Oak Hill Area Fire Safe Council
Firewise Risk Assessment

Updated February 19, 2020

1) Introduction

The Firewise Communities/USA program is designed to provide an effective management approach for preserving wildland living aesthetics. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following community assessment is intended as a resource to be used by the Oak Hill Area Fire Safe Council residents for creating a wildfire safety action plan, creating a Community Wildfire Protection Plan (CWPP) and in order to become officially designated as a Firewise Community by the National Fire Protection Association (NFPA).

The Oak Hill Area Fire Safe Council (OHAFSC) is an all volunteer organization that was formed in January 2019. The OHAFSC is a satellite group of the El Dorado County Fire Safe Council (EDCFSC). Fire safe councils are community-led organizations that have been formed to prevent wildfires and reduce their potential impacts on the community. These councils work to educate homeowners and residents about wildfire preparedness and how to plan for and prevent wildfires. Fire safe councils conduct numerous outreach events and implement projects such as cooperative fuel-reduction projects in neighborhoods and collaborate with other agencies to complete landscape-level vegetation management projects.

The Oak Hill Area Firewise Risk Assessment was conducted between March 2019 and February, 2020. Participants included Lester Lubetkin, Alice Cantelow, Linda and Loren Azevedo, Mark and Becky Leighton, Doug and Heidi Venable, Mary Humpreys, Alice Cantelow, Mark and Carolyn Pappas, Mary Daker, Ed Krueger, Ralph and Suzie Shoemaker, Richard and Becky Miller, and Barry Callenberger. The Firewise Risk Assessment was compiled and written by Lester Lubetkin. During the assessment and development of this report, members of the group discussed how to best identify and mitigate the fire risks and safety concerns within the area while still protecting the natural resources and other features that make this area special to the residents of the Oak Hill Area Fire Safe Council.

2) Definition of the Home Ignition Zone

The Oak Hill Area Fire Safe Council is located in a wildfire environment. Wildfires will happen--exclusion is not a choice. The variables in a fire scenario are when the fire will occur, and where. This assessment addresses the wildfire-related characteristics of the Oak Hill Area Fire Safe Council. 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 interrelationship with everything in its surrounding home ignition zone----the house and its immediate surroundings. 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.

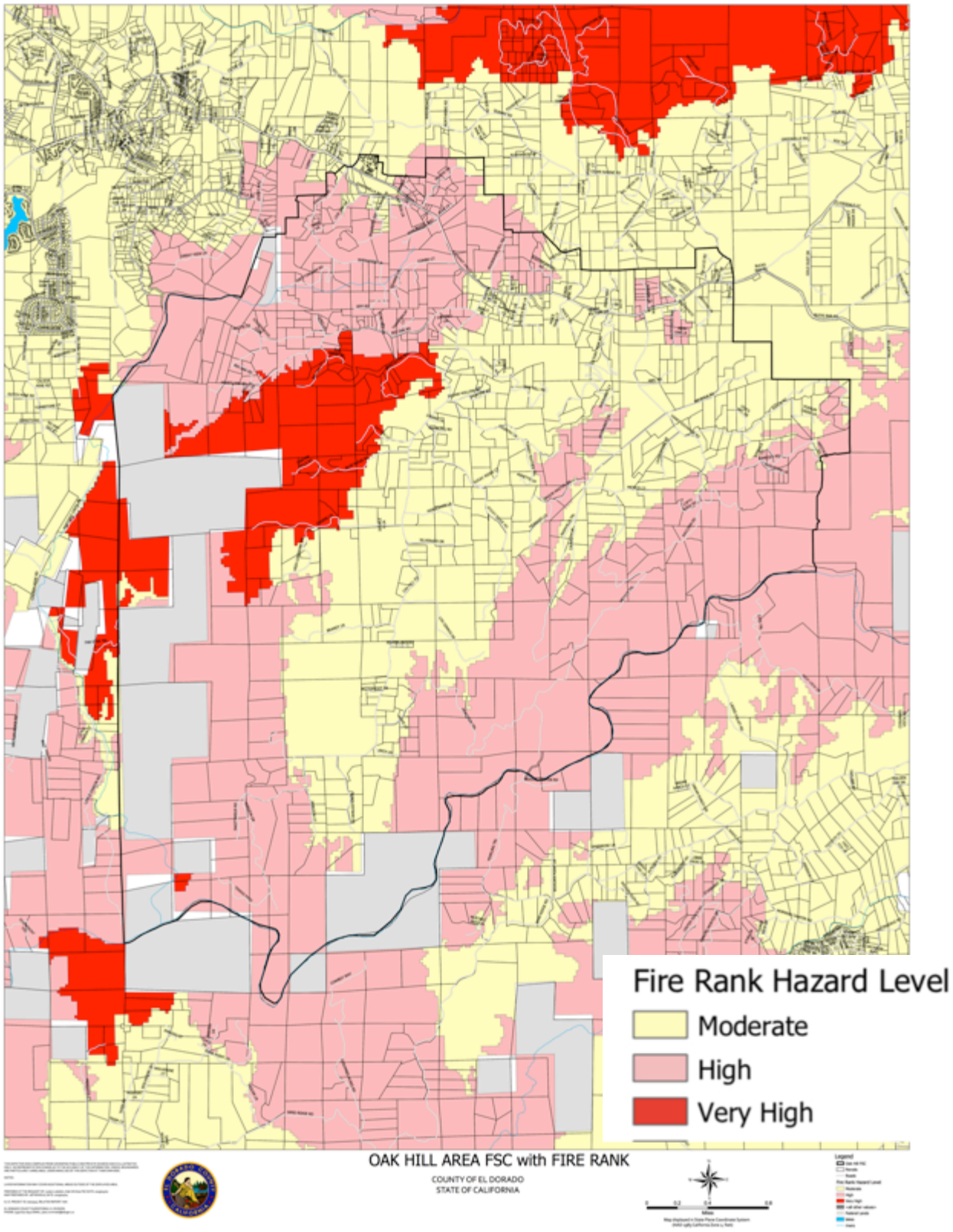
Included in this assessment are observations made while visiting a sampling of the Oak Hill Area Fire Safe Council. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of affected residents. The Oak Hill Area Fire Safe Council 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.

3) Description of Fire History and Wildland Fire Characteristics that Could Threaten the Area

Fire intensity and spread rate depend on the fuel type and condition (live/dead), the weather conditions prior and during ignition, and the topography. Generally the following relationships hold between the fire behavior and the fuel, weather and topography.

