CASA DEL CONSUELO

The “House of Comfort” is designed using Passive House strategies to provide a healthy, quiet, and comfortable home within the busy Pacific Palisades neighborhood. Comfort starts with a high-performing thermal envelope, optimized to achieve an annual heating demand below 1.9 kBtu/($ft^2 \cdot$year) and cooling demand below 3.69 kBtu/($ft^2 \cdot$year), surpassing PHPP thresholds. The exterior walls feature a super-insulated assembly with an effective R-value of R-27.8, paired with triple-glazed, thermally broken windows. These exterior assemblies integrate with the design aesthetic to create a continuous thermal envelope, carefully detailed at junctions to eliminate thermal bridging at critical connections and to maintain the continuity of the air barrier.

Solar orientation informs massing, fenestration, and shading strategies to ensure year-round comfort. Strategically placed punched windows optimize glazing on the southern, western and eastern facades, with integrated shading devices to limit heat gain. The open-plan living-dining space benefits from morning light at the rear courtyard, where an arcade-like shading device along its length minimizes heat gain while maximizing indoor-outdoor usability. Mechanical ventilation with energy recovery (ERV) provides continuous fresh air to the interior, supplemented by a small-scale heat pump with a high seasonal coefficient of performance to ensure efficient conditioning year-round. A combination HEPA/carbon pre-filter is installed upstream of the ERV intake for use during high-AQI days. Photovoltaic panels, integrated into the carport roof structure, provide shade for vehicles while offsetting the already low operational loads.

Wildfire and Resilience Measures

Given the location within the Wildland-Urban Interface (WUI), fire resilience strategies are integral to the design. All exterior cladding materials are non-combustible, meeting ASTM E119 and California Chapter 7A standards. Stucco over mineral wool insulation provides both fire resistance and durability, while soffits are fully enclosed with ignition-resistant materials. The roof assemblies incorporate Class A fire-rated coverings, with a ballasted membrane installation at flat roof conditions to further protect the roof under fire conditions.

Landscaping follows California defensible space standards, maintaining a 5-ft ember-clear perimeter with low-ignition vegetation, gravel zones, and irrigated groundcovers. Both front and rear courtyards double as fire-safe zones: hardscaped with permeable pavers, minimal vegetation near walls, and direct hose bib access. The carport at the front of the property is shielded by a low masonry wall, reducing ember exposure while providing privacy.

Aging-in-Place and Flexibility

The floor plan incorporates universal design principles. A full bedroom suite on the ground floor ensures accessibility from the start, with flush thresholds, 36-inch-wide doorways, and a roll-in shower. The

upper-level bedroom suites provide an additional option to serve as a primary suite, providing flexibility for all family configurations. Circulation paths are wide and unencumbered, ensuring comfortable, barrier-free movement throughout the home.

Cost Efficiency

The project emphasizes cost-effective assemblies while maintaining high performance. Standard wood framing is paired with high-density continuous exterior insulation, minimizing complexity while achieving Passive House R-values. Mechanical systems are right-sized to reduce both upfront costs and long-term maintenance. Durable finishes—such as stucco, concrete, and metal roofing—are selected for their longevity in both aesthetics and performance, lowering lifecycle costs.

Architectural Expression

Architecturally, the design embraces a contemporary Spanish Colonial Revival style. Thickened wall profiles, arched entries, and sheltered courtyards ground the project in regional heritage, while modern detailing— such as flush transitions, simplified massing, and high-performance glazing—aligns with the project's energy and fire-resilience goals. Courtyards are central to the design: the front courtyard creates a physical and visual buffer between the house and the street, positioning vehicles at a safe distance from the home, while the rear courtyard provides a sheltered outdoor living space that enhances cross-ventilation and daylighting and also serves as a safe zone in wildfire scenarios.

Conclusion

Casa del Consuelo exceeds PHPP energy performance benchmarks, integrates wildfire resilience and defensible space requirements, and ensures comfort and long-term adaptability through aging-in-place design. By combining passive and active strategies, fire-resistant detailing, and durable, cost-effective construction, the project demonstrates how a culturally rooted architectural language can meet the challenges of climate, resilience, and sustainability in the Pacific Palisades.