

## **ANNEX 13**

### **CHAPTER 2 STANFORD**

Stanford is a private research university in the northwestern Santa Clara Valley, adjacent to Palo Alto (Figure 13-0.1). The campus is 8,180 acres, large portions of which remain undeveloped. The campus includes a census designated place within unincorporated Santa Clara County and some land within the Palo Alto city limits. The campus also includes large portions of land in unincorporated San Mateo County. There are a number of campus landmarks that are considered community values at risk.

#### **ORGANIZATION AND JURISDICTION**

Stanford WUI area is an LRA, not an SRA (see **Error! Reference source not found.**). Wildland fire protection is solely the responsibility of the county. However, the area is not within the boundaries of a county local government fire protection organization (special district or county service area). PRC statutes for defensible space do not apply.

**Fire Protection Jurisdiction:** There is no local government fire protection organization for these areas. Local government fire protection falls under the jurisdiction of the County of Santa Clara but is not included in either the Central Fire Protection District, Los Altos Hills County Fire Protection District, or the South Santa Clara Fire Protection District (the three Board of Supervisor–governed fire districts in the county).

**Building Permits:** Since this is an unincorporated area, land use planning, building permit processes, and local ordinances and regulations are under the jurisdiction of the County Board of Supervisors. The County Fire Marshal has jurisdiction for new construction permit fire/building code approval and inspection. There are no maintenance or defensible space inspections conducted by the Fire Marshal.

**Emergency Response:** Stanford University has a private service contract with the City of Palo Alto to provide first responder services to the campus property. This agreement does not delegate the responsibility or authority of the county, but provides important quality emergency response.

#### **PLANNING TEAM PARTICIPATION**

CAL FIRE and Santa Clara County Fire Marshal serves as the CWPP Core Team planning process representative.

#### **SUMMARY**

Land use planning, building and fire codes are the jurisdictional authority of the County of Santa Clara Board of Supervisors. Enactment of WUI defensible space and WUI conditioned land use decisions rest with the Board of Supervisors.