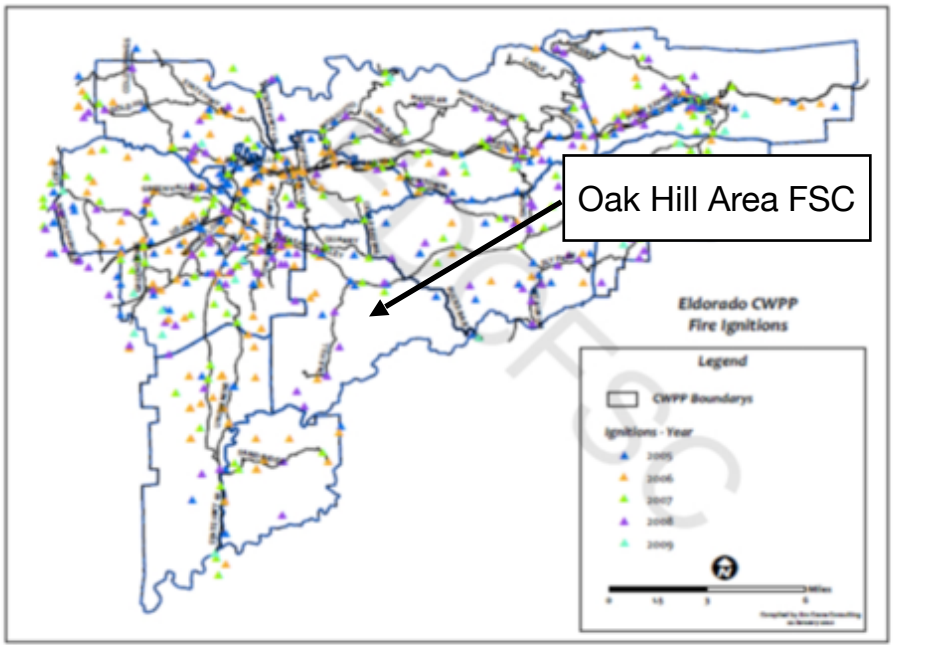
- Fine fuels ignite more easily and fire spreads faster with higher intensities than for coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels.
- The weather 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 fire intensity. The higher the wind speed, the greater the spread rate and intensity.
- Topography influences fire behavior principally by 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, the steeper the slope, the higher the uphill fire spread and intensity.

As can be seen in Map 1, much of the Oak Hill Area Fire Safe Council area is considered by CalFire to be in Moderate to High Fire Hazard Severity zones, except for the area south of Big Oak Road and west of Oak Hill Road, within the drainages of Martinez Creek and Squaw Hollow Creek, which is considered to be within a Very High Fire Hazard Severity zone (CalFire Fire Hazard Severity Zone Map, 2007). Between 2005 and 2009, approximately 20 fires occurred within the area covered by the OHAFSC (Maps 2 and 3). The various causes for these fires ranged from debris burning, equipment use, smoking, at least one case of arson, and power line sparking, although a number of the fires were undetermined as to cause. The largest of these fires occurred in the North Fork Cosumnes River drainage at the southern end of Oak Hill Road in 2008.



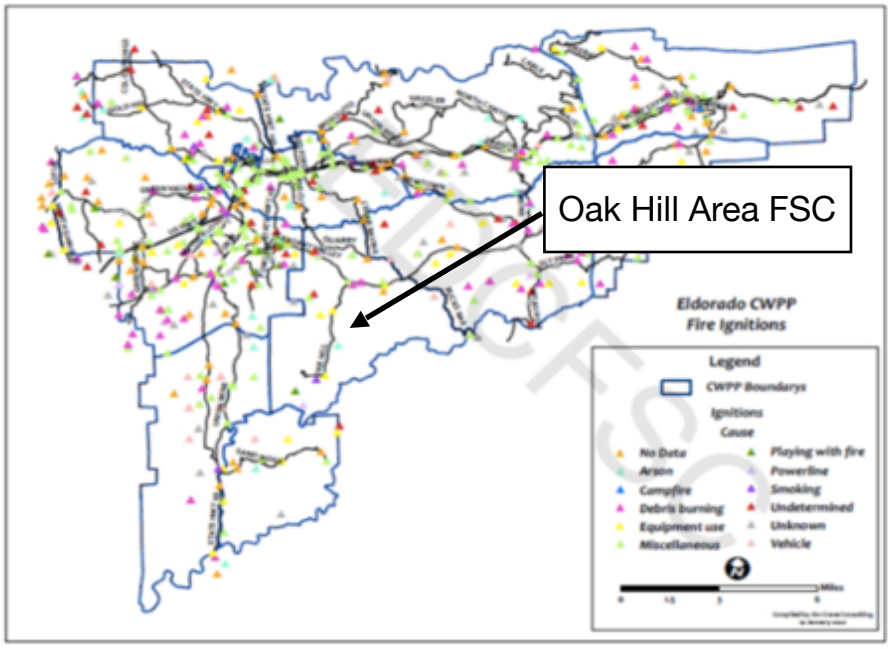
Map 1 showing the Oak Hill Area Fire Safe Council with the CalFire Fire Rank Hazard Levels.

Map 2; Fires by year



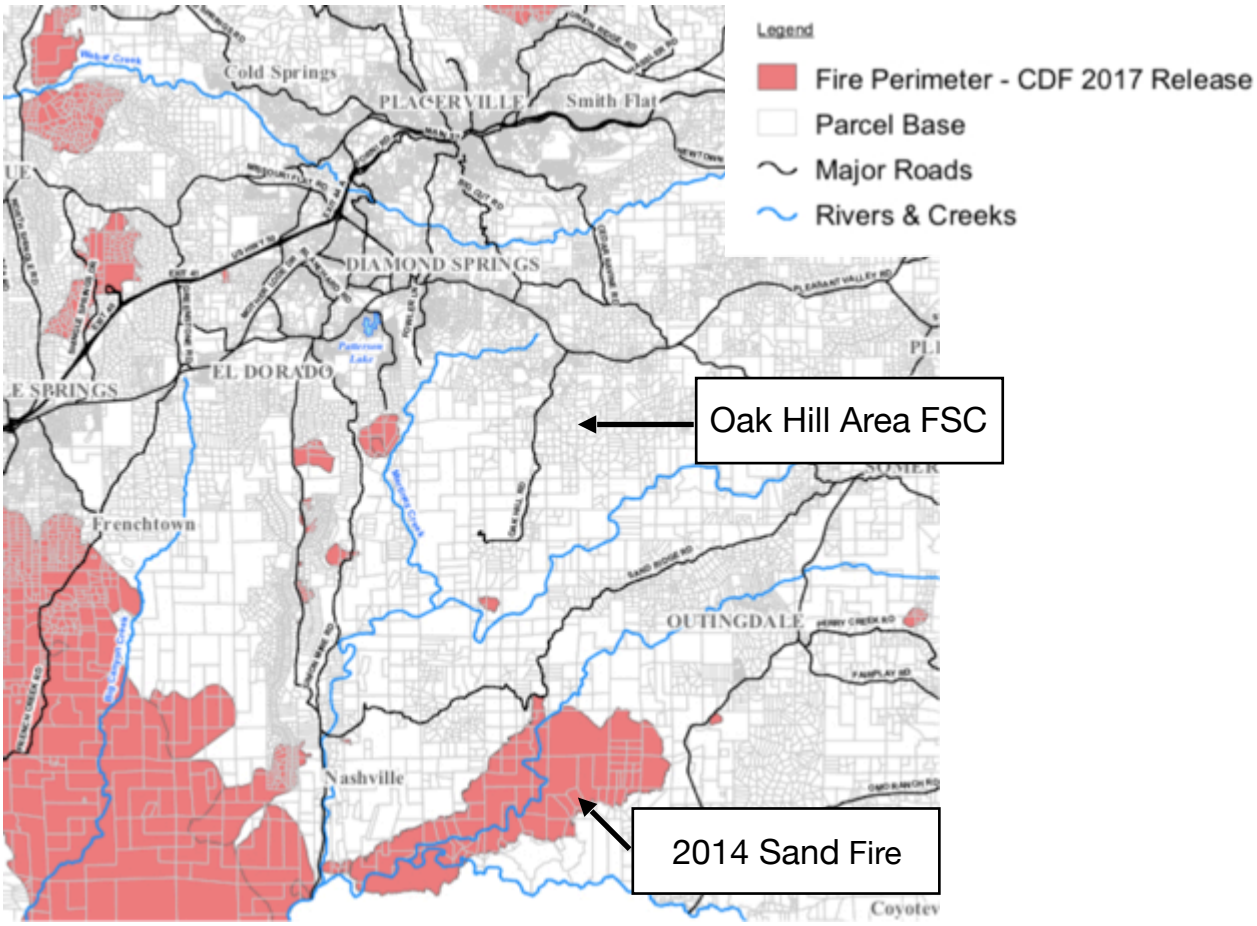
Diamond Spring/El Dorado Fire Protection District CWPP Final 8/10/11
© El Dorado County Fire Safe Council

Map 3; Fires by ignition



Diamond Spring/El Dorado Fire Protection District CWPP Final 8/10/11
© El Dorado County Fire Safe Council

Maps 2 and 3, the recent fire history of El Dorado County, showing the year of fires and the type or source of ignition.



