

Project Narrative

A fire-adapted, energy efficient, prefab home that is engineered for speed, resilience and enduring design in the LA landscape.

We believe that architecture doesn't need to seek relevance – it only needs to seize it. The proposed design is a direct response to the urgent need to house the thousands of displaced families affected by the 2025 Los Angeles wildfires. This prototype is a cost-effective, prefabricated home that allows for expedited construction schedules and prioritizes fire resiliency. The building forms are simple yet articulated to work with the scale of the lots and neighborhoods. The interior volumes are modulated to create public areas that are vaulted & spacious, and private spaces that are intimate. The flexible system conceptually allows for an optional second story in the taller section to add more program as needed. The landscape design leans on defensible strategies by creating non-combustible buffer zones paired with fire-resistant planting and non combustible hardscape.

The System

Efficient, affordable and designed with prefabrication baked in the process, the prototype offers a higher degree of quality control, and high-cost certainty.

- Structurally insulated panels (SIPs) and glulam moment frames are manufactured off-site compressing the construction timeline. The structure goes up in days, not months.
- Less on-site work results in fewer delays from weather, labor shortages or unexpected conditions.
- The foundation system is assumed to be a concrete slab-on-grade and may vary from one lot to another.
- The exterior palette of cement plaster and fire-rated wood siding paired with a standing seam roof are non combustible and get field-installed once the shell is in place.
- The modular interior casework provides a variety of simple, functional but elevated design solutions.

Passive House - Aligned

The Passive House emphasis on strong airtightness enhances durability and supports wildfire resilience. The thermal resiliency and extended comfort during a power outage as well as the ability to control the indoor air quality are huge benefits to this approach. Following is a list of strategies the project deploys to achieve the desired performance:

- The integrated insulation in the SIP panels allows for unvented assemblies and creates a continuous insulation layer without the complexities of field-installed insulation and minimizes thermal bridging. The panels were sized to achieve the R-values needed to meet Passive House standards.
- A layer of rigid insulation atop the concrete slab achieves the necessary R-value while eliminating the complexity of under slab/ below grade insulation, and an uninterrupted thermal envelope. This approach is agnostic and compatible with all types of foundation systems,
- The panelized system allows for a continuous air-barrier on the interior face of the panels – isolating the attached garage from the rest of the home achieving PH levels of airtightness.
- The creation of service bays with dropped soffits acts as pathway for ducting and utilities without interruption the thermal envelope.
- Fiberglass, triple-pane fenestrations draw in daylight and natural ventilation to habitable spaces. A trellis structure provides a shaded patio space at the largest multi-slide doors leading to the yard.
- The prototype assumes a particular orientation, but rightsizing and careful placement of windows/ doors paired with shading devices makes the design viable in any other orientation with minimal impact on solar gains.

Carbon Footprint

The project is concerned with environmental stewardship and champions regenerative design strategies, efficient mechanical/ plumbing systems, while being cognizant of responsible sourcing of healthy materials to minimize the overall carbon footprint.

Embodied Carbon

- Reduced Carbon Footprint: 40% CO2E reduction via prefab.
- Mass Timber Structural System: Sequesters carbon and eliminates steel. FSC -certified sourcing. •
- SCMs in concrete: Baseline of 50% SCM or higher.
- Healthy finishes + Materials selections: Focus on selecting non-toxic, durable materials that are sourced locally, and have low impact both upstream & downstream in their lifecycles.
- Construction Waste: Up to 70% onsite waste reduction due to prefab.

Operational Carbon

- High-performance Building Envelope: Designed to Passive House standards, reducing the energy needs of the home.
- Passive House certified fiberglass windows add to the robustness of the building envelope without breaking the budget.
- All-Electric Building Systems: Up to 90% EUI reduction when integrated with renewable energy (PV roof-mounted arrays with battery backup system).
- Advanced filtration systems for improved air quality (MERV 13)