Firewise Communities / USA

Community Assessment for

Silverado, Williams, Modjeska and Trabuco Canyons

[Logos: FireSafe Council, Orange County Fire Authority, Firewise Communities/USA]
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>The Home Ignition Zone</td>
<td>4</td>
</tr>
<tr>
<td>Severe Case Wildland Fire Characteristics</td>
<td>4</td>
</tr>
<tr>
<td>Site Description</td>
<td>6</td>
</tr>
<tr>
<td>Assessment Process</td>
<td>7</td>
</tr>
<tr>
<td>Important Considerations</td>
<td>7</td>
</tr>
<tr>
<td>Observations &amp; Recommendations</td>
<td>10</td>
</tr>
<tr>
<td>Successful Firewise Modifications</td>
<td>16</td>
</tr>
<tr>
<td>Next Steps</td>
<td>21</td>
</tr>
<tr>
<td>Maps</td>
<td>Appendix</td>
</tr>
<tr>
<td>• Area represented by the Fire Safe Council – East Orange County Canyons</td>
<td></td>
</tr>
<tr>
<td>• Recent Fire History</td>
<td></td>
</tr>
<tr>
<td>• Fire Hazard Severity Zones in SRA</td>
<td></td>
</tr>
<tr>
<td>• Very High Fire Hazard Severity Zones in LRA</td>
<td></td>
</tr>
<tr>
<td>• Very High Fire Hazard Severity Zones in Unincorporated LRA</td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION

The Firewise Communities/USA is a nationwide effort to provide an effective management approach for preserving wildland living aesthetics. Participating in this educational program gives communities like Silverado, Williams, Modjeska and Trabuco Canyons a means to balance sustainable ecological lifestyles with effective wildland fire protection. The Firewise Communities/USA program seeks input from participating communities and agencies regarding modifications that can be made which will make this recognition program more effective. The Firewise Communities/USA program is tailored to fit the circumstances of participating communities or neighborhoods and is committed to ensuring that citizens achieve maximum protection from wildland fire. The following community assessment is intended as a resource to be used by the Silverado, Williams, Modjeska and Trabuco Canyon residents for creating a wildfire safety action plan. The plan developed from the information in this assessment should be implemented in a collaborative manner, and updated and modified as needed.

The participants in the development of this assessment report included both fire professionals and community members. They included:

- Faith Berry, Firewise Advisor
- Mary Schreiber, Firesafe Council, East Orange County Canyon’s President and resident
- Sonja Powell, Assistant Fire Marshal, Orange County Fire Authority (OCFA)
- Steve Kerrigan, Senior Reserve Officer, OCFA and Canyon resident
- Patrick Antrim, Retired Fire Battalion Chief, OCFA and Canyon resident
- Kim Brown, Fire Prevention/GIS specialist, OCFA and Canyon resident
**The Home Ignition Zone**

Silverado, Williams, Modjeska and Trabuco Canyons are in a wildfire environment. Wildfires will happen – total exclusion is not a choice. The variables in a fire scenario are (a) where will the wildfire occur, (b) when will it occur, and (c) what will the relevant conditions be at that time. It is this last variable that homeowners can influence, and influence very strongly, by their actions before fire appears. This assessment addresses wildfire-related characteristics of Silverado, Williams, Modjeska and Trabuco Canyons. It examines the area’s exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.

A house burns because of its relationship with its immediate surroundings, an area called the “home ignition zone”. To avoid a home ignition, a homeowner must eliminate the wildfire’s potential relationship with his/her house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire’s path by clearing a home ignition zone is an easy-to-accomplish task that can result in avoiding home loss. To accomplish this, flammable items such as dead vegetation must be removed from the area immediately around the structure to prevent flames from contacting it. Also, reducing the volume of live vegetation will affect the intensity of the wildfire as it enters the home ignition zone. Attention to the need and some relatively simple actions will have a positive impact; inattention, procrastination or denial will have the opposite effect.