Map 4: Fire History Map of the Oak Hill Area Fire Safe Council and surrounding area

A study of early historic fires within the OHAFSC area was conducted in the 1990s and found that between about 1850 and 1952, fires occurred on the order of every 2 to 18 years (Stephens, 1997). The most recent fire identified in that study occurred in 1947. The cause of the fires identified in this study could not be determined, although they appear to be associated with ranching, which was one of the primary uses of the land at that time. Prior to 1850, the area was used by Native Americans and they most likely employed fire as well. The study determined that lightening fires are uncommon in these lower elevation oak woodlands and mixed oak/conifer forests.

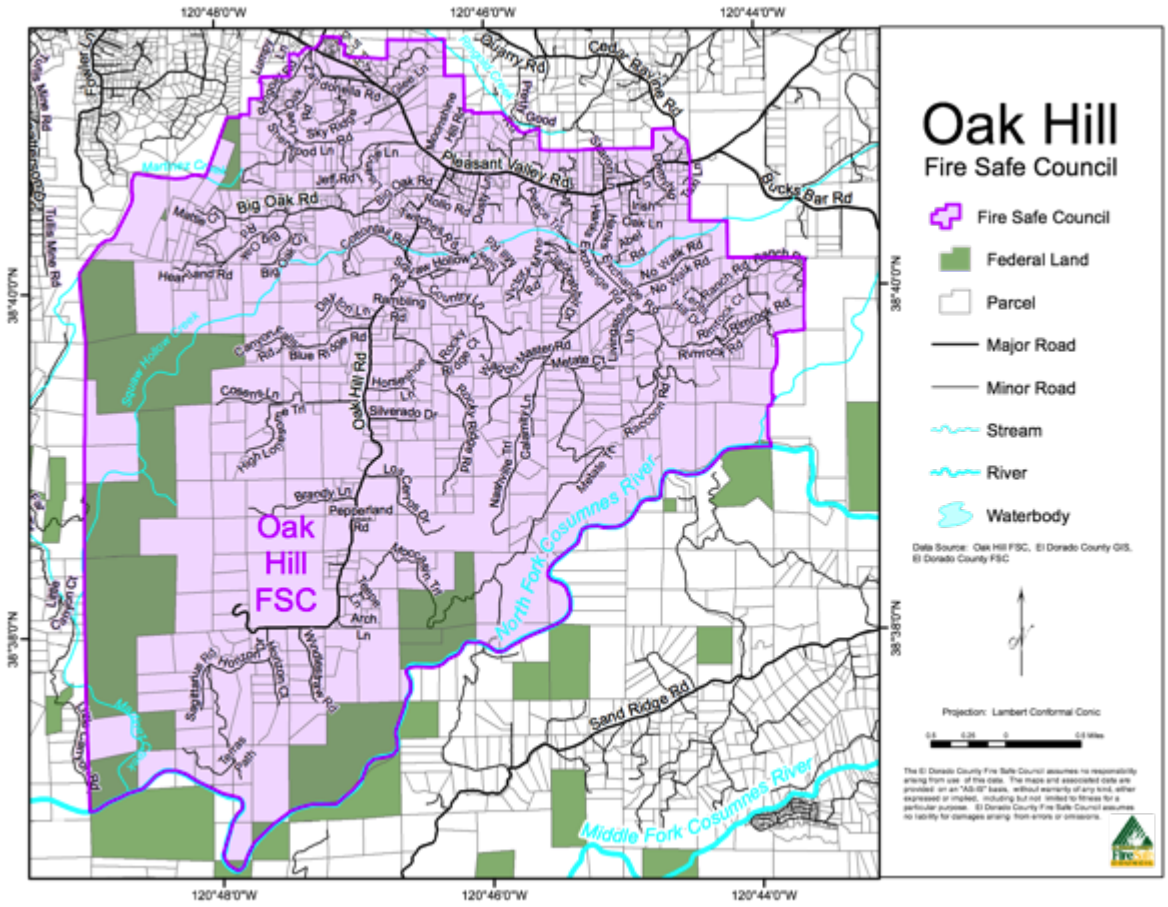
The 4,240 acre Sand Fire in 2014 did not reach the OHAFSC area, but did burn to within about 3 miles south of its southern border (Map 4). This major wildfire event burned for more than 9 days, destroying 20 homes and 49 outbuildings. The cause of this fire was from a car parking in dry vegetation (CalFire 2014). As described in the next section, the conditions within the area of the OHAFSC are similar to those in the area of the Sand Fire.

4) Site Description

The Oak Hill Area Fire Safe Council covers a rural area in the Sierra Nevada foothills of central California, in the south-central portion of El Dorado County. Our location about 4 miles south of the town of Placerville and about 2.5 miles east of the town of Diamond Springs, along with the large number of residences makes us part of the Wildland Urban Interface. The OHAFSC includes all of the parcels accessed from the following major roads and the smaller roads that feed into these primary roads:

Oak Hill Road,
Hanks Exchange Road,
Zandonella Road, and
Pleasant Valley Road, between Big Cut Road and Cedar Ravine Road

(see Map 5).



Map 5, showing the Oak Hill Area Fire Safe Council, including the roads and parcel boundaries.

The OHAFSC is bordered on the west by the Logtown FSC and the Patterson Ranch FSC. The Pleasant Valley FSC lies to the northeast of the OHAFSC.

Elevations within the OHAFSC range between about 1,200 and 2,600 feet above sea level. The terrain is generally gently rolling, except within the steeper canyons of the North Fork Cosumnes River, along the southern border of the OHAFSC, and along the lower portions of Squaw Hollow Creek and Martinez Creek, west of Oak Hill Road and near the western border of the OHAFSC.

There are no natural lakes within the OHAFSC, however there are a number of small, man-made ponds that have served in the past for filling of helicoptor buckets for fighting fires.

Vegetation is predominantly oak woodland and mixed conifer/hardwood forest, consisting of open to dense stands of black oak, blue oak and canyon live oak with ponderosa pine, sugar pine, Douglas-fir, and incense-cedar along with manzanita, madrone, ceanothus, annual grasses and forbs. In places, the forest/woodland canopy is relatively dense, with crowns touching, creating an upper layer of continuous fuel. These tree rich areas are broken up by large areas of grassland, vineyards and orchards. Homes are generally interspersed in this vegetative mosaic.

