



FEMA

Fuel Modification Protects Master-Planned Community

Orange, CA – Devastating wildfires raged across Southern California in October 2007. One of these fires, known as the Santiago Fire, came extremely close to the master-planned community of Serrano Heights, in the city of Orange. Fortunately, no homes were damaged in the community due to carefully designed fuel modification zones and fire-resistant construction of the houses.

The Santiago Fire destroyed 15 residential structures and nine outbuildings and damaged eight residential structures and 12 outbuildings, according to the California Department of Forestry and Fire Protection (CAL FIRE). Strong Santa Ana winds, in conjunction with dry vegetation, spread the fire over thousands of acres, making it extremely difficult for firefighters to contain it.

As a master-planned community, Serrano Heights involved much advance planning and ongoing coordination between private and government entities. Serrano Heights is located on a hillside and is divided into west side (Phase I) and east side (Phase II). The west side fuel modification area falls under the jurisdiction of the city of Orange and the east side falls within the jurisdictions of the cities of Orange and Anaheim.

In order to avoid a potentially difficult problem with power line easements and to comply with fuel modification requirements, the landowner worked closely with the city of Orange fire department, the county of Orange, and the city of Anaheim fire department during the planning process. The result was a creative solution to the power-line problem by creating a park and approximately 200 acres of preserved open space which benefits the residents.

Serrano Heights was built according to the City of Orange Fire Department stringent rules for fuel modification zones, fire officials said. The zones are wide strips of land where combustible vegetation has been removed and/or modified and replaced with drought-tolerant, fire-resistant plants to provide an acceptable level of risk from wildland and vegetation fires.

A company was hired to prepare a fire behavior analysis and preliminary fuel modification plan for Serrano Heights. The plan included detailed studies regarding fire environment, Southern California climate, wildland fire behavior, local fire history, general and individual lot recommendations for fuel modification zones, and additional fire protection measures.

The plan was reviewed and approved by the city of Orange and city of Anaheim fire departments. During implementation and construction, the fire departments of both cities carefully monitored each phase to ensure the requirements were met.

The requirements and guidelines for areas inside homeowners' property lines are specified in the Covenant, Conditions, and Restrictions (CC&Rs) and in the deed for each property. They are enforced by a management company and the Serrano Heights Homeowners Association (HOA). The areas outside of the homeowners' property lines are maintained by the HOA.

All residences in the community were built to meet standards from the Uniform Building Code (UBC) and the Uniform Fire Code. These codes take into consideration multi-hazards including seismic activities.



Orange County, California



Quick Facts

- Sector:
Private
- Cost:
Amount Not Available
- Primary Activity/Project:
Building Codes
- Primary Funding:
Private funds