Included in this assessment are observations made while visiting Silverado, Williams, Modjeska and Trabuco Canyons during December, 2011. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of affected residents. Silverado, Williams, Modjeska and Trabuco Canyon residents can reduce their risk of destruction during a wildfire by taking actions within their home ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 to 150 feet.

The result of the assessment is that wildfire behavior, during a fire that is running the length of the canyons, will be dominated by the residential characteristics of this area. The good news is that by addressing community vulnerabilities, residents will be able to substantially reduce their exposure to loss. Relatively small investments of time and effort will reap great rewards in wildfire safety.

**Severe Case Wildland Fire Characteristics**

Firefighters generally categorize fires into several basic types. Among those are wildland fires and structure fires, two types that are relevant to this assessment. A wildland fire is one that primarily occurs within and consumes natural vegetation, while a structure fire primarily burns structural materials and building contents. These two fire types converge in the wildland-urban interface (WUI).

Locally, wildland fires are addressed by the U.S. Forest Service (USFS) on National Forest lands and private lands by the Orange County Fire Authority (OCFA) under contractual agreement with the California Department of Forestry and Fire Protection (CAL FIRE). Structure fires are generally addressed by the OCFA. These formal lines of responsibility sometimes become blurred in the WUI when it may become difficult to tell where the forest ends and the residential areas begin. Nevertheless, these are the primary fire suppression organizations that may respond to a nearby wildland fire.

Fire intensity and spread rate depend on the fuel types and condition (i.e. live vs. dead), the weather conditions prior to and during ignition, and the topography. Generally, the following relationships hold between the fire behavior and the fuel, weather and topography:

- Fine fuels such as dead grass, twigs and dry needles ignite more easily and spread faster with higher intensities than coarser fuels such as large branches. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn than coarser fuels. Fine fuels have the most important impact on fire
intensity as measured by flame lengths. Fine fuels are considered the primary carrier of fire in
fire modeling.

- Weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine
fuel moisture content is highly dependent on the relative humidity and the degree of sun
exposure. The lower the relative humidity and the greater the sun exposure, the lower will be the
fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.

- Wind speed significantly influences the rate of fire spread and the fire intensity. The higher the
wind speed, the greater the spread rate and intensity. Fires burning during Santa Ana wind
events are often uncontrolled until the wind event ends.

- Topography influences fire behavior principally by the aspect and the steepness of the slope.
However, the configuration of the terrain such as narrow draws, saddles and so forth can also
influence fire spread and intensity. In general, South and Southwest aspects tend to be warmer
and drier; and the steeper the slope, the greater the uphill fire spread and intensity.

Wildland fire behavior calculations have been projected for the hazardous vegetative fuels on the
undeveloped sites adjacent to and bordering Silverado, Williams, Modjeska and Trabuco Canyons.
These projections were based on the following “worst case” fire weather condition assumptions utilizing
U.S. Forest Service weather data.

South, Southwest and West Wind Condition Fuel Moisture Assumptions – Prevailing Afternoon
Wind Pattern

- 1-Hour Fine Fuel Moisture of ………………3%
- 10-Hour Fuel Moisture of …………………6%
- 100-Hour Fuel Moisture of ………………..8%
- Live Woody Fuel Moisture of………………60%

North, Northeast and East Wind Condition Fuel Moisture Assumptions – Prevailing Afternoon
Wind Pattern

- 1-Hour Fine Fuel Moisture of………………2%
- 10-Hour Fuel Moisture of…………………3%
- 100-Hour Fuel Moisture of…………………5%
- Live Woody Fuel Moisture of………………50%