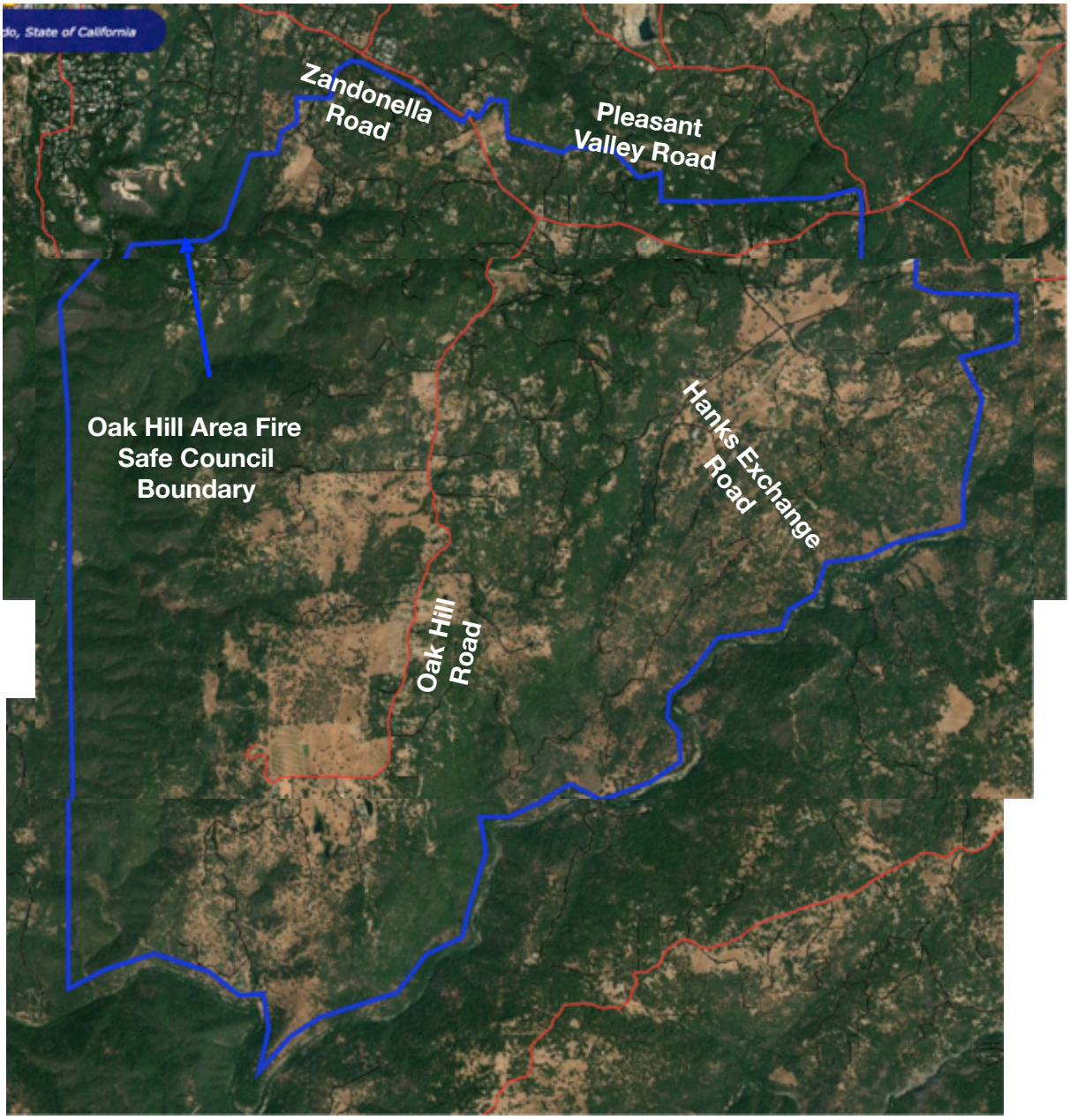


Figure 1, Aerial view of the Oak Hill Area Fire Safe Council, showing the vegetation mosaic, with denser vegetation along the western boundary (Martinez Creek) and the southern boundary (North Fork Cosumnes River), while the upland areas are open oak woodland and agricultural lands interspersed with mixed oak/conifer forests.

Average annual precipitation is approximately 30 inches, which falls mainly from November to April. Most of the precipitation falls as rain, although some snow occurs most years which normally melts within a few days after falling. Summers are warm and dry with low humidity, lowering fuel moisture throughout the season. Late summer and autumn can bring occasional dry winds. A high pressure area building behind a passing weather front can set up days and nights of incessant strong wind blowing from the northeast. Relative humidity can be as low as 5% with

little to no nighttime recovery. This is the most extreme fire weather condition that occurs, as it is for most of the rest of El Dorado County.

The OHAFSC covers approximately 10,438 acres and includes over 1,000 parcels. Parcels and residential lots within the area of the OHAFSC range from trailer spaces within a mobile home park to parcels 100 acres or more in size. Approximately 18% of the parcels are currently undeveloped. There are also 10 commercial lots, a cemetery, 14 parcels classified for agricultural or timber production uses, and several large parcels of federal land (managed by the Bureau of Land Management [BLM]) within the OHAFSC area. About 15 percent of the landowners within the OHAFSC live outside the boundaries of the FSC. The value of the residential and commercial improvements within the OHAFSC, based on the appraised value recorded in the County Assessor's Office is over $165,000,000.

The highest concentration of homes is in close proximity to Pleasant Valley Road and the short roads that feed directly into Pleasant Valley Road.

There are about 1,990 people that live within the OHAFSC, based on the 2010 Federal Census data (ESRI, 2010). 81 percent of these people are 18 years or older and 19 percent are 65 years old or older. There are approximately 800 households within the OHAFSC, 79 percent of which are owner occupied and 21 percent being renter occupied. 23 percent of the households have only one person living in them, whereas 77% of the households have 2 or more people living in them. The average household size, based on the 2010 Census data is 2.5 people.

Of the homes within the OHAFSC, only about 20 were built since 2008 (about 2% of the homes), and so the vast majority do not meet current construction standards for fire resilience. Some of the homes were built as early as the mid- to late-1800's. However, about 92% of the homes were built since 1950. Many of these older homes have been remodeled or upgraded at various times and so some do incorporate some fire resilience improvements.

Within the OHAFSC the road infrastructure consists of a mix of County maintained narrow paved roads along with a broad range of privately maintained narrow paved and gravel/dirt roads. Nearly all of these roads are dead end roads, including the two largest roads, Oak Hill and Hanks Exchange. The primary ingress and egress from the OHAFSC is via Pleasant Valley Road west to Diamond Springs or east to Placerville (via Cedar Ravine Road), Pleasant Valley (via Pleasant Valley Road) or Somerset (via Bucks Bar Road).

Attachment 1 shows the percentage of residences along roads leading into each of the four principal roads in the OHAFSC. This table also includes a description of the roadway and roadside clearance for some of the roads (where currently known). Pleasant Valley Road provides direct access to 28% of the residences within the OHAFSC, whereby homes are directly along Pleasant Valley Road or on collector roads that feed directly onto Pleasant Valley Road. However, each of the 3 major arterial roads lead directly into Pleasant Valley Road. Of the 3 major arterial roads, Oak Hill Road provides access to 43% of the residences within the

OHAFSC, Hanks Exchange provides access to 17% of the residences and Zandonella provides access to 11% of the residences.

