



# Silverado Fire Safe Council

## Community Wildfire Protection Plan Update

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NAPAFIREWISE

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**April 12, 2024**

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## **Executive Summary**

The Silverado Fire Safe Council (SVFSC) has developed this Community Wildfire Protection Plan (CWPP); a CWPP is a community-based plan focused on identifying and addressing specific local hazards and risks from wildfire. It determines what is at risk and provides a road map of actions for a community to address the wildfire threat. It may also open up funding opportunities to implement the plan. CWPPs are authorized and defined in Title I of the Healthy Forests Restoration Act (HFRA), passed by Congress in 2003.

This CWPP acts as an update to the original Silverado CWPP which was created and approved in 2019. The area included within the SVFSC has had an active fire history, which brings focus to this plan. It is understood that not all fires can be prevented, but appropriate vegetation management and other mitigation practices can minimize the impact and destruction of wildfires.

### **Decision Makers**

The following community representatives collaborated in the development of the CWPP:

- SVFSC
- Napa Communities Firewise Foundation (NCFE)
- CAL FIRE/Napa County Fire Department
- Napa County Board of Supervisors

### **Community Evaluation**

A Community Evaluation was performed by NCFE and the SVFSC and prepared by Carol Rice, (Wildland Res Mgt) a wildland fire manager specializing in fire risk issues, and includes input from the SVFSC community, including local government, non-profits and local fire authorities. This evaluation serves as a foundation for recommendations for projects to minimize threat from wildfire to life safety and damage to homes and natural resources. It is based on a review of the terrain, weather, fuels, and fire history of the area, compared to the values at risk, and likely scenarios of fire ignition and spread.

## Introduction

Fire hazard is a special concern in the Silverado area in central Napa County. The area is located in the interface between wildlands and developed areas where fires may spread from wildlands to homes, possibly damaging structures or even threatening lives. Wildlands are subject to increased ignition potential from elevated levels of human activities. Most fires in the coastal mountains are human caused<sup>1</sup>.

The Silverado community boundary covers approximately 720 acres in south-central Napa County and is fully within the organized Silverado Fire Safe Council. To the north, the community is bordered by the fire safe councils Atlas Peak and Soda Canyon. To the east is the Mt. George FSC and to the west is the central Napa Valley. The entire Silverado area is fairly small and is almost entirely made up of residences and a central golf course off Highway 121 (Monticello Rd) and Atlas Peak Road.

Within this area, data records show approximately 1,151 parcels and 766 structures. Elevation ranges from 85 feet along the Napa Valley edge to over 420 feet in the northeastern portion of the of the FSC area. The area is best characterized as having gentle terrain throughout the area, with moderate to steep slopes in the northeast. It includes the Silverado Country Club & Resort Golf Course.

The residents of the Silverado community boundary are located throughout the area, with dense concentrations along the southern western and eastern edge, nearest to Highway 121. Outside the boundary, there are residents primarily located to the south and west, though not at the same density as within the community. To the east, there are more dispersed homes stretching into the Milliken Reservoir.

More details on each will be presented in the following sections.

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<sup>1</sup> <https://www.nps.gov/articles/wildfire-causes-and-evaluation.htm>

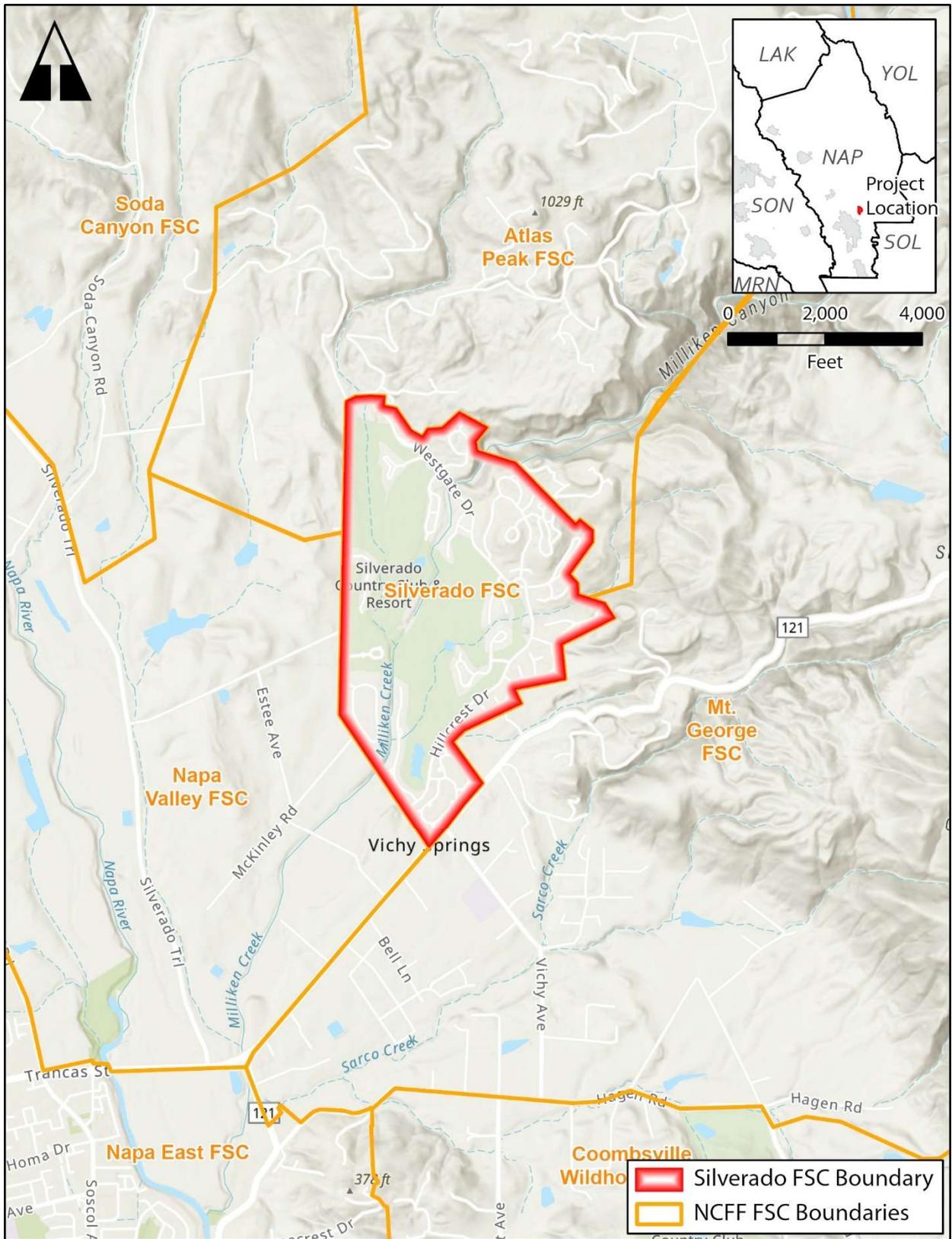


Figure 1. Area of Interest – Silverado community boundary (shown in red).