A Dozer cuts a line on the Santiago Fire in 2007
The following Tables – table 1 and table 2 - display the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for two separate BEHAVE – Fire Behavior Prediction and Fuel Modeling System Computer Calculations.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Expected fire behavior for a typical prevailing southwest afternoon wind</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fuel Model 4 Tall Chaparral Brush</td>
</tr>
<tr>
<td>Rate of Spread</td>
<td>316.8 feet/minute</td>
</tr>
<tr>
<td>Fireline Intensity</td>
<td>16,694 BTU's/foot/second</td>
</tr>
<tr>
<td>Flame Length</td>
<td>39.4 feet in length</td>
</tr>
<tr>
<td>Additional Fire Behavior Calculation Input:</td>
<td></td>
</tr>
<tr>
<td>• 60 percent slope</td>
<td></td>
</tr>
<tr>
<td>• 15 mph 20-foot wind speed (9.0 mph mid-flame wind speed)</td>
<td></td>
</tr>
<tr>
<td>• 90° direction of wind vector to uphill slope</td>
<td></td>
</tr>
</tbody>
</table>

These calculations equate to 21 acres within the first 6 minutes, 83 acres within the first 12 minutes, 187 acres within the first 18 minutes, 519 acres within the first 30 minutes and 2,077 acres within the first hour. This assumes a free running fire with no initial attack.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Expected fire behavior for a “worst case” Santa Ana wind</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fuel Model 4 Tall Chaparral Brush</td>
</tr>
<tr>
<td>Rate of Spread</td>
<td>2,613.6 feet/minute</td>
</tr>
<tr>
<td>Fireline Intensity</td>
<td>150,288 BTU's/foot/second</td>
</tr>
<tr>
<td>Flame Length</td>
<td>108.3 feet in length</td>
</tr>
<tr>
<td>Additional Fire Behavior Calculation Input:</td>
<td></td>
</tr>
<tr>
<td>• 60 percent slope</td>
<td></td>
</tr>
<tr>
<td>• 60 mph 20-foot wind speed (36 mph mid-flame wind speed)</td>
<td></td>
</tr>
<tr>
<td>• 270° direction of wind vector to uphill slope</td>
<td></td>
</tr>
</tbody>
</table>

These calculations equate to 445 acres within the first 6 minutes, 1781 acres within the first 12 minutes, 4008 acres within the first 18 minutes, 11,134 acres within the first 30 minutes and 44,537 acres within the first hour. This assumes a free running fire with no initial attack and constant 60 mph East Wind.

**Site Description**

Silverado, Williams, Modjeska and Trabuco Canyons are situated in the Santa Ana Mountain range in Eastern Orange County and are mostly within the congressional boundary of the Cleveland National Forest. Southern California experiences a year-round fire season and wildfires can occur within any calendar month. Steep mountain slopes border the length of Silverado Canyon that occasionally unleash large boulders down the slopes and into the homes in the canyon bottom. The slopes adjacent to Williams, Modjeska and Trabuco Canyons, although steep, are not nearly as steep as Silverado. All the canyons are covered in a very flammable coastal sage scrub plant community that has functioned unimpeded in the Mediterranean climate for thousands of years. The canyon bottoms include riparian areas along with mixed Oak woodlands. Both plants and animals have thrived and adapted to the wind driven wildfires that burned through the coastal plains every twenty (20) to thirty (30) years. Also, primarily within the canyon bottoms, highly volatile pine trees, palm trees and eucalyptus trees have been planted around and next to structures. In addition, scotch broom and arundo have been introduced to the canyon areas. These two species are very competitive, and will crowd out native vegetation and at certain times of the year burn very explosively. The community has undertaken a major project in the past years to remove the arundo and the quantities have reduced significantly.
As is typical of coastal sage plants, a very high percentage of these plants have an abundance of dead material. This is due to the effects of the Mediterranean climate. All of these plants are adapted to the intense wildfires they require for species regeneration. However, if wildfire occurs at too frequent an interval, the coastal sage scrub plant community reverts back to a more flammable, less desirable community of short lived annual grasses with little wildlife value and very poor ability to protect the soil on steep mountain slopes.