The following three photographs show different County and private roads that are in need of roadside clearance and in some cases, of widening to allow unobstructed emergency egress as well as emergency vehicle ingress.

View of Oak Hill Road (a County maintained road) near the intersection of Pleasant Valley Road and Oak Hill Road

Example of a privately maintained, poorly graded gravel road that feeds into Oak Hill Road (Twitchell Road).

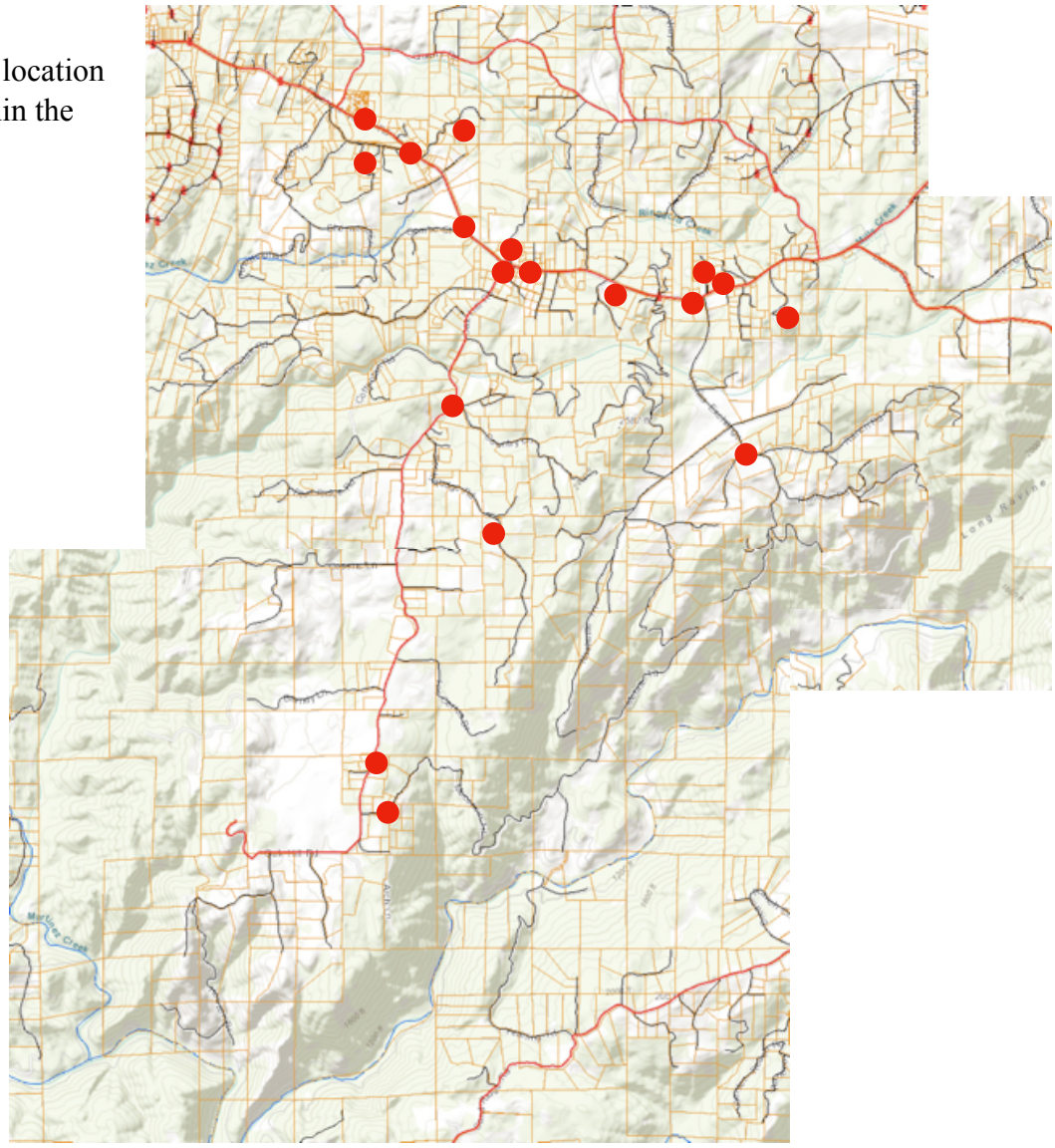
View of Big Oak Road, a narrow road that accesses many homes and is in need of roadside clearance and widening locally. The first mile of this road is County maintained and is fed by several other privately maintained gravel and partially paved roads.

El Dorado Irrigation District (EID) water lines serve portions of the OHAFSC, though most residents are on wells. There are 20 EID fire hydrants interspersed along Pleasant Valley Road, Oak Hill Road and a few of the private feeder roads (Map 6). Power and communications lines are generally above ground throughout the area. Pacific Gas and Electric generally maintains the power line corridors, including limbing and pruning trees adjacent to or overhanging the power lines.

The El Dorado County Fire Protection District is the primary fire response provider for the OHAFSC. The one fire station located along Pleasant Valley Road within the OHAFSC is not currently staffed, although the space is available for staging from and for training purposes. In addition to El Dorado County Fire Protection District, CAL FIRE has the wildland fire responsibility for all of the non-federal wildland areas in the council area. This area is designated in the Public Resource Code as State Responsibility Area (SRA). Therefore, CAL FIRE is authorized to bring resources and funding to cover fire suppression costs and also has the authority for fire prevention activities, including inspecting and enforcing defensible space. As mentioned above, the federal lands within the OHAFSC are managed by the BLM. As such, the BLM or the Forest Service under agreement with BLM, has the responsibility for fire protection on the federal lands

Land use within the OHAFSC is primarily rural residential, although there is agriculture, grazing and some timber production. There are a few commercial facilities along Pleasant Valley Road, including restaurants and produce stands. With telecommuting and other opportunities for "working at home" there has become a greater amount of commercial activity occurring at homes throughout the area.

Map 6, showing the location of fire hydrants within the OHAFSC



5) Assessment Process

Early in the creation of the OHAFSC, the Planning Committee recognized that there was a need to complete a Firewise Risk Assessment and contribute to the development of a Community Wildfire Protection Plan. A small committee was established, led by Lester Lubetkin. Volunteers form the OHAFSC assisted in conducting informal "windshield" assessments of a sampling of homes and structures visible from roads within the OHAFSC, observing and recording the conditions of homes, roads and other site conditions. The assessment was completed using a modification of the Firewise USA Community Wildfire Risk Assessment approach outlined in the National Fire Protection Association website. This included assessing the condition of vegetation and other potential ignition sources within three zones; Zone 1 including the home and out 5 feet, Zone 2 from 5 to 30 feet from the home, and Zone 3 from 30 to 100 feet from the home.

The FRA spanned the period between March 2019 and February, 2020. Volunteers included Lester Lubetkin, Linda and Loren Azevedo, Mark and Becky Leighton, Doug and Heidi Venable, Mary Humpreys, Alice Cantelow, Mark and Carolyn Pappas, Mary Daker, Ed Krueger, Ralph and Suzie Shoemaker, and Richard and Becky Miller.

The results of the evaluations were collected and compliled using the Firewise Risk Assessment template and the results are summarized in Attachment 2. An overview is provided below.