## Values at Risk

The most important values at risk are life safety, then improvements to property (residential structures), then natural resources. The Silverado Fire safe Council is fortunate to have several routes out of the area that can serve as evacuation corridors, however, life safety is always a concern because these routes can be expected to be congested during a wildfire evacuation.

Homes in Silverado are at risk from wildfire for a number of reasons. Many structures are generally older, dating before the requirement for ignition resistant construction. Most roofs are less flammable, however, wood siding, decks, and unprotected vents that are part of most homes all make the buildings prone to ignition.

**Homes:** Structures are located throughout the FSC boundary, except in the central golf course. Regardless of the suburban nature of the community, structures are located in the Wildland Urban Interface (WUI) throughout, particularly along the eastern edge abutting Milliken Canyon. Also, only a few homes have long narrow driveways, with only one ingress/egress route.

Other values at risk include the historic Silverado Mansion and the entire hospitality facilities, along with golf courses, and any home offices, and wineries and nearby vineyards.

The Fire safe council performed a risk assessment as part of an application to be recognized as an NFPA Firewise USA community. The following are the results of this risk assessment, which indicates the values at risk from wildfire in terms of structures:

- Greater than 75% of homes have metal, tile, or Class A asphalt or fiberglass shingles
- Greater than 75% of homes have non-combustible soffit vents with mesh or screening
- 50–74% of homes have skirting underneath
- 50–74% of homes have NO wooden attachments
- 50–74% of homes have multi-paned windows
- 50–74% of homes have cleaned and maintained their roof and gutters
- Greater than 75% of homes have metal gutters
- 25–50% of homes have treated vegetation and created a combustibile-free area
- Greater than 75% of homes have treated vegetation
- Greater than 75% of homes have treated vegetation

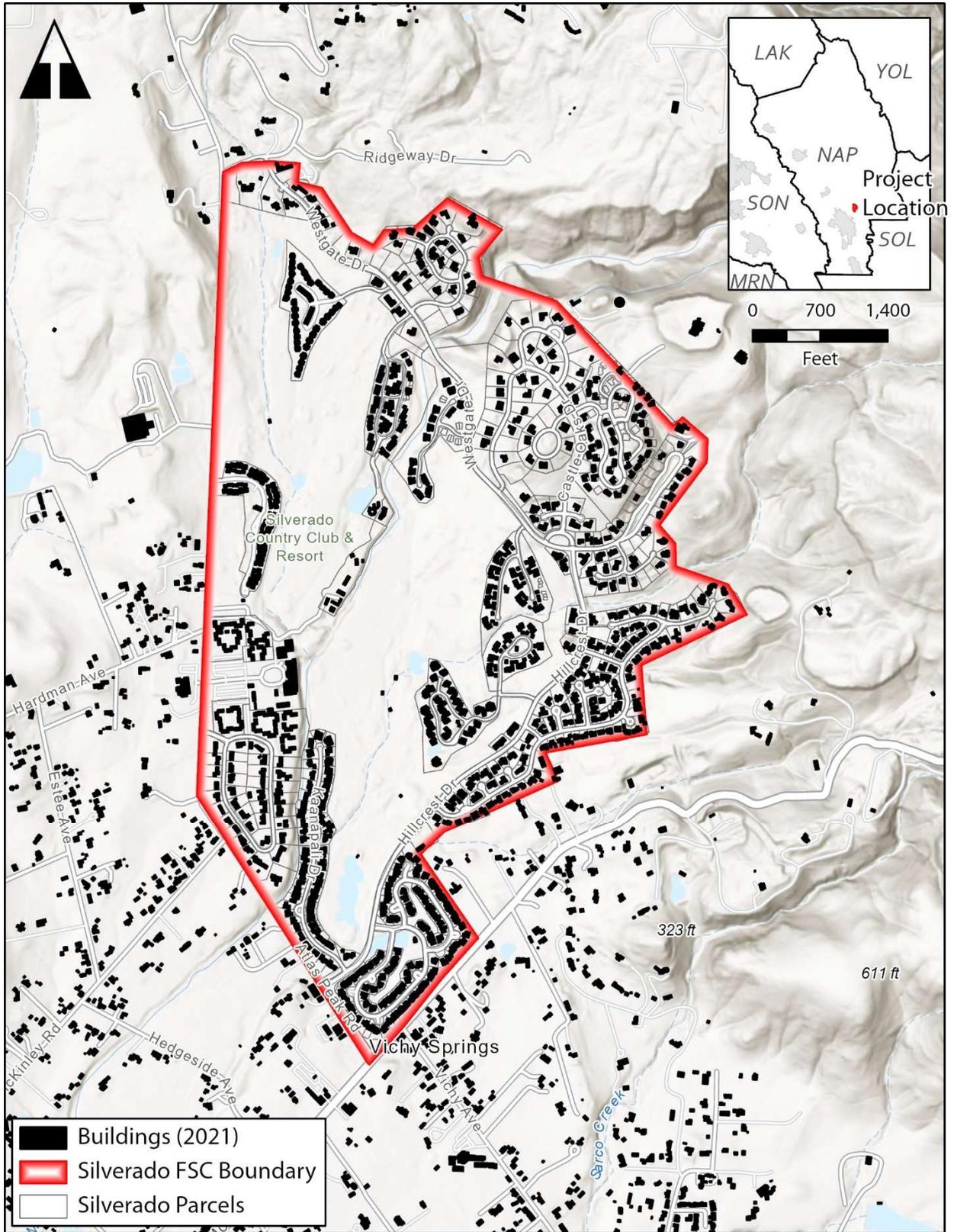


Figure 2. Structures (shown in black) within Silverado community boundary.