The homes and other structures in Silverado, Williams, Modjeska and Trabuco Canyons date back to the late 1800’s. Many of the homes were originally built as small mining or weekend cabins. A good number of these homes have been updated and added onto over the years. There remains a high quantity of homes enclosed with highly combustible shake or other wood siding. Other homes have been razed with new modern homes built in their place. Home values have risen over the years. New residents moving in to the Canyons often do so with little or no understanding of the hazards that go with living with nature in a wildland setting.

Table 3 identifies the approximation of homes and population within the canyon area.

<table>
<thead>
<tr>
<th>Canyon</th>
<th>Number of Residential Structures</th>
<th>Population Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silverado</td>
<td>Approx. 360</td>
<td>Approx. 1,400 – 1,800</td>
</tr>
<tr>
<td>Williams</td>
<td>Approx. 23</td>
<td>Approx. 75-100</td>
</tr>
<tr>
<td>Modjeska</td>
<td>Approx. 260</td>
<td>Approx. 900 - 1000</td>
</tr>
<tr>
<td>Trabuco</td>
<td>Approx. 325</td>
<td>Approx. 1300 - 1500</td>
</tr>
</tbody>
</table>

Assessment Process

The community assessment of Silverado, Williams, Modjeska and Trabuco Canyons originally occurred in February 2003 through the development of a Community Wildfire Prevention Plan (CWPP) prepared by the consulting firm Firewise 2000, Inc. The CWPP was prepared for the Inter-Canyon League Fire Safe Council, which has reorganized and is now known as the Fire Safe Council, East Orange County Canyons. This updated assessment was completed to meet the requirements of becoming a Firewise Community. On December 3, 2011 an assessment team aided by Faith Berry toured the community to identify the challenges posed by fuel types, housing sites and materials, and other considerations that relate to mitigating a large scale wildfire event. The assessment team conducted a visual review of the community from a roadside perspective. Observations were noted of both favorable and unfavorable conditions. The team visited several residences within Silverado to conduct on-site investigations and studied the entire area for an overall sense of practical solutions. Sites visited are representative of all four canyon areas. The team concluded with a brain-storm session to identify priority hazards as well as develop recommendations for mitigation actions. Information from the existing CWPP, Silverado Tactical Fire Plan, Modjeska Tactical Fire Plan and the Trabuco Tactical Fire Plan were utilized in the preparation of this assessment.

Important Considerations

The Firewise Communities/USA program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a WUI setting. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones, and thus their homes, during a wildfire.
Thinning of high-fuel areas near and along roadways is recommended to provide safe routes for evacuation as well as modify fire behavior during a wildfire. Reduction in fuels will reduce flame lengths and lower the heat intensity (BTU’s). Adequate clearance will also provide for access by responding firefighting units. Along with fuel reduction, all roads should have adequate, non-combustible signage clearly identifying street names.

Fuels along evacuation routes should be maintained clear from road sides

Street signs should be made from non-combustible materials
A wind driven wildfire in Silverado, Williams, Modjeska or Trabuco Canyons will create a significant volume of firebrands, and may look something like a fire blizzard. To lower the ignition potential of homes in the Canyons, residents should utilize the information available through the "Ready, Set, Go!" progam to inspect their roofs and grounds immediately adjacent to their homes for fine fuels and remove them regularly, taking advantage of routinely scheduled “Chipper Days” organized by the Fire Safe Council.

### Wildfire Home Risk Assessment

**Are You READY?**

#### Directions:
Answer each question using a score of 0 to 20 points as applicable to the home. If the question does not apply, score it as a zero. Total the points to determine the risk level for the home.