Zone 1 - Including the home and to 5 feet away

At least 75% of the homes have composition or metal roofs, although a small number of the composition roofs are in farily poor condition. Overall, residents have attempted to keep their roofs clear of heavy accumulations of leafs and needles, although about 10-20% of homes had excessive leaf litter accumulations. Homes are commonly wood-sided, with about 5% being stucco. Many homes have wooden decks attached to one or more sides of their homes. Most homes lack a non-comubstable zone within 0-5 feet of the home.

Zone 2 - 5 to 30 feet from the home

Most homes have only limited formal landscaping. Rather, many homes utilize existing natural vegetation or have landscaping that incorporates some or all of the native vegetation. As such, few homes have lawns, although most homes have some hardscaping, such as walkways, driveways, etc. Generally, a little less than 50% of the homes have removed ladder fuels, created separation between vegetation or otherwise created defensible space within this zone.

Zone 3 - 30 to 100 feet from the home

Within this zone, less than 50% of the homes have adequately interrupted fire spread through removal of heavy accumulations of ground fuel, creating space between tree canopies, etc. However, manu of the homes that have created defensible space in Zone 2 have also created defensible space in Zone 3. Most of the homes withi the OHAFSC are situated on relatively flat to gently rolling topography, although there are steeper areas beyond 100 feet from structures in a few areas.

6) 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 during a wildfire.

Based on the observations during area visits, along with comments from residents within the OHAFSC, volunteers identified a number of key concerns and issues that they feel need to be

considered in attempting to reduce fire risks and make our community more fire resilient. However, the three most common issues that relate to creating a fire resilient community are:

- **The need for creation and maintenance of defensible space around residences,**
  Residents have become more aware of the need to create and maintain defensible spaces around homes, although there are still a significant number of residents that do not know about the requirements and how to meet them. Additionally, in our rural area it can be a major effort for many people to meet the defensible space requirements and can be exrremely expensive. Based on observations, about 25 to 50% of the homes in the OHAFSC have created a "defensible space" around their homes. However, less than 10% had created a combustable-free zone within 5 feet of their house. El Dorado County's recently adopted (May, 2019) Vegetation Management Ordinance will hopefully increase compliance with the State defensible space requirements. However funding will be needed to assist many residents to create effective defensible space.
- **Hardening of homes that do not meet current fire resistant standards to improve fire resilience,**
  During the drive-throughs in the OHAFSC, no homes were observed to have wood or shake roofs. Roofing materials were predominantly asphalt (composition) shingles, with a few metal or tile roofs. However, about 98% of the homes in the OHAFSC were built before current fire-resilient building code requirements came in effect and so most homes in our area do not have upgrades such as properly screened attic and crawl-space vents, noncombustibe siding, soffited eaves, sprinklers, etc. It was not possible to determine the percentage of homes that had fiber-cement siding; however, based on the dates of construction, it appears that only a small percentage likely have this type of noncombustable siding. Fewer than 5% were observed to have stucco or other noncombustable siding. Educating homeowners about the benefits of hardening their homes against fire and working with local retailers to assure that appropriate materials are available would go a long way towards helping residents to improve their home's chance of avoiding ignition.
- **Improvement of emergency ingress and egress through roadside clearance.**
  Emergency egress has been voiced as a major concern during many of the recent public meetings held by the OHAFSC, and has been a common issue raised in recent surveys of residents, particularly because nearly all of the roads within our area are dead-end roads Surveys of the major arterial and collector roads with the greatest number of residences showed that all or portions of Pleasant Valley, Oak Hill, Zandonella, Hanks Exchange and Big Oak Roads are in need of road widening and roadside clearance. In addition, most of the other local and collector roads off of the major County roads are private roads and many are in need of vegetation clearance and road grading in order to improve access for fire trucks and other emergency vehicles. Roadside and home signing were also identified as major weaknesses in many areas.

7) Observations and Recommendations

In addition to the three issues described in Section 6 (above), other observations and recommendations have been identified by the Planning Committee and are summarized in the table below:

CATEGORY	PROJECT TYPES
Highest Priority Categories	
Road Hazard Reduction	• Clearance along Pleasant Valley Rd (OH4- highest priority), but also Oak Hill Rd (OH6), Big Oak Rd (OH5)and Hanks Exchange Rd (OH8) • Clearance along Zandonella Rd and Ringold Rd • Clearance along all "neighborhood" feeder roads • Road widening and construction of strategic turnouts along both major roads and feeder roads • Facilitate neighborhood meetings, to Identify and encourage "road connections" to provide alternative ways out • Coordinate with BLM and nearby landowners concerning alteernative egress opportunities
Defensible Space	• Ongoing Education (community meetings, website, newsletters) • Mailings to new residents • Continue Free volunteer DS assessments for residents • Support/Continue Free Chipping Programs • Create a "tool lending library" for pole saws, high quality clippers, etc. • Create community or neighborhood "Dump It" Day • Help those in need (volunteers, grants for contract work)
Home Hardening	• Ongoing Education (Community meetings, website, newsletters) • Work with other FSCs to put on a County-wide home hardening workshop • Mailings to new residents • Develop public display (retrofits, materials, suppliers, sprinklers, etc.) • Facilitate neighborhood meetings to bring home hardening information to more residents • Encourage local suppliers/stores to carry needed materials • Buy materials like screening, gutter guards, vents etc. in bulk/sell at cost, or slightly more for fund raising • Help neighbors in need (low interest loans, grants, advocate for county tax break, etc.)

CATEGORY	PROJECT TYPES
Evacuation	• Ongoing Education (website, community meetings, newsletters) • Mailings to existing residents, and later, new ones • Identify potential Shelter-In-Place, Staging area options, and coordinate with OES and fire district • Coordinate with Search and Rescue and OES re. large animal evacuation • Identify measures to assist mobility impaired residents • Identify helicopter landing locations and share with OES. Provide info to homeowners who wish to add such pads. • Coordinate with OES and DOT re. traffic management needs and solutions (such as green lights along "downstream" roads)
Emergency Communication	• Ongoing Education (know about importance of Twitter, reliable news source, Code Red, radios) • Develop displays • Organize a phone/radio tree, and determine how to transmit reliable news via both • Identify areas without cell service • Inspect or assist in maintaining defensible space around cell towers • Continue assessing communication availability within the FSC. including reach of repeaters
Next Highest Priority Categories	
Fire Hydrants/Water Tanks	• Inventory water sources (hydrants, tanks, pools, ponds, etc.) and location of water mains in our area • Coordinate with EID and Fire District concerning areas to most effectively add hdyrants, how best to make alternative water sources available, fixing google map errors, etc. • Inspect public fire hydrants and potential water sources annually • Ongoing education (website, newsletters, community meetings) concerning tank installation, how to obtain fire hydrants, maintaining tanks, etc. • Create public display on tank fittings etc. needed for fire fighting • Encourage identification signs at homes with water sources • Training public on the use of private hydrants and water sources in fire situation
Fuel Break Construction	• OH 7 (Martinez Cr. thru Big Oak Rd) -highest priority • OH 1 (west of Oak Hill Rd) • OH 2 (Cosumnes River to Hanks Exchange/Bucks Bar) • OH 3 (East from Oak Hill Rd to Hanks Exchange)

CATEGORY	PROJECT TYPES
Mobile Home/ High Density Residences	• Facilitate neighborhood meetings in these areas, educating about evacuation, go bags, special risks etc. • Ongoing Education (add info to website newsletters, community meetings • Identify and address mobility issues
Powerline / Hazard Trees	• Identify liaison to coordinate with PG&E regarding powerline clearance issues,weather stations, etc. • Facilitate or provide high tech powerline solutions in our area, such as new shut-off switches being developed. • Work with responsible entities to install a weather station in the Martinez Cr. area (likely fire pathway)
Large Property Lands (generally +10 acres, but some progams may apply to +5 acres)	• Ongoing Education regarding grazing and prescribed fire to improve community-wide Defensible Space and reduce hazardous fuels • Mail out info about EQIP program, relevant workshops, etc. to large property owners specifically.