**Land Use:** The Napa County parcel database shows that Silverado is dominated by the golf course and common lands. The golf course (Land Use category Motel B & B) along with common areas, right of ways, and vacant lands account for 69% of the lands within Silverado and are concentrated in the western central part of the community.

Residential lands account for the remaining 31% of the total area. As stated before, these are mostly surrounding the golf course, concentrating to the southwest and southeast. The majority of these are condominiums and townhouses with an almost equal number of single-family residences (90% of the number of parcels).

There is no agriculture (vineyards) within the community.

This parcel data may not be completely accurate because rebuilds of the ~100 structures destroyed in the 2017 Atlas Fire – especially in Westgate and in the Silverado Highlands - may not be reflected in the table below.

*Table 1. Number of parcels and county land use within the Silverado area (Napa County GIS Open Data Portal, accessed in January 2024).*

Category	Acres	Parcel Count	Percent
<b>COMMERCIAL</b>	282.87	2	43%
<b>MOTEL - B &amp; B</b>	282.87	2	
<b>OTHER</b>	102.57	36	16%
<b>CONDOMIN/TOWNHOUSE COMMON AREA</b>	102.57	36	
<b>RESIDENTIAL</b>	201.03	1031	31%
<b>CONDOMINIUMS - TOWNHOUSES</b>	4.55	145	
<b>CONDOMINIUMS-TOWNHOUSES</b>	10.12	439	
<b>RURAL RES &lt; 5 AC W/1 RES</b>	1.25	3	
<b>SFR-DIRECT ENTRY SALES PROG</b>	22.82	115	
<b>SINGLE FAMILY RESIDENTIAL</b>	161.25	327	
<b>TWO DWELLING UNITS</b>	1.04	2	
<b>ROW</b>	12.5	5	2%
<b>IMPRVD LAND R/W</b>	2.81	4	
<b>VACANT LAND R/W</b>	9.69	1	
<b>VACANT</b>	59.72	77	9%
<b>VACANT COMM W/MISC IMP</b>	9.84	1	
<b>VACANT LAND R/W</b>	18.63	12	
<b>VACANT LAND RURAL</b>	0.35	3	
<b>VACANT LOT RESIDENTIAL</b>	28.49	57	
<b>VACANT LOT W/MISC IMP</b>	2.41	4	

## Topography

Topographic features - such as slope and aspect (orientation with respect to sun and wind) and the overall form of the land - have a profound effect on fire behavior. Topography affects a wildfire's intensity, direction, and rate of spread. An area's topography also affects local winds, which are either "bent" or intensified by topographic features. Topographic features can also induce daily upslope and downslope winds. The speed, regularity, and direction of these winds (and other winds) directly influence the direction of wildfire spread and the shape of the flaming front.

For example, fires burning on flat or gently sloping areas tend to burn more slowly and to spread more horizontally than fires burning on steep slopes. This makes ridgetop positions more vulnerable than valleys.

Since it is so small, the community area encompasses a narrow range of slopes and aspects. Slopes range from less than 10% within the golf course area and along the lower sections of Milliken Creek. However, slopes do increase to above 100% in the northeastern hills of the community and along the upper reaches of Milliken Creek.

To the east of the community, Milliken Canyon has a northeast to southwest orientation, funneling winds directly into the community before turning to the north, leading to Milliken Reservoir. Further east is a substantial ridge forming a barrier between the community and Wooden Valley.