#### Home Condition

<table>
<thead>
<tr>
<th>Condition found</th>
<th>Recommendation</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>The home has some wood siding</td>
<td>Replace siding with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood framing</td>
<td>Replace framing with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood shakes</td>
<td>Replace shakes with Class A roof assembly, such as shingles</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood deck</td>
<td>Replace deck with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood gutters</td>
<td>Replace gutters with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood chimneys</td>
<td>Replace chimneys with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood fences, gazebos, and trellis’s</td>
<td>Replace with non-combustible material</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood eave vents and cornice vents</td>
<td>Install a non-combustible covering over blocking</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood overhanging limbs</td>
<td>Prune to at least 10' above roofs and at least 10' away from structures</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood overhanging vegetation</td>
<td>Remove and replace with fire resistant landscaping</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation</td>
<td>Remove dead or dying vegetation within 100' of home</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation within 30' of the home</td>
<td>Remove dead or dying vegetation within 30' of home</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation near the boundary</td>
<td>Remove dead or dying vegetation near the boundary</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation within 50' of the home</td>
<td>Remove dead or dying vegetation within 50' of home</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation within 100' of the home</td>
<td>Remove dead or dying vegetation within 100' of home</td>
<td>20</td>
</tr>
<tr>
<td>The home has some wood dead vegetation within 500' of the home</td>
<td>Remove dead or dying vegetation within 500' of home</td>
<td>20</td>
</tr>
</tbody>
</table>

#### For follow up questions regarding this risk assessment, please contact:

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

#### For additional information on how to increase the survivability of your home and lower the risk of your property burning, please visit the Orange County Fire Authority’s Safety and Education page at www.ocfa.org and the State Fire Marshal’s Wildland Urban Interface page at www.ocfa.org/wuiengineer/pdf/bml/wuiproducts.pdf.

This form in its full printed size can be utilized by the homeowner to conduct a self-assessment.

---

**Published 06.09.2009**

**Date: _______________________________**

**Name: _______________________________**

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

**Date:**

**Name:**

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

**Date:**

**Name:**

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

**Date:**

**Name:**

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

**Date:**

**Name:**

**Consultation Performed by:**

**Date:**

**Phone:**

**E-mail:**

---

**TOTAL SCORE:**

---

**Final 9**

**5/24/2012**

---
Residents should take advantage of “Chipper Day’s” organized by the Fire Safe Council

**Observations & Recommendations**

The biggest threat is from a wildfire either escaping from the Cleveland National Forest lands during a Santa Ana wind event or a fire entering the Canyons from the West during strong diurnal winds. The lands surrounding the canyons comprise of mixed Oak Woodlands, Riparian areas and Chaparral/Costal Sage Scrub. Although there have been recent major fires in the area, the fuel loads remain heavy and have the capability of supporting a major fire under various conditions.

Looking first at the ignition vulnerabilities observed during the community inspection, this report groups the issues into physical zones, starting at the structure and working outward. No attempt has been made to quantify the number of instances that such problematic issues were observed. Recommended remedial action is shown in italics.

**Residential & Other Structures**

- **Wood Shake or other Combustible Siding**

  Several structures were observed with either wood shake or other combustible material siding. Research and fire experience has shown that both are an extremely vulnerable element of a structure, generally leading to loss in the event of a major fire event.

  *Replacing wood shakes or other combustible materials with a Class “A” rated material is one of the most important steps towards loss prevention that a homeowner can take.*

- **Leaves and other Debris on Roofs**

  Accumulation of leaves and other debris were observed on a number of roofs. Such accumulations serve as an ignition bed for flying embers which can in turn ignite the entire structure.

  *Regular removal of leaves and other debris on roofs and gutters will solve these issues.*

- **Wood Piles Next to or Under Structures**

  The desire to have a handy supply of firewood causes a number of residents to stack their wood supply right next to their home, under raised decks or in other spots that are close to the structures. Firewood stacks are excellent “ember magnets”, allowing embers to drift into small openings and eventually ignite the wood. If the stack is in close proximity to the residence or any flammable portion of it, the fire can rapidly progress to the structure.
A more prudent practice is to keep firewood piles a safe distance from structures (a 30 foot separation is recommended). Another alternative is to screen firewood stacks with hardware cloth (openings no larger than 1/8 inch) such that embers cannot reach the wood; making sure that the screening completely encloses the stack and with the metal screen spaced about an inch away from the wood so that embers that land on the screen cannot ignite the outer surfaces of the wood.