Additional information regarding the OHAFSC project needs and categories is provided in Attachment 3.

References

CalFire, 2007, Fire Hazard Severity Zone Map of El Dorado County; accessed from https://osfm.fire.ca.gov/media/6670/fhszs_map9.pdf

CalFire, 2014 Sand Fire Incident report from August 2, 2014; accessed from http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=1008

CalFire, 2014, Amador-El Dorado Unit Strategic Fire Plan. 54 p. accessed from http://www.edcfiresafe.org/wp-content/uploads/2015/10/2014-Unit-Strategic-Fire-Plan_CAL-FIRE-Amador-El-Dorado-Unit.pdf

El Dorado County Fire Safe Council, 2011, Diamond Springs, El Dorado Fire Protection District Community Wildfire Protection Plan, dated August 10, 2011. 119 p

ESRI, 2010, 2010 U.S. Census Bureau Data, compiled by ESRI. Report provided by El Dorado County GIS Services, Surveyor's Office. 4 p.

National Fire Protection Association, accessed January 26, 2020, Firewise Risk Assessment template; https://www.nfpa.org/-/media/Files/Firewise/Get-started/FirewiseCommAssess.ashx?la=en

Peabody, George W., 1988, The Historical Perspective Supplement for the Pleasant Valley – Oak Hill – Sly Park Area Plan and Environmental Impact Report, El Dorado County Community Development Department, Parks and Recreation Division. page 389.

Stephens, Scott L., 1997, Fire History of a Mixed Oak-Pine Forest in the Foothills of the Sierra Nevada, El Dorado County, California; in USDA Forest Service General Technical Report PSW-GTR-160. pp 91-98.

Attachment 1. Listing of Arterial and Collector Roads within the Oak Hill Area Fire Safe Council, showing the number of developed parcels along each road.

Number of Residences along Major Collector Roads in the Oak Hill Area Fire Safe Council

Road	road group	3rd level	% of Total	Road Condition	Roadside Clearance
Arch		Oak Hill	1%		
Big Oak	Tannenbaum, Honeybee, Juno, Sun Ridge, BO Ct, Goldenwood Glen, Heartland, Mattie, Capital	Oak Hill	10%	Large sections are paved. Farther ends and some side roads are gravel, rough in places. Narrow in many areas	Needs clearing over large sections (at least 70% of length)
Bitterroot		Oak Hill	1%		
Blue Ridge	Canyon Falls	Oak Hill	1%		
Brandy		Oak Hill	1%		
Cantrell		Oak Hill	1%		
Cosens	High Lonesome	Oak Hill	2%		
Cottontail		Oak Hill	1%		
Country Lane	Turkey Feather, Squaw Hollow, Jackpine	Oak Hill	3%		
Dayton		Oak Hill	1%		
Horizon	Horizon Ct, Sagitarius, Terras	Oak Hill	3%		
Horseshoe		Oak Hill	1%		
Los Cerros		Oak Hill	0%		
Moccasin	Teepe,	Oak Hill	2%		
Muddy	Oregon	Oak Hill	1%		
Oak Hill		Oak Hill	6%	Paved County Road, narrow in places. Bridge over Squaw Hollow Cr is 1 lane.	Needs clearance work
Pepperland		Oak Hill	1%		
Rocky Ridge	Rambling, RR Ct	Oak Hill	4%	Paved over much of its length	Only small areas need clearing
Rollo		Oak Hill	0%		
Silverado		Oak Hill	1%		
Twitchell	Dowell, Sawmill	Oak Hill	2%	Gravel, rough	Needs clearance work
Windlestraw		Oak Hill	2%		
Oak Hill Total			**43%**		
Casper		Zandonella	0%		
Lazy Dog		Zandonella	0%		

Road	road group	3rd level	% of Total	Road Condition	Roadside Clearance
Live Oak		Zandonella	1%		
No Name		Zandonella	1%		
Ringold	Mako, Sherwood, Knottingham, Jeff	Zandonella	6%	Paved over much of its length, narrow in places.	Only small areas need clearing
Sky Ridge	Credena	Zandonella	2%		
Zandonella		Zandonella	1%	Paved County Road	generally clear.
Zandonella Total			**11%**		
Cedar Valley		Pleasant Valley	0%		
Century		Pleasant Valley	1%		
Combo	Lisanne	Pleasant Valley	1%		
Demyhig		Pleasant Valley	1%		
Doty		Pleasant Valley	1%		
Dusty		Pleasant Valley	1%		
Earnshaw		Pleasant Valley	0%		
Glee		Pleasant Valley	1%		
Jamal	Bluff	Pleasant Valley	1%		
Jennifer		Pleasant Valley	1%		
Kearns		Pleasant Valley	2%		
King Martens		Pleasant Valley	0%		
Lords Mine		Pleasant Valley	1%		
Moonshine Hill		Pleasant Valley	1%		
Peace	P Ct	Pleasant Valley	1%		
Pleasant Valley		Pleasant Valley	7%	Paved County Road	Could use some clearing
Ponderhill		Pleasant Valley	1%		
Posten		Pleasant Valley	1%		
Scotch Pine		Pleasant Valley	1%		
Sharon	Erin	Pleasant Valley	1%		
Taxi		Pleasant Valley	0%		
Tsa La Gi		Pleasant Valley	0%		
Victory Mine	Grand Victory, Jack Rabbit	Pleasant Valley	2%		
Westley	Wintergarden	Pleasant Valley	2%		
Wilderness	Irish Oak	Pleasant Valley	1%		
Pleasant Valley Total			**28%**		

Road	road group	3rd level	% of Total	Road Condition	Roadside Clearance
Abel		Hanks Exchange	0%		
Hanks Exchange	Lofty View, Racoon	Hanks Exchange	3%	Narrow (1 lane) bridge within 1st 1/2 mile. Paved to Rimrock, beyond that gravel or native, rough in places.	Some clearing needed locally
Livingstone		Hanks Exchange	1%	Gravel, good condition	OK
Nashville	Jack Rabbit, Wagon Master, Metate, Metate Ct, Meander, Calamity,	Hanks Exchange	7%	Mostly paved, rough native surface or gravel at distal end and a few side roads. Narrow in a few places.	Generally OK
No Walk		Hanks Exchange	1%	Paved and gated	
Ranch	Lents Hill, Kenwood, Troublemaker	Hanks Exchange	3%	1st half paved, 2nd half narrow gravel or native, rough in places	Generally OK
Rimrock	R Ct, Augustine, Westacre	Hanks Exchange	2%	Gravel, except near the distal end, becomes very narrow and rough.	Some clearing needed locally
Hanks Exchange Total			**17%**		