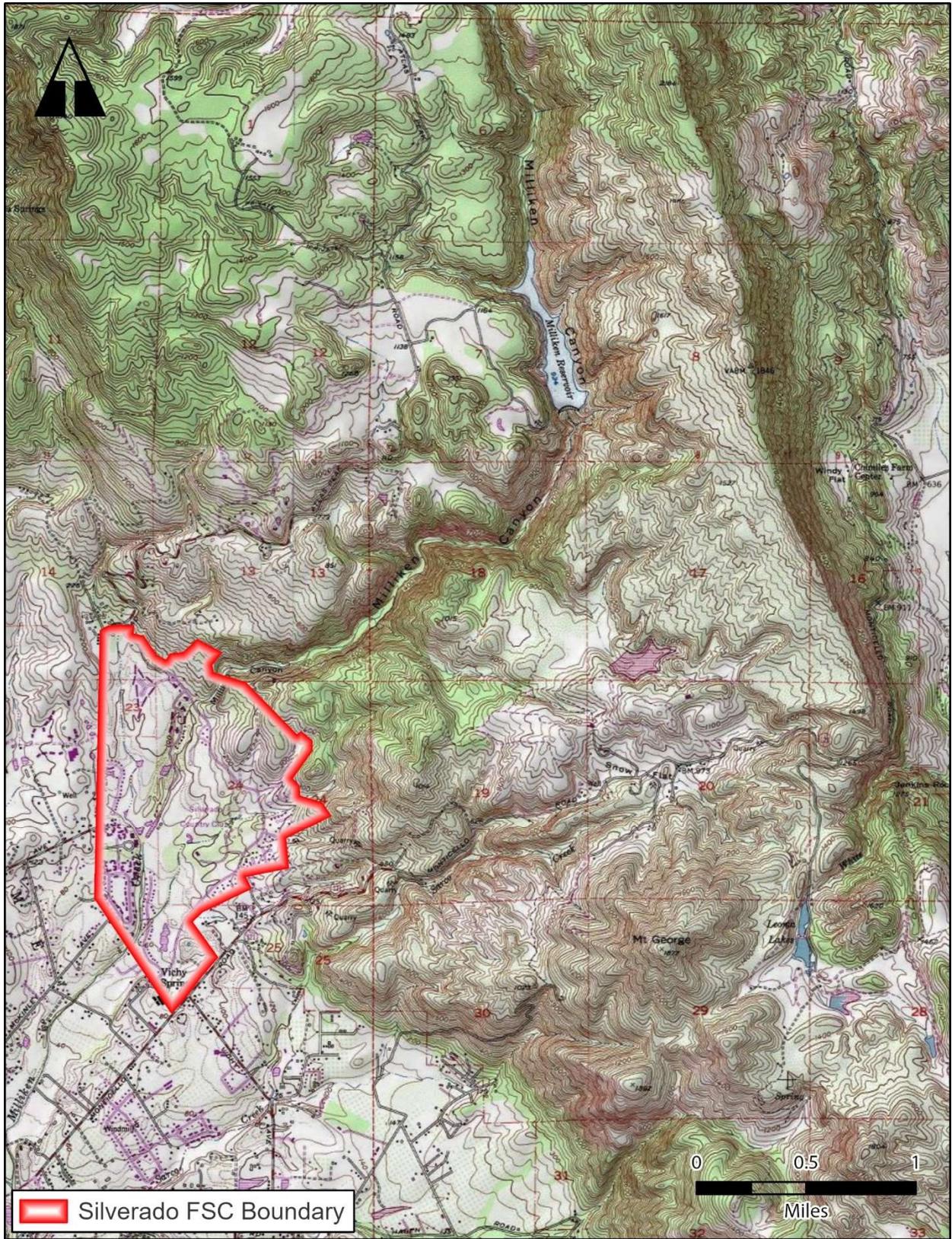


Figure 3. USGS Topographic map of the Silverado area (boundary shown in red).

## **Orientation of the canyons**

- Milliken Canyon: This canyon is relatively small, but it leads directly into the community, starting in the north in Foss Valley, going south to Milliken Reservoir before orienting to the southwest. The lower portion is aligned with the predominate winds from the southwest and the more concerning Diablo winds from the northeast.
- Sarco Creek/Monticello Rd/Highway 121 Corridor: This is a moderate pass between Napa Valley and Wooden Valley. While it is not a significant geographic feature, it is also more or less aligned in the northeast to southwest orientation and is the primarily evacuation route for this community.

The Silverado area is split between the Milliken Reservoir watershed and the Mouth of Napa River watershed. Milliken Creek is the primary creek of this community.

More details of the terrain follow in the discussion of weather.

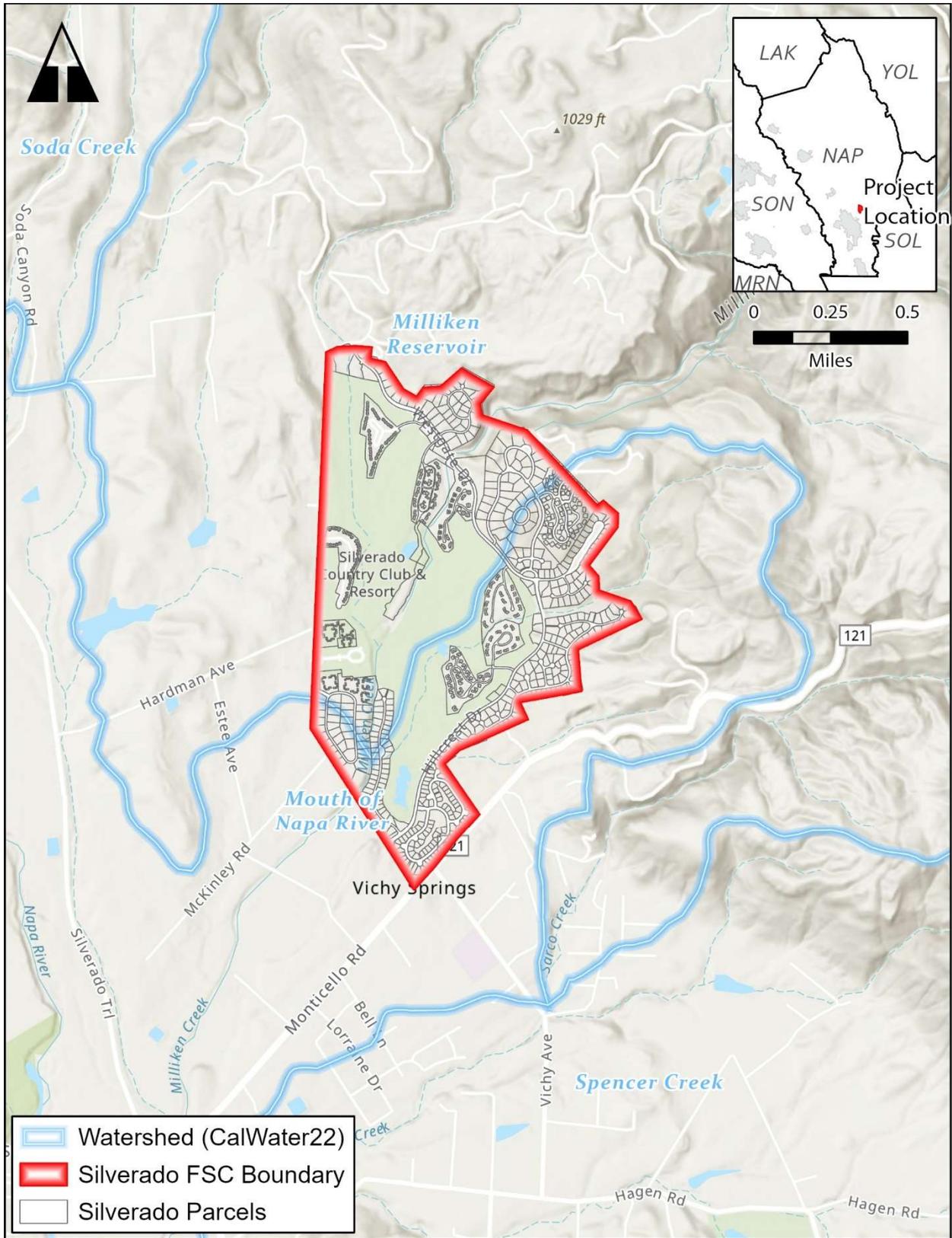


Figure 4. Watershed map of the Silverado area (boundary shown in red).