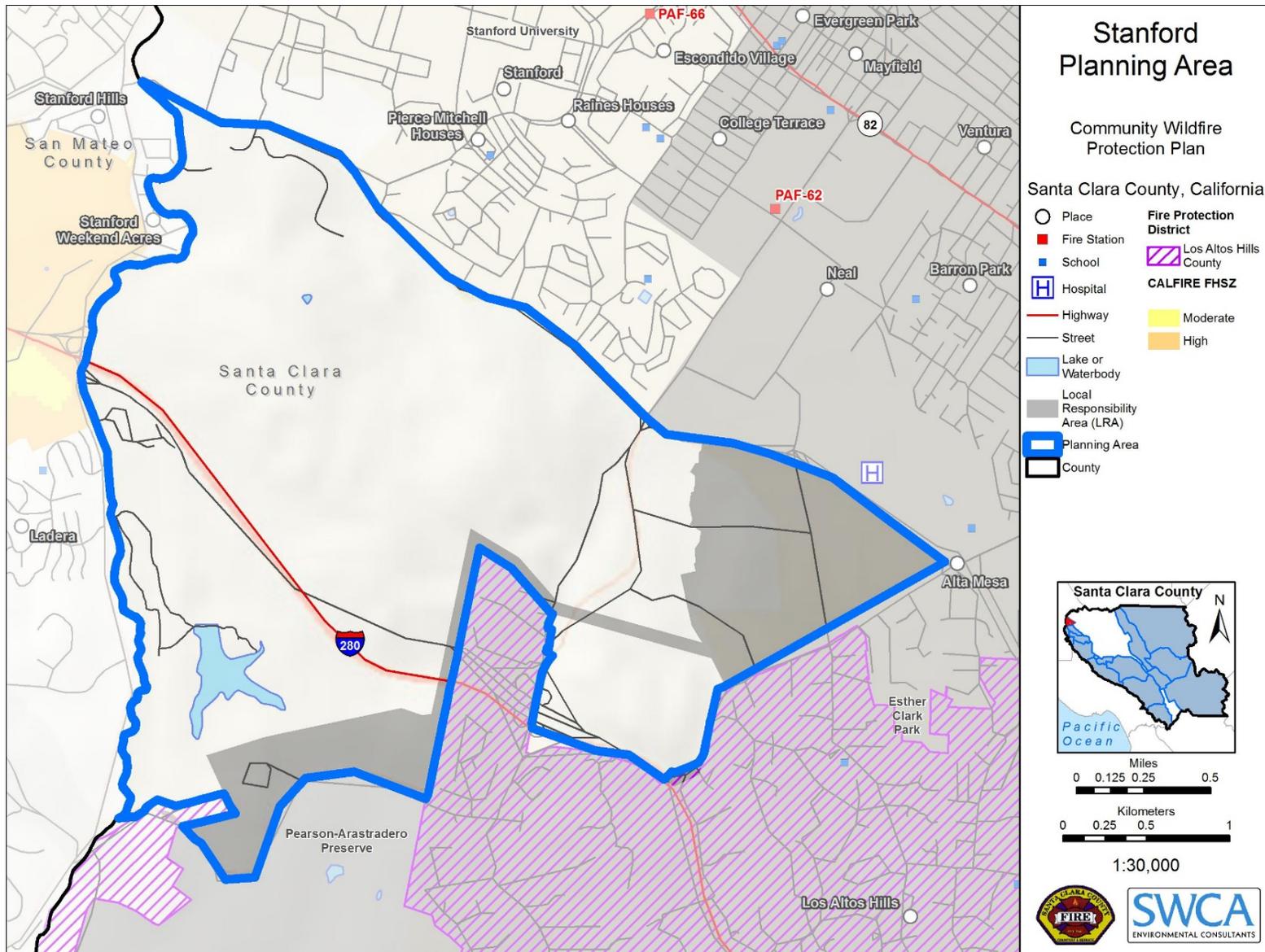


Figure 13-0.1. Stanford WUI planning area.

Even though the western portion of the campus is principally wildland oak woodland and grasslands, there have been no wildfire occurrences in excess of 300 acres on the Stanford campus reported to CAL FIRE<sup>1</sup>.

Defensible space ordinances are lacking. Palo Alto Fire Department and campus officials work cooperatively to provide defensible space under good property management principles.

## **WILDLAND URBAN INTERFACE AREA DESCRIPTION**

### **Wildland Urban Interface Area Defined**

The western portion of the Stanford campus is principally grass and oak woodland. The area is bounded by Junipero Serra Blvd on the east, San Mateo County Line on the northwest, Page Mill Road on the south, and Arastradero Road on the west.

There are critical infrastructure features in this area, including the Stanford radio-telescope dish, portions of the Stanford Linear Accelerator property, and the Carnegie Foundation. Interstate 280 runs through the middle of this WUI area.

This area epitomizes the statement about WUI fires: “it is not about the wildland vegetation that burns, but more about the consequence of what burns.” Hundreds of acres of grassland could burn in this area with little environmental consequence or fiscal damage; however, there could be significant damage to critical infrastructure or irreplaceable research facilities.

---

<sup>1</sup> CAL FIRE; Fire and Resource Assessment; fire.ca.gov; 2012.



**Figure 13-0.2. Stanford main campus (foreground), oak woodland, and radio-telescope (background)**

### ***FIRE HISTORY***

Stanford has not had a reported large fire on campus wildland areas; however, there have been ignitions on or adjacent to the campus. There have been several ignitions along the Interstate 280 corridor, which runs through the campus (see figure 11.5 Fire Ignitions).

The campus lands are classified as an LRA that is unclassified WUI FHSZ. The adjacent areas in Santa Clara and San Mateo counties are Moderate and High FHSZ. For additional fire history information, please see Figure 3.5 in the main countywide CWPP document.

### ***HAZARDOUS FUEL CHARACTERISTICS***

The vegetation in Stanford includes:

- Oak woodland, mixed conifer, montane hardwood, fire carried by understory fuels: slow-burning fire with low flame lengths.
- Annual grassland - native and non-native grassland < 4 feet tall: high rates of spread.

For fuel model information, please refer to Section 4.6.3 and Figure 4.3 in Chapter 4 of the main Santa Clara County CWPP document.

***NEIGHBORHOOD AND STRUCTURAL CHARACTERISTICS***

**Access:** Roads throughout the area are surfaced and of adequate width and turnaround. Most roads are of minimal grade with some short sections greater than 10% grade.

**Structural Characteristics:** Most buildings have ignition resistant or non-combustible roofs,

**Fuels:** Adjacent wildlands to the west and north are grass, and are managed every year by the City of Palo Alto (Figure 13-0.3 and Figure 13-0.4).