Attachment 2: Home Ignition Zone and Defensible Space Assessment

Home Ignition Zone Observations		Oak Hill Area Fire Safe Council
Home		
Roofing Material metal or Class A	>75%	Most homes have composition roofs. A few have metal roofs. The condition of the roofing materials is highly variable from fairly new to poor condition.
Soffit Vents screened	<25%	Only a few homes have soffits. Most have eave vents which are screened, but only a small percentage are to current standards.
Siding; Stucco, masonry or non-cumbustable siding	<25%	about 90% of homes have wood siding, although some may be fiber-cement. About 5% of homes are stucco.
Skirting material around bottom of home/ decks to protect underside	<25%	Only about <10% have appropriate skirting to protect undersides.
Attachments: wood or non-combustable materials (decks, fences, etc)	50-75%	Many homes have wooden decks attached on one or more sides.
Windows multi-paned	Unknown	Could not determine based on observations.
Leaf litter or other debris on roof or in gutters	25-50%	Generally not much leaf litter was observed, but some needles, Only very few had excessive leaf litter.
Gutter Type; metal	50-75%	Generally gutters appeared to be metal
0-5 Ft - Create combustible-free area immediately next to house		
• **Dead vegetation, leaves, ground debris removed near foundation** • **Hardscaping around perimeter** • **No wood chips or bark near foundation** • **No combustible trees or shrubs next to Home or no branches overhanging roof**	<25% combustible free	Most houses lacked a non-combustable zone within 0-5 feet of the home.
5-30 Ft- Use landscaping and breaks (dirt, cement, rocks) to decrease fire risk		
• **Fuel breaks such as driveways, walks, patios** • **Lawns and native grasses maintained** • **Vegetation spread out (shrubs and trees)** • **Ladder fuels (vegetation under trees) removed. Trees pruned of lower branches to 6-10' up** • **Plants, trees, shrubs, green (watered). No dead vegetation**	25-50%	Locally some residents have created defensible space within the 5-30 foot zone.

Attachment 2: Home Ignition Zone and Defensible Space Assessment (continued)

30-100 Ft- Use landscaping and breaks (dirt, cement, rocks) to interrupt fire spread. May need to work with neighbors		
• **No heavy accumulations of ground litter** • **No dead plant or tree materials** • **Storage sheds and outbuilding clear of vegetation** • **Mature trees have space between them** • **Trees 30-60 ft from home have at least 12 ft between canopy** • **Trees 60-100 ft from home have at least 6 ft between canopy**	25-50% combustible free	Fewer residents have created defensible space within the 30-100 foot zone. However, many of the homes that have created defensible space in the 5-30 ft zone have also created defensible space in the 30-100 ft zone.

Attachment 3: Additional needs and recommendations identified by the OHAFSC Planning Committee.

- **Education and Outreach** - there is a need for continued education and outreach to residents within the OHAFSC to increase awareness about creating and maintaining defensible space, hardening homes, how best to prepare for the potential of a wildfire and be ready for evacuation, the types of fire ignition sources that are most common in our community and ways to avoid starting fires during the highest risk periods, etc.
- **Emergency egress** - Besides the issues of insufficient roadside vegetation clearance, many individuals have raised concerns regarding insufficient road widths, the need for turnouts along narrow roads and the large number of one-way-in or dead-end roads. Residents have described the situation where potential alternative emergency evacuation routes have been blocked, closed or grown over from lack of maintenance by private land owners and the Bureau of Land Management. There is an opportunity to identify and map some of these emergency evacuation routes and to work with landowners to protect their private land interests while creating an emergency alternative route out from densely populated dead-end roads. The FRA Planning Committee recognized there may be a need for County assistance or legal aid to address this issue. Information about prior existing or potential emergency alternative routes should be shared with the Office of Emergency Services in order that these routes can be considered in emergency planning. The issue of Sheltering-In-Place (SIP) has been raised repeatedly. There is a need to identify the criteria for creating or mapping potential SIP sites and then sharing that information with residents and emergency services organizations. A third topic that has been raised is the need for coordination in evacuation of pets and livestock.
- **Emergency Communication methods** - Past experience in other fires have shown the importance of rapid notification regarding evacuation, emergency egress routes, etc. Many residents have asked about the use of sirens to help in the event of an emergency when telecommunication systems are down. Other notification means include ham or GMRS radios, neighbors-helping -neighbors through telephone trees or phone lists, checking on neighbors that have mobility restrictions, etc. There is also a need for reliable news source in the event of an emergency, and that people know how to access those news sources.
- **Fire Hydrants and/or Water Storage Tanks** - there are only a limited number of fire hydrants in the OHAFSC and most of them are clustered along Pleasant Valley Road. The OHAFSC should work with residents to increase the number and spacing of fire hydrants throughout the FSC boundary or consider ways to work with residents to have 2,000 to 3,000 gallong water tanks or larger (25,000 gallon) water storage tanks located in strategic locations within the FSC. As noted above, there are a number of small stock ponds located throughout the OHAFSC, and some of these have been used inthe past by helicoptors filling water buckets to fight fires. However, they may be low in water during the later part of the summer season and are not mapped or recorded to assist in their use. An effort should be made to map the locations of water tanks and stock ponds and provide this information to the El Dorado County Fire District and Office of Emergency Services, so that they can be used in an ememrgency, if appropriate.

- **Fuel Breaks** - Breaks in the continuous vegetation in strategic locations have been used to provide access for firefighters, to give firefighters a location to attempt to control the spread of fires in many areas. There is an opportunity to identify fuel breaks or shaded fuel breaks that fit within the desired condition for the OHAFSC, particularly in the areas of highest risk of fire ignition and spread. CalFire's 2014 Amador-El Dorado Unit Strategic Fire Plan identified the a 314 acre Vegetation Management Plan in the Ladies Valley Area, in the southern portion of the OHAFSC. This is an area of High Fire Severity Risk. Another area where vegetation management would be beneficial in reducing the risk of a wildfire spreading is in the Martinez Creek drainage, along the western boundary of the OHAFSC, The potential for fuel breaks extending beyond the boundaries of the OHAFSC should also be considered, in order to address topographic and fuel conditions across the broader landscape. The Ponderosa Way firebreak, constructed in the 1930's by the Civilian Conservation Corps, extended through the OHAFSC (Peabody, 1988), but was not maintained and is no longer effective.
- **Mobile Home Park** - There is a mobile home park within the OHAFSC, which has a unique set of concerns and risks due to the close proximity of the many homes there. The FSC Planning Committee, working with other FSC's and other mobile home parks may be able to assist in giving guidance and advice to those living in mobile homes within our area.
- **Hazard tree removal** - The OHAFSC has been fortunate in not having a major bark beetle infestation or other major episode of tree mortality across the entire community. However, in association with past droughts, there are pockets of dead and dying trees which pose a hazard to roads, power and telephone lines and other infrastructure. PG&E began taking an aggressive pro-active approach to dealing with hazard trees and other vegetation along existing above-ground power lines throughout El Dorado County. There is a need to continue to identify and mitigate hazard trees within our community.
- **Land Property Management** - There are a number of large acreage parcels within the OHAFSC, ranging from 5 acres to over 100 acres. There is an opportunity to reduce hazardous fuels on some of these parcels and to restore the vegetation to a more natureal, fire-resilient state through the use of grazing animals, prescribed fire, and other vegetation management means. In addition, there may be grants or other funding sources to help these large property owners implement some of these measures.