## **Weather**

Weather conditions significantly impact both the potential for ignition and the rate, intensity, and direction in which fires burn. The most important weather factors used to predict fire behavior are wind, temperature, and humidity.

### **Temperatures and Humidities**

Summer days are usually warm but comfortable; temperatures normally range from lows in the 40's and to highs in the 90's, with an occasional high reaching a maximum of 105 degrees Fahrenheit. Humidity can drop to the single digits in the summer and fall.

The Silverado area of interest lies in a relatively protected area and would be subject to occasional episodes of several still, stagnant air formed by stationary highs during summer months. This overall weather pattern -- characterized by continuous high temperatures and low relative humidities -- enhances the possibilities of ignition, extreme fire behavior and extreme resistance to fire control.

### **Winds**

The most important influence on fire behavior is wind. Wind can greatly affect the rate of fire's spread and the output of a fire. Wind increases the flammability of fuels both by removing moisture through evaporation and by angling the flames so that they preheat the fuels in the fire's path. The direction and velocity of winds can also control the direction and rate of the fire's spread. Winds can carry embers and firebrands downwind that can ignite spot fires ahead of the primary front. Gusty winds cause a fire to burn erratically and make it more difficult to contain.

Wind will tend to follow the pattern of least resistance and is therefore frequently deflected and divided by landforms. Canyon slopes produce pronounced daily up-canyon and down-slope winds caused by differential heating and cooling of air during the day. This occurs region-wide and on a local scale.

Much of the area is characterized by northwest-to-southeast aligned ridges with several peaks in the southern portion of the area. These ridges slow the regionally dominated southwesterly winds. However, strong winds from the northeast could produce strong up slope and erratic winds. The southern half has peaks and canyons that can align with the predominate wind direction (southwest-northeast), acting as funnels for strong afternoon winds or the less common Diablo winds from the northeast.

The winds that create the most severe fire danger typically blow from the north, usually in October. Winds from the east and north bring low humidity and elevated fire danger and can wreak havoc on the forested and chaparral covered areas, causing fire to spread to the south.

These winds are the same ones that blew during the largest fires in Napa County; an unnamed fire in 1939 follows the pattern of larger fires influenced by these northeasterly winds. Those larger fires include the C. HANLY fire in 1964 along with its companion fire in 1965, the P.G. & E. #10 fire. Again, in 1976 and 1982, two fires, the IDA CLAYTON fire and the SILVERADO fire also started under these conditions. More recently, the TUBBS and NUNS fire in 2017 and the GLASS fire in 2020 also followed this pattern and burned substantial parts of Napa County.

These northeasterly events generally last from 15 to 35 hours, but in 2000, 2003, 2005, 2017, 2018, 2019, and 2020 these events in October and November lasted for 5 to 14 days. This type of wind could “push” a fire from the upper eastern slopes of Napa Valley down across into the vineyards on the valley floor to the higher slopes to the west and beyond into Sonoma County.

Any southwestern-facing aspect of the Silverado area can exacerbate its risk from the Diablo winds. This is because these foehn or subsiding winds accelerate with decreasing elevation.

## Vegetation

The 2016 Vegetation Map of Napa County<sup>2</sup> (updated from the 2004 version) was used as reference for this evaluation. There are four main vegetation categories within the Silverado area along with four non-veg types (agriculture, developed, rock outcrop, and streams and reservoirs). The major vegetation categories mapped are listed in Table 2.

*Table 2. Vegetation acres by major vegetation categories within the Silverado area (Vegetation Map of Napa County).*

<b>Vegetation Major Category</b>	<b>Acres</b>	<b>Percent (%)</b>
<b>Agriculture</b>	0.84	0.1%
<b>Developed</b>	645.48	90%
<b>Grassland</b>	1.21	0.2%
<b>Oak woodlands</b>	18.19	3%
<b>Riparian woodland</b>	44.79	6%
<b>Rock Outcrop</b>	0.61	0.1%
<b>Shrubland</b>	2.69	0.4%
<b>Streams and reservoirs</b>	6.57	0.9%

In addition, the landscaped environment surrounding buildings and homes includes vegetation not captured in the vegetation.

Each vegetation type burns differently, based on the amount of biomass available to burn, the distribution of biomass in the vegetation, as well as the moisture and oil content of the foliage and dead material. A discussion on each major type follows the map on the next page.

Note: the tables and maps presented here reflect pre-2020 conditions.

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<sup>2</sup> [https://data-cdfw.opendata.arcgis.com/datasets/b9855bea85c14190ab030da86441301c\\_0/explore](https://data-cdfw.opendata.arcgis.com/datasets/b9855bea85c14190ab030da86441301c_0/explore)