**Water supply:** Water supply is adequate throughout with hydrant systems.



**Figure 13-0.3. Adjacent wildlands are composed of grass and oak woodland fuels.**



**Figure 13-0.4. Stanford Dish located in adjacent wildlands**

## **EMERGENCY RESPONSE CAPACITY**

Stanford Campus receives first response fire/rescue services from the City of Palo Alto through a private service agreement.

## **PUBLIC EDUCATION AND OUTREACH PROGRAMS**

The City of Palo Alto has an active fire planning group that were involved in the development of the Palo Alto Foothills Fire Management Plan, updated in 2009. This plan does not cover Stanford. We encourage this group to engage Stanford in future fire management planning due to adjacent wildland issues that impact both communities.

## **POLICIES, REGULATIONS, ORDINANCES, AND CODES**

Stanford is an LRA and is not covered by state regulations. County ordinances are the only applicable wildland fire regulations. Responsibility for land use planning, building permits, policy, and ordinances continues to rest with Santa Clara County.

## **RISK/HAZARD ASSESSMENT**

Community hazard assessments include ratings of community conditions compared to best practices for WUI fire mitigation. Community hazard ratings include consideration of applicable state codes, local ordinances, and recognized best practices guidelines.

The National Fire Protection Association Standard 1144 (NFPA 1144) defines WUI hazards and risks at the community and parcel level. This plan utilizes components of NFPA 1144, California laws, and local ordinances to evaluate neighborhood WUI hazard and risk. PRC 4290 and 4291 address WUI community design and defensible space standards.

An on-the-ground hazard assessment was completed for Stanford. The following ratings are based on the NFPA 1144 structural hazard assessment form. Scores are rated as follows: (<40 = low, >40 = moderate, >70 = high, > 112 = extreme). Factors that contributed to the assessment are illustrated in tabular format below. Averages are taken across the community to give a rating for each parameters (individual parameter numerical ratings are not shown here, but instead are shown as a +, - or +/-). For more information on the methodology for the hazard assessment, please see Section 4.6.1 in Chapter 4 of the CWPP.

*Santa Clara County Community Wildfire Protection Plan  
Annex 13 – Unincorporated Areas without Local Fire Protection*

<b>Parameter</b>	<b>Condition</b>	<b>Rating</b>
Access	More than one road in and out	+
	Good road width and minimal grade	+
	Surfaced road	+
	Good fire access and turnarounds	+
	Street signs are present, some are non-reflective	+/-
Vegetation	Adjacent fuels: Light	+
	Defensible space: greater than 70ft around structure	+
Topography within 300 feet of structure	10% to 20%	+/-
Topographic features	Moderate concern	+/-
History of high fire occurrence	Low	+
Severe fire weather potential	Low	+
Separation of adjacent structures	Good separation	+
Roofing assembly*	Class A	+
Building construction	Non-combustible siding/combustible deck	+/-
	Building set back <30 feet to slope	-
Available fire protection	Water: hydrants present with good pressure	+
	Response: Station <5 miles from structure	+
	Internal sprinklers: none	-
Utilities	One above and one below ground	+/-
<b>Total</b>	<b>56 (Moderate)</b>	

In addition to the on-the-ground hazard assessment, the CWPP also includes a Composite Fire Risk/Hazard Assessment (Figure 4.6 in Chapter 4 of the CWPP), which uses fire behavior modeling to determine potential fire behavior and is based on fuel characteristics, topography, weather, and fire history. The Composite Risk/Hazard Assessment for the planning area is shown in Figure 13-0.5. For more information on the methodology for this assessment, please refer to Section 4.6.1 in Chapter 4 of the countywide CWPP.

