TAT house

LEED for Homes certified, Platinum rating

SUSTAINABLE FEATURES

The design of this 5,600 square foot single family home in Santa Monica was rooted in a keen awareness of site and landscape and a dedication to sustainable architecture. After living in the neighborhood for over 30 years, the clients decided to build a new house that would more completely engage the landscape while seeking the highest certification offered by the U.S. Green Building Council. Designed as a linear sequence, the house unfolds as a series of spaces that are completely open to the landscape. Large expanses of glass walls pocket away allowing rooms to blur the distinction between outside and in. Fleetwood / Fernandez was responsible for the architecture as well as the interior design, which in addition to the sustainable finishes inherent to this type of project, features a curated selection of furnishings with many vintage pieces that extend the spirit of reuse.

The house achieved Platinum Certification in the U.S. Green Building Council's LEED for Homes program. Some of the sustainable features of the home include:

- A Photovoltaic Panel array designed to collect 8,250 kilowatt hours per year of electricity.
- An "Earth Tube" mechanical duct cooling system that allows forced air to be delivered into the home at 5 degrees cooler than outside air temperatures without the use of any refrigerant.
- A thermal chimney that ventilates the home utilizing natural breezes and airflow across the site in conjunction with a continuous central stairwell that pulls warm air vertically out of the house by way of an operable skylight.
- State of the art LED lighting that diminishes the electrical consumption of the house to less than a third of what a similar sized home would consume in lighting demand.
- Energy design that makes the house to perform 59.6% better than what the California Energy Code (Title 24) requires.
- A Graywater system that contributes 15% of the total irrigation demand.
- A Rainwater harvesting system that collects all rainfall for irrigation via a 1,250-gallon underground cistern
- A storm water infiltration system that allows all rainfall to percolate on site rather than draining onto the City streets and into the Santa Monica Bay.
- A concrete passive solar thermal mass "trombe" wall that absorbs heat from the sun during the day and releases it in the evening, lessening the total heating energy load consumed by the house.
- Landscape design that features 100% drought tolerant plant species with no invasive plants and 0% conventional turf, which drastically reduce the water needed for irrigation.

- An aggressively efficient smart irrigation system that utilizes rain sensors, multiple zones and extensive areas of drip irrigation to utilize significantly less water.
- Exterior hardscape design that includes less than 12% non-permeable surfaces allowing all rainwater to be utilized and contained on site.
- Highly efficient plumbing fixtures that use considerably less water at every wet location. Toilets all average 1.1 gallons per flush. Lavatories use less than 1.5 gallons per minute and showers use less than 2 gallons per minute.
- Efficient hot water distribution system, planned to be split into two autonomous systems that allow for a compact design thereby lessening the amount of energy loss in delivery of hot water.
- High efficiency, Energy Star rated appliances that significantly reduce energy demand.
- FSC certification for all the wood framing in the house including the walls and roof structure as well as the wood rain screen.
- Paints and sealers that emit zero Volatile Organic Compounds into the air.
- 90% of construction waste was diverted away from a landfill and into reusable or recycled content.
- Formaldehyde-free wall insulation that contains 50% recycled content and is made with 99% natural materials
- Whole- house radiant floor heating that significantly reduces energy consumption in heating load over a forced air system.
- A 670 sf green roof over the garage
- EnergySmart cool roof membrane
- Insulated, dual pane, low- E Solarban 68 glazing

PROJECT TEAM

The project team was assembled to leverage some of the most innovative consultants working in sustainable building design and within the strict standards of the LEED for Homes Program:

- General Contractor: Taslimi Construction Company (Mehran Taslimi, Rich Moreno, Bradley Johnson, Ouida Biddle, Jeremy Colantonio)
- Architect: Fleetwood Fernandez (Mariapaz Fernandez, Hunter Fleetwood, Liz DeTeresi, Fallon James, Krystyan Keck, Vaughn Calandra)
- Mechanical, Electrical and Plumbing Systems: Glumac (Edwin Lee, Henry Lam)
- Structural Engineer: Taylor & Syfan (Garrett Mills, Joel Micek)
- Landscape Architecture: GSLA (Joe Sturges, Ryan Gutierrez)
- Gray Water System: Grey Water Corporation (Leigh Jerrard)
- Lighting: Horton Lees and Brogden (Teal Brogden, Alexis Schlemer)
- Green Rater: GBWORKS (Glen Boldt)