• Flammable Screening Next to or Under Structures

Wooden lattice is a popular material for visual screening. Such lattice work is quite flammable.

If used, such screening should be situated at least several feet away from structures or decks. Alternate materials should be used to screen under decks or in areas that are in contact with the structure itself.

• Flammable Vegetation Next to or Under Structures

Natural or ornamental vegetation immediately adjacent to or under structures is a serious fire hazard, and was observed in a number of locations. Some of the ornamental vegetation, while very popular and attractive, are quite flammable.

There should always be several foot of separation between even small flammable shrubs and structures. Flammable vegetation should not be allowed under raised decks. When using ornamental shrubs, plant types should be chosen from the approved plant lists published by the OCFA.

Similarly, any kind of flammable fencing attached to the house or flammable material stacked up against or right next to a structure poses a fire hazard. Storing such materials under a deck is also a concern. This applies to wood products, cardboard, fabrics, plastics or any other kind of combustible material.

Regular attention to accumulated or stored materials is required to avoid this common issue. In the case of wood fencing attached to the structure, the fire concern can be alleviated through the use of a short section of noncombustible material such as rock, concrete, or brick to interrupt the combustible materials.

• Flammable Materials on Decks

Many items commonly found on decks are made of or contain flammable materials. Chairs, umbrellas, tables, door mats, bar-b-que propane bottles, etc; all fall into this category.

It is probably not realistic to expect everyone to store such items in a safe area until needed on the deck, but it is good practice to remove them to a safe area if there is an approaching fire, during Red Flag Warnings, or when the homeowner will be away for an extended period.

Propane Tanks

• Flammable Screening or Materials Next to Tanks

Code requires that the area around propane tanks be free of flammable materials. A number of cases were observed where flammable screening has been used to “hide” propane tanks, and/or where flammable materials, vegetation or debris were crowded around the tank. These are invitations to disaster.
It is essential that combustible materials be removed from within 10 feet of propane tanks.

- Unprotected Regulators

There are many propane tanks that have exposed and unprotected regulators. This makes it vulnerable to physical damage from falling limbs or other items, potentially leading to a gas leak.

Relocating the regulator under a metal protective cover is the best solution to this issue.

Power Lines

- Power poles

Electrical power is provided via above ground lines. While Southern California Edison (SCE) maintains the clearance around the poles, it was observed in several areas where branches were beginning to impede into the line space.

A survey of the canyons should be conducted, documenting pole numbers where additional clearance is necessary. This inventory should be provided to SCE for their attention.

Defensible Space

- Regenerating Hazards

As trees and shrubs grow, they can change what was previously an acceptable situation into one that no longer meets state requirements for residential defensible space. This appears to be happening in a number of cases where vegetation is in need of pruning.

OCFA and CAL FIRE guidelines for meeting the requirements of State Law (PRC-4291) should be followed to ensure proper shrub selection and placement and limbing of lower tree branches. Homeowners should take advantage of routinely scheduled “Chipper Days” to dispose of thinned vegetation.

House Numbers

- Location of House Numbers

There is considerable variability in the length of driveways, which tends to add to the variability in where the house numbers are found. Some numbers are located near the street while others may only exist on the structure itself. There is no standard on where the number should be located on a structure. Some numbers may be high up on the eve boards, while others may be located on rocks or other decorative materials near the structure. This lack of consistency in location creates a serious issue for emergency responders and can cause critical delays in the arrival of assistance.

The OCFA has adopted the Uniform Fire Code, which requires residences to post house number signs in a visible location at or very near the driveway entrance. House numbers that don’t meet this requirement should be relocated accordingly.
Visibility of House Number Signs

For similar reasons, there are concerns regarding the poor visibility of some house number signs that are located properly, but lack prominence. Black numbers on a brown background simply don’t stand out, especially on a rainy night.