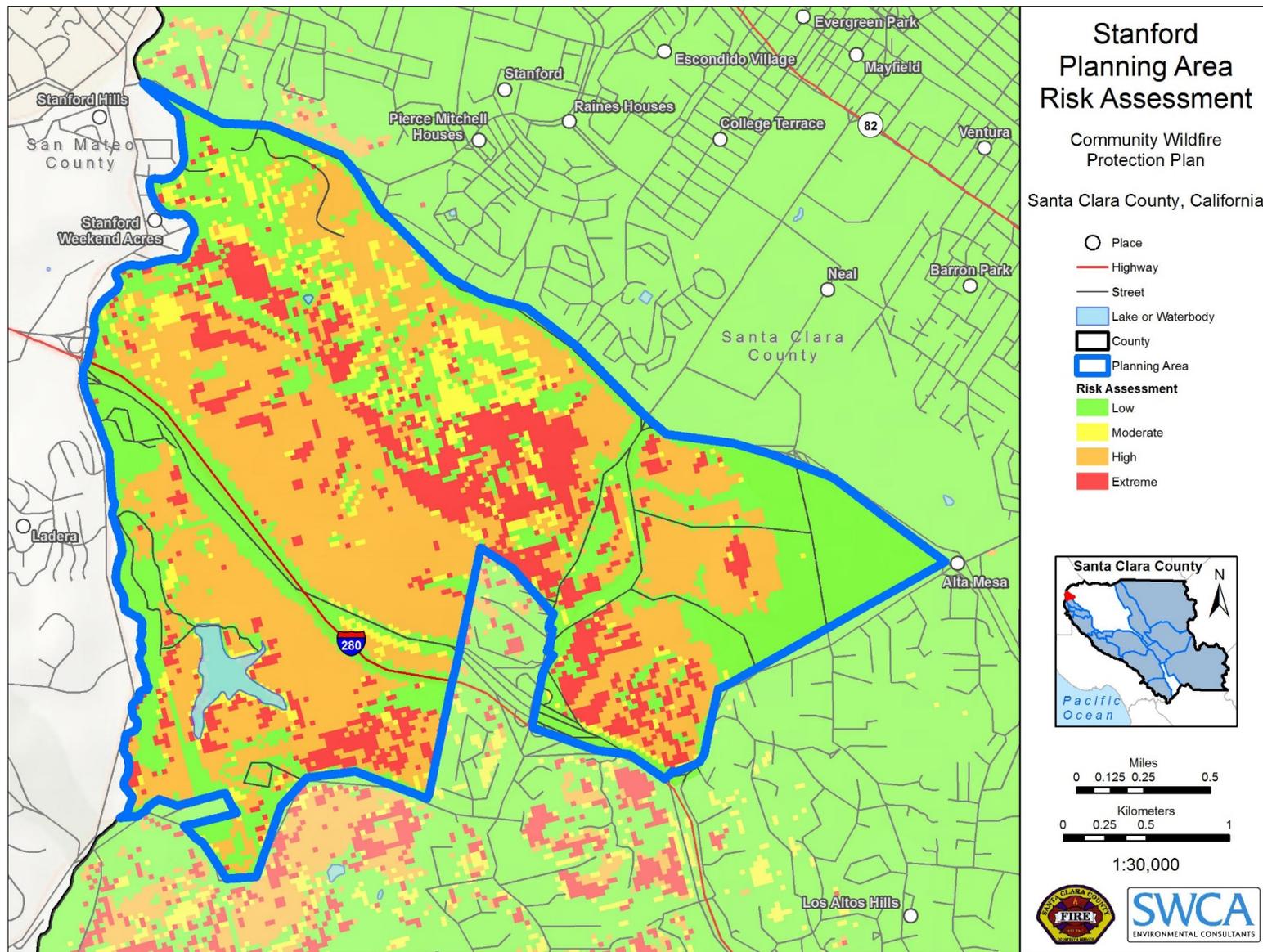


Figure 13-0.5. Composite Fire Hazard /Risk for Stanford.

## **PARCEL LEVEL RISK ASSESSMENT**

A model for determining parcel level risk and effect of mitigations has been developed through this CWPP project. The model can use information available through public record for basic analysis but can be further refined with a site visit with property owner for a thorough analysis of risk score. The County will be seeking funding to fully implement this parcel level assessment in the future. The goal is for the property owner to be able to use this analysis to determine the most effective steps they can take to take to reduce their risk. For more information refer to Chapter 4 in the countywide CWPP document.

## **IDENTIFY CRITICAL INFRASTRUCTURE AND COMMUNITY VALUES AT RISK**

There are many community values at risk associated with the Stanford University campus. However, the majority of the campus facilities are located within the landscaped urban area and have limited threat from wildfire.

There are critical infrastructure features in the WUI campus area, including the Stanford radio-telescope dish, portions of the Stanford Linear Accelerator Complex, and the Carnegie Foundation. Interstate 280 runs through the middle of this WUI area.

Extensive PG&E gas and electric facilities and distribution lines occur throughout this area, as do communication lines (telephone, DSL, and cable). Both the electric lines and communication lines are generally overhead, rather than buried, and thus are both a potential source of wildfires, especially during windy conditions, as well as infrastructure that can be damaged by wildfires.

## **MITIGATION PROJECTS AND PRIORITIZATIONS**

We direct the reader to the countywide CWPP for strategic level projects (Chapter 6) that would apply to Stanford.

*This page intentionally left blank*