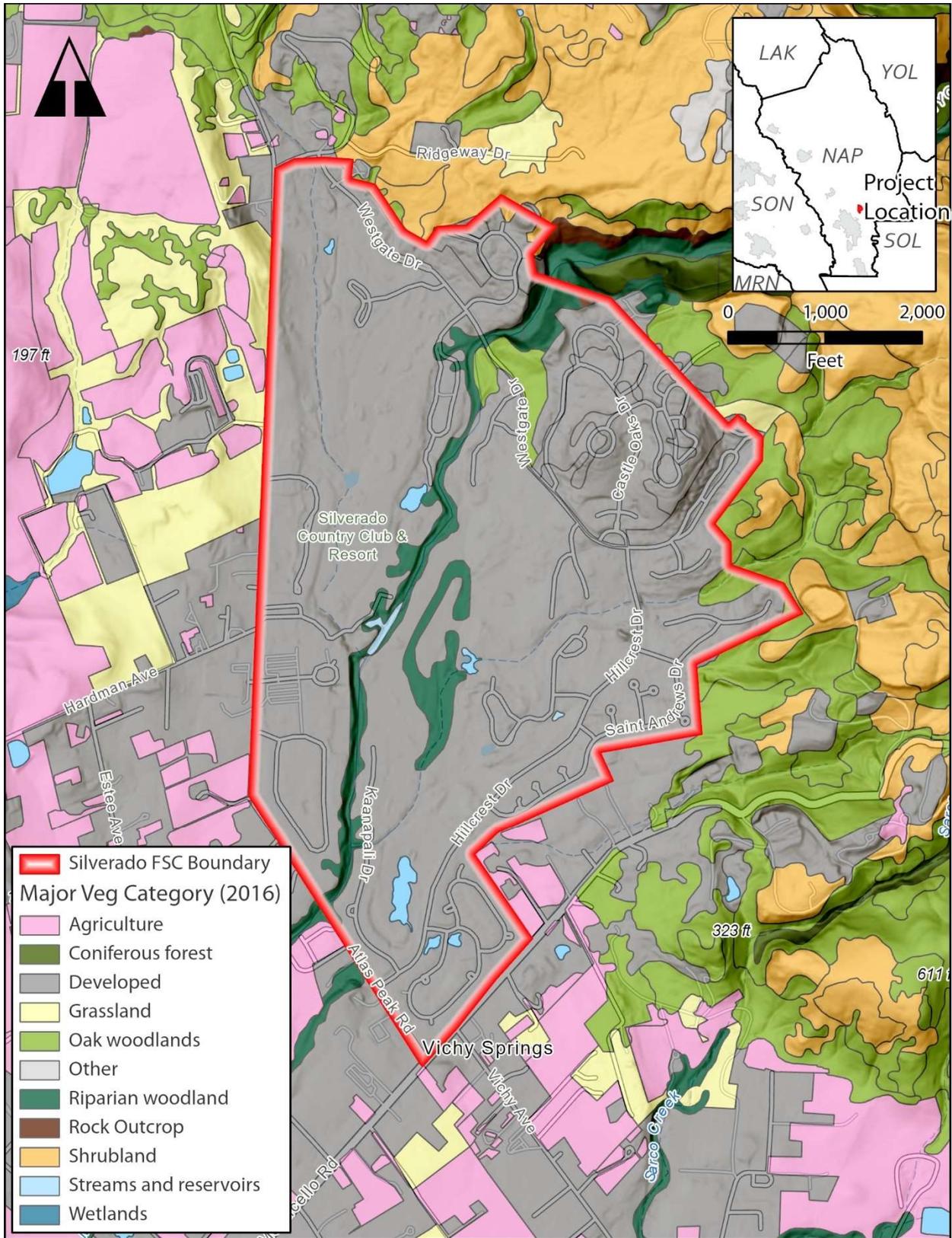


Figure 5. Vegetation map – Silverado area (boundary shown in red) (Napa Vegetation Map, 2016).

**Riparian Woodland:** 6% of the Silverado area is mapped as Riparian Woodland, which occurs on the banks of Milliken Creek within the golf course. In most areas, dense canopies, with dense vegetation under the canopies, typify these riparian woodlands and includes these types: Valley Oak - (California Bay - Coast Live Oak - Walnut - Ash) Riparian Forest, Valley Oak - Fremont Cottonwood - (Coast Live Oak) Riparian Forest, and White Alder (Mixed Willow - California Bay - Big Leaf Maple) Riparian Forest.

Fire intensity, flame lengths, and scorch heights are usually low to moderate in riparian woodlands depending on fuel moisture. Slow-burning surface fires (approximately two-feet per minute) are carried in the compact leaf litter layer. When a well-developed shrub layer exists, these fuels can pose fire hazards under severe weather conditions, e.g., those conditions involving high temperatures, low humidities, and high winds. If the shrubs develop under oaks, torching is likely to occur because of the ladder fuels that allow a fire to burn from the shrub to the tree crowns.

**Oak Woodland:** 3% of the Silverado area is mapped as Oak Woodland, which occurs on the flanks of hillsides and ridgetops throughout the area. In most areas, dense canopies, with little or no grass or shrubs under the canopies, typify these oak woodlands. The tree canopy in the lower reaches of the drainages is dominated by coast live oak, but also includes blue oak, valley oak, California bay, madrone, and canyon live oak. In addition, there are occasional pines, big leaf maples, and black oaks. In more exposed areas, where the canopy opens up, shrubs are dominant in the understory.

Fire intensity, flame lengths, and scorch heights are usually low in oak woodlands. Slow-burning surface fires (approximately two-feet per minute) are carried in the compact leaf litter layer. Low flame heights (less than one foot) are the rule. Only under severe weather conditions involving high temperatures, low humidities, and high winds do the fuels pose fire hazards in this vegetation type. Leisurely spread rates, combined with the relatively short flame lengths of the predicted fire behavior produce a manageable, moderate fire hazard.

However, when shrubs are allowed to develop under the hardwoods, these fuels can pose fire hazards under severe weather conditions, e.g., those conditions involving high temperatures, low humidities, and high winds. If the shrubs develop under oaks, torching is likely to occur because of the ladder fuels that allow a fire to burn from the shrub to the tree crowns. Foliage of both bay and coast live oak can be very flammable when fire reaches the crowns.

**Shrubland:** Shrubland occupies 0.4% of the Silverado area and can be found at the extreme northeastern part of the community and beyond. While these distinct areas were mapped as Shrubland, brush exists throughout and often contributes to other vegetation types described in this document. The specific mapped alliances only include Chamise Alliance.

Brush produces severe fire behavior, with flames longer than 20 feet in length. Intense, fast-spreading fires in chaparral burn the foliage as well as the live and dead fine woody material in the brush crowns. The foliage is highly flammable and dead woody material in the stands significantly contributes to increased fire intensity.

This fuel type constitutes the highest hazard. Direct attack is not possible, and containment efforts would need to rely on backfiring or suppression strategies other than line building because the perimeter of the fire is likely to grow faster than a line could be built. In addition, spotting is likely in chaparral which will present even more challenges to suppression efforts.

**Annual Grasslands (Herbaceous):** Accounting for only 0.2% of the Silverado area, annual grasslands were mapped in the northeastern part of the community, but it is also throughout as scattered pockets in oak woodlands and shrublands. Grasses are flash fuels and fire spread can be rapid through herbaceous areas, but these fires can be easy to spot and contain.

**Landscaping:** Landscaped areas -- being closest to homes -- may make the greatest impact on survivability of a house during a fire arising in wildlands. Landscaped areas either (1) are moist, thus will not likely burn; (2) contain large amounts of fuel which will burn with great intensity; or (3) are landscaped with fire resistant plants, and only burn slowly with little heat release.

