streamlined construction.
- Faster delivery achieved through simultaneous manufacturing and site prep.
- Avoids weather delays in construction through off-site manufactured modular installation.

Assembly Kit by the Numbers

Compared to a stick frame home, our Mass Timber Model Home:



is **44% faster** to complete

has **6.6x more carbon storage**

has an airtight building envelope: **below 0.8 ACH**

offsets **2.5** stick frame houses with carbon storage

Solving the Utility Problem

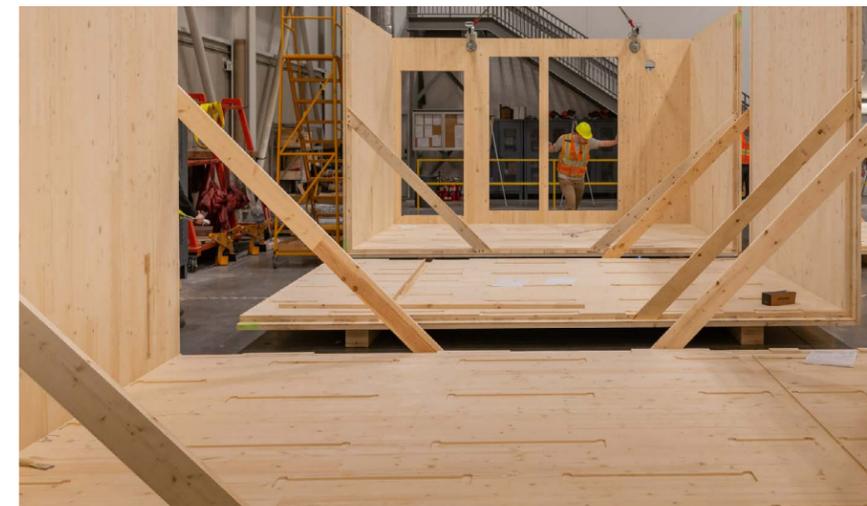
Utility Kits consist of two utility walls, for kitchen and bathroom, overlapping for easy routing between floors.

Manufactured off-site:

- 23 hour build time for all assemblies
- Plumbing installed pre-shipping, convenient prefab subassemblies
- Pre-wired electrical load center

Streamlined construction on-site:

- 1 hour installation per wall
- 2.5 hour plumbing + mechanical time
- 50% less construction time



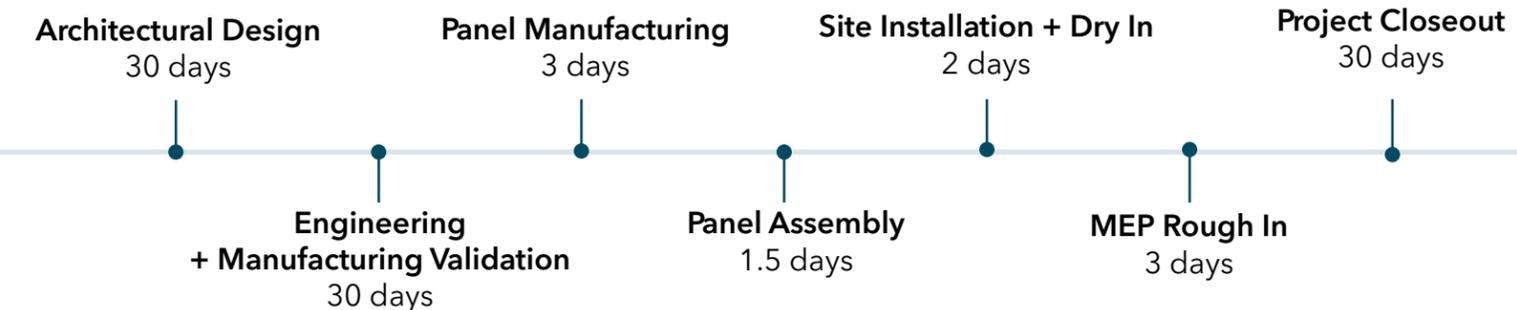
Our Mass Timber Model Home uses **mass timber pedestals** instead of truss or joist systems for subfloor support.

Benefits include:

- Reduced waste through the use of recycled mass timber scraps
- Streamlined installation, enhanced speed, and less rework with pedestal location pre-dictated by CNC
- Bypass traditional studs with wires running directly under the floor



Mass Timber Model Home Timeline < 100 days



The Benefits of Mass Timber



Increased efficiency
faster construction times possible through manufacturing.



Enhanced sustainability
reducing embodied carbon footprint and waste, while storing carbon.



Durability and strength
lasts longer than standard code-built homes and can be deconstructed and reused.



Green Canopy NODE
Building simplified.