*The Uniform Fire Code requires house numbers to be highly visible (i.e. large, contrasting color, reflectorized) and easily read from the street. House numbers that fail this visibility requirement should be replaced.*

Driveways & Private Roads

Vegetation Encroachment

Over time, trees and shrubs adjacent to some driveways and private roads have been allowed to encroach on the usable driveway or road width and height. There are areas where fire apparatus can no longer gain access due to this encroachment.

*The Uniform Fire Code requires that clearances be maintained to a minimum of ten feet wide by fifteen feet high. Where necessary, vegetation should be cleared to meet that basic standard.*

Unrated Bridges

Many driveways and private roads include unrated bridges. Fire Apparatus is heavy and may not be able to gain access across these private bridges.

*Although potentially costly, homeowners should have studies conducted to determine bridge weights. Once known, weights should be posted on the bridge so that it is visible from the street. If unable to determine weights, signage should be provided to identify the bridge as an unrated bridge not sufficient for heavy vehicles.*

Vegetation Beyond the Home Ignition Zone

Reduction of Fuel Volume and Ladder Fuels

Vegetation within the Cleveland National Forest and County Wilderness Parks are not covered by the defensible space requirements of PRC-4291, but should be maintained in such a way to provide overall community safety.

*Corrective action would be relatively straightforward, and should focus on:*
  - Reduction or elimination of “ladder fuels” (i.e. fuels bridging the gap between the surface and lower tree limbs)
  - General tree and vegetation thinning where appropriate to reduce fuel volume
  - Thinning or removal of new brush growth in areas near the home ignition zones
  - Maintenance of established community fuel breaks

Summation

The multiple concerns just discussed may, at first glance, leave a negative impression on the reader. However, it is important to note, that with few exceptions, such as replacement of combustible siding, all the concerns are easily correctable without large expenditures or extraordinary efforts. For the most part, these are matters that the average homeowner can address on a do-it-yourself basis.
The top items needed as observed across the Canyon area could be summed up as:

1. Street signs for private streets need to be made of noncombustible materials and positioned where they are clearly visible.
2. Condemned or abandoned properties need to be maintained in a manner which meets current defensible space code requirements.
3. Home address signs need to be clearly visible on approach.
4. Evacuation Routes need to be clearly identified and marked with non combustible signage.
5. Bridge weights on private bridges should be determined and posted.

Homes with Shake siding or combustible materials should consider replacement

Lattice used for screening is very combustible
Propane tanks should be clear of all vegetation

Regulators should be protected from damage

Propane tanks should remain free of combustible materials

Addressing should be visible from the street, permanently affixed and of standardized size and contrast
Bridge weight limits should be clearly marked

**Successful Firewise Modifications**

When adequately prepared, a house can likely withstand a wildfire without the intervention of the fire service. Further, a house and its surrounding community can be both Firewise and compatible with the area’s ecosystem. The Firewise Communities/USA program is designed to enable communities to achieve a high level of protection against WUI fire loss even as a sustainable ecosystem balance is maintained.

A homeowner/community must focus attention on the home ignition zone and eliminate the fire’s potential relationship with the home. This can be accomplished by disconnecting the home from high and/or low-intensity fire that could occur around it. Interrupting fuels is the number one technique that will lead to reduced fire vulnerabilities.

Numerous examples of such positive actions were observed during the assessment inspection of Silverado, Williams, Modjeska and Trabuco Canyons. The communities Fire Safe Council has been very effective in educating homeowners and providing avenues to dispose of flammable vegetation and materials. Although there remains much to accomplish, the Canyons are continuing from a position of strength as they move forward in this improvement process.

A brief summary of some of the positive indicators that were noted would include the following:

- **Good basic community infrastructure and planning**
  - The service level of the OCFA is excellent
  - The Reserve Firefighters participate in constant ongoing training
  - County/State maintained roads are paved and well signed
  - Fire Hydrant system is available throughout the canyons with sufficient water reservoir storage
  - Local Water Company maintains a robust emergency plan, staging portable generators at pump stations during high fire danger times
  - Three Career Fire Stations, three Reserve Fire Stations and Two USFS Fire Stations serve the Canyons
  - Additional Fire Suppression resources are near by, including Hand Crews, Dozers and Helicopter support.
Silverado, Williams and a portion of Modjeska Canyon are protected by a Community Fuel Break along the Main Divide Truck Trail.

Tactical Fire Plans are in place for Silverado, Williams, Modjeska and Trabuco Canyon.

Existing Fire Safe Council, members are ICS trained to serve in the Liaison role for their organization during emergency incidents.

Existing Volunteer Fire Watch program is a participant in the Orange County Fire Watch Program.

Elaborate GMRS Radio system with local repeater stations providing radio coverage to the entire canyon area.

- Proactive fire prevention efforts within the community

  - Fire Safe Council educational booths at various events, including the annual Country Fair, OCFA Fire Prevention week Open House, Fire and Ice socials and others.
  - Active Home Ignition Zone Consultations available through the OCFA Ready! Set! Go! program.
  - Regularly scheduled “Chipper Days”, organized and coordinated by the Fire Safe Council to support defensible space cleanup.
  - Annual “Clean Sweep” campaign sponsored through the Fire Safe Council and the OCFA to support defensible space as well as general debris cleanup.

- Generally favorable residential conditions

  - Mostly Class A (fire resistant) roofing materials.
  - Several upgrades from combustible siding to noncombustible siding.
  - Defensible space work evident in some areas.
  - Federal Hazardous Tree Removal grant removed 145 dead/diseased/fire damaged trees and pruned 210 trees after the Santiago Fire of 2007. Ninety Two (92) of these trees were on private properties.

The following photographs are examples of good Firewise practices in the Silverado, Williams, Modjeska and Trabuco Canyon areas.

Many homes in the Canyons maintain good defensible space clearance.
Community and Fire Safe Council members create a fuel break in Modjeska Canyon after the Santiago Fire in 2007
Residents line up to drop off vegetation at Fire Safe Council organized “Chipper Day’s”

The Fire Safe Council provides education booths at various fairs and community events

Emergency Generator staged at Water District Pump Station
Newer homes are constructed to current building code standards

Several older homes have upgraded to non-combustible siding and roofs
Community Fuel Break maintained by the USFS surrounding Silverado, Williams and a portion of Modjeska Canyons

Next Steps

This assessment is a review of an already existing CWPP completed in 2003 which laid a process to improved fire safety in the community. After reviewing the contents of this assessment and its recommendations, the Fire Safe Council/Firewise Board in cooperation with the Orange County Fire Authority will determine whether or not it wishes to continue seeking Firewise Communities/USA recognition. The Firewise Communities/USA representative will contact the Firewise Board representative to receive its decision.

If the site assessment and recommendations are accepted and recognition will be sought, the Fire Safe Council/Firewise Board will create agreed-upon, area-specific solutions to the Firewise recommendations and create an action plan in cooperation with the Orange County Fire Authority.

Assuming the assessment area seeks to achieve national Firewise Community/USA recognition status, it will integrate the following standards into its plan of action:

- Sponsor a local Firewise board, task force, committee, commission or department that maintains the Firewise Community program and status.

- Enlist a WUI specialist to complete an assessment and create a plan from which it identifies agreed-upon, achievable local solutions.
• Invest a minimum of $2.00 annually per capita in its local Firewise activities (Work done by municipal employees or volunteers, using municipal or other equipment, can be included, as can state/federal grants dedicated to that purpose.)

• Observe a Firewise Communities/USA Day each year that is dedicated to a local Firewise project.

• Submit an annual report to Firewise Communities/USA documenting continuing participation in the program.