While research results regarding fire resistance of landscape plants are meager, several important generalities have surfaced. First, the overall volume of biomass as well as the spacing and design of the garden is more critical than the species selected. Horizontal spaces between planting masses and the house are important components of a fire safe landscape. Similarly, vertical spacing between tree branches, shrubs, ground cover and the structure (particularly windows) are also part of a well-designed garden.

Maintenance of landscaped areas is necessary to remove dead material and to maintain vertical and horizontal spaces. Neglect of landscape maintenance can lead to a significant worsening of the fire hazard closest to the structure.

Landscaping in the Silverado FSC is generally consistent with fire safety principles. A few residences in each neighborhood have abundant vegetation that can endanger adjacent and nearby residents if they are within a few hundred feet of each other.

## **Predicted Fire Behavior**

Flame lengths are expected to be high (over 12 feet) because of the combination of heavy fuels, especially in the mixed forest and chaparral. Where a well-developed understory is present under the oak canopies, fires are also expected to burn with high intensity.

Fires can also be expected to burn fast when they are propelled by dry grass and chaparral. Vineyards can moderate both the fire intensity and fire spread but would only provide good suppression opportunities for safe evacuation where they are not small in comparison to the tracts of uninterrupted vegetation.

The distribution within an area of expected flame lengths can be predicted using public-domain software and data. FlamMap<sup>3</sup> was used to model fire behavior using a county-wide dataset developed from the Napa County Vegetation Map<sup>4</sup>.

While the fuels data that is the underpinning of fire behavior predictions was mapped in 2020, the information presented below does not reflect the activities that modify fuels and corresponding fire behavior. The reader should keep in mind that many hazard reduction projects have been implemented around roads and in fuelbreaks, as depicted in Figure 11.

### **Predicted Flame Lengths**

Long flame lengths can be expected in dense oak forests where understory is present. Golf courses greens and areas of well-maintained defensible space can be expected to burn with low intensity even under the most extreme conditions. Flame length most directly relates to the ability of a firefighter to safely attack a fire; flames longer than eight feet prevent safe, effective direct attack. Flame length is also most closely related to structural damage – the higher the flame length, the more likely a structure could be lost.

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<sup>3</sup> <https://www.firelab.org/document/flammap-software>

<sup>4</sup> <https://ncff-cwpp-dms-usa.hub.arcgis.com/maps/b2de24b3562e4e27b0fba2921e2c9e4/explore>

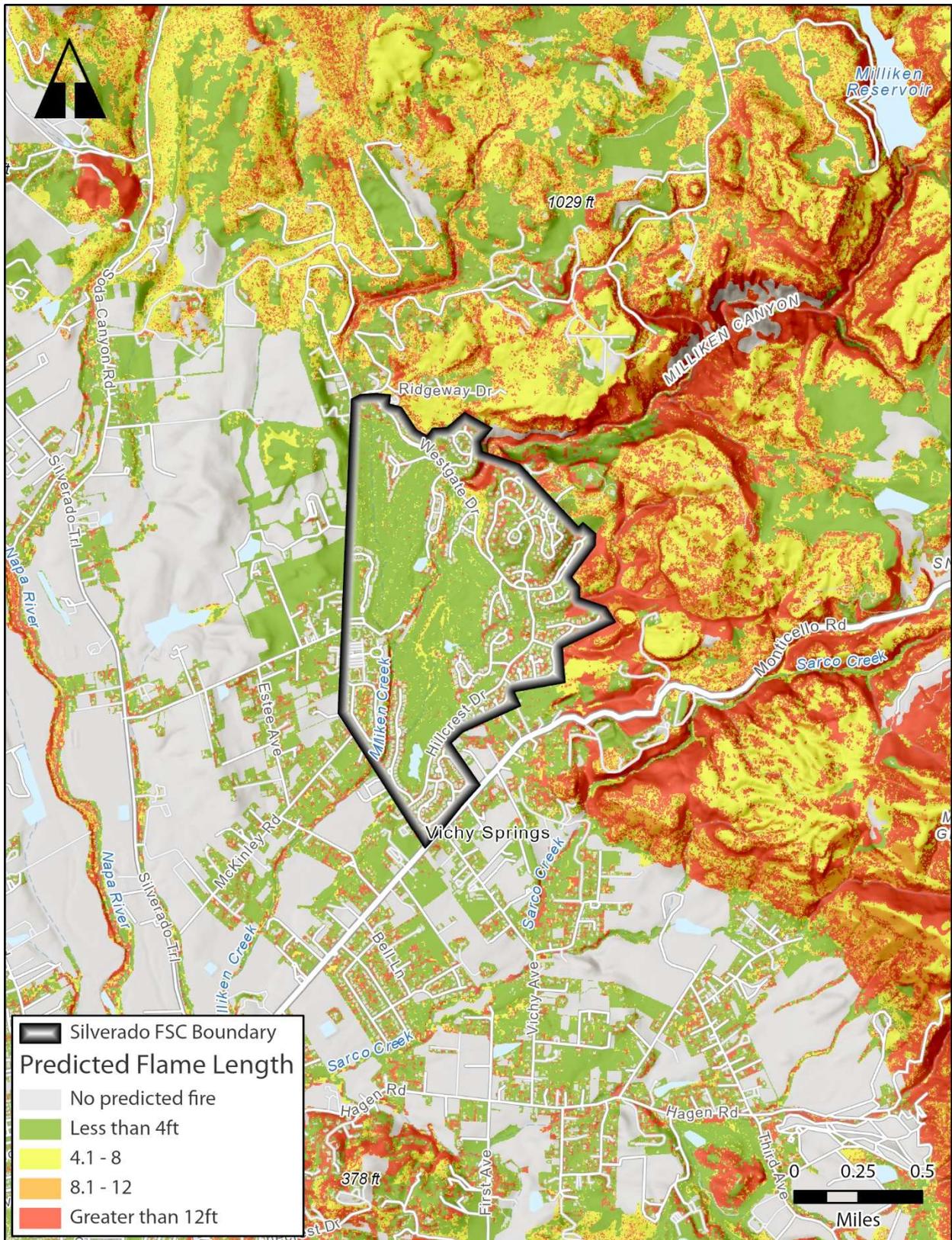


Figure 6. Predicted flame length (feet) map (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures). Silverado area boundary (shown in black).

80% of the area has a predicted flame length of less than 4 ft or no predicted fire when predicting for a northeasterly wind at 15 miles per hour. This leaves 20% of the area predicted to have more than 4-foot flame lengths. Of those areas, 12% are predicted to have greater than 12-foot flame lengths or no predicted fire.

The higher flame lengths are concentrated in the woodlands and shrublands in the northeastern part of the community as well as between homes where tall vegetation is present. The lower flame lengths are distributed throughout the area, occurring mostly along the golf course along with landscaped and developed areas as well as locations with some shelter from winds.

Note that the no predicted fire category accounts for agriculture and developed areas (includes vegetation in residential parcels) that may indeed burn – as evidenced in many of the recent fires in Napa County. In particular, no-till vineyards provide more potential fuels than vineyards with bare earth.

*Table 3. Predicted flame length by category and area (in acres) within the Silverado area (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures).*

<b>Predicted Flame Length</b>	<b>Acres</b>	<b>Percent (%)</b>
<b>No predicted fire</b>	115.61	16%
<b>Less than 4 ft</b>	462.30	64%
<b>4.1 – 8 ft</b>	39.49	5%
<b>8.1 – 12 ft</b>	18.76	3%
<b>Greater than 12 ft</b>	85.67	12%

### **Predicted Crown Fire Activity**

While both the coniferous and oak forests can torch, hardwoods are less likely to have fire reach to the tree crowns, unless vegetation is burning underneath. Crowning potential is crucial. When fires spread into crowns, thousands of embers are produced and lofted into ignitable fuels, often overwhelming fire suppression personnel.

For the Silverado area, a very small area is predicted to have fire spread within the tree canopy (tree-to-tree or crown fire), which is rare in hardwoods. Areas with higher density of coniferous forests are most at risk of torching and crown fires. These areas are located east of the community persist in canyons.

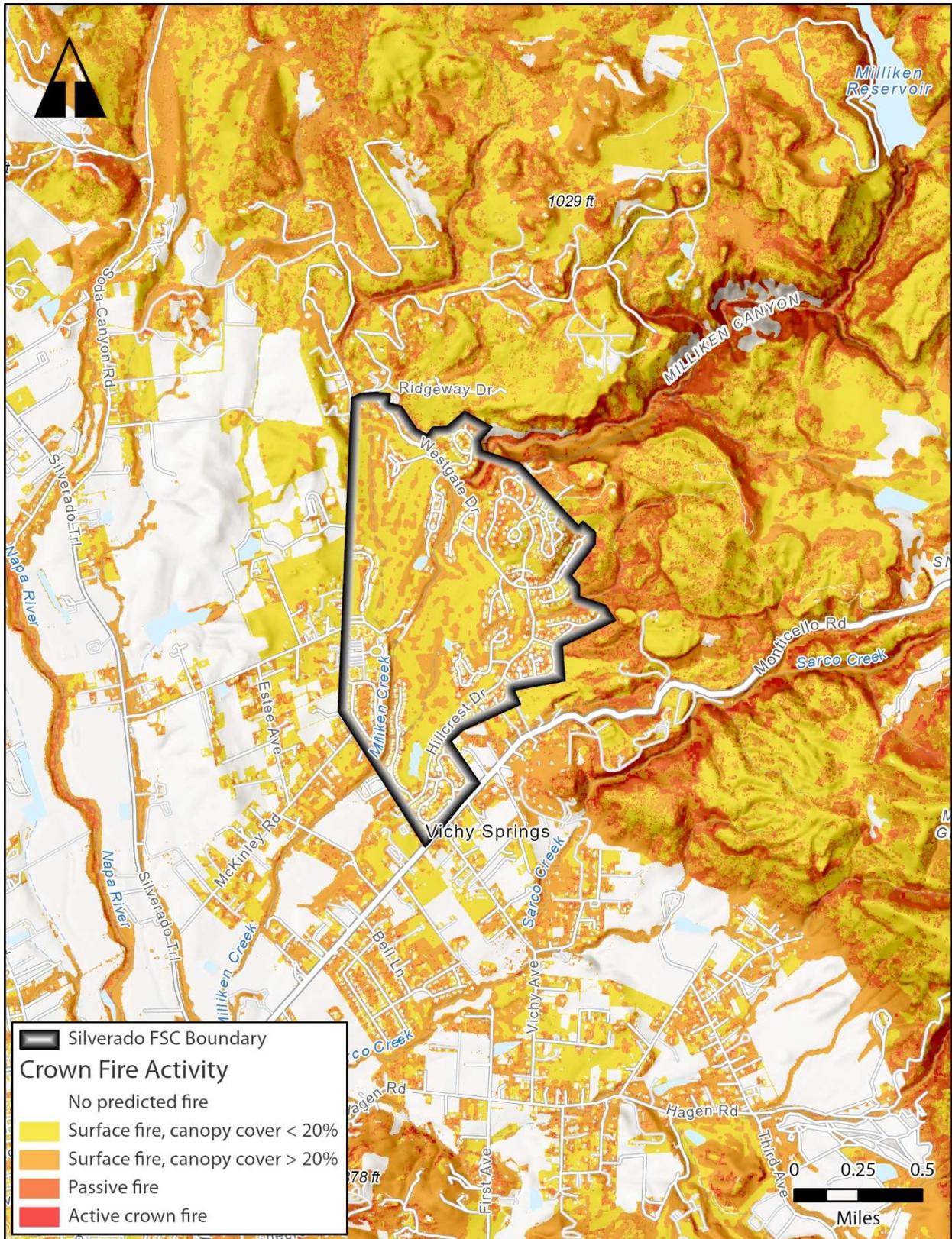


Figure 7. Predicted crown fire activity map (based on LANDFIRE landscape version 2.0 with a Northeast wind at 15 mph with low fuel moistures). Silverado area boundary (shown in black).

*Table 4. Predicted crown fire activity (or fire type) by category and area (in acres) within the Silverado area (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures).*

<b>Crown Fire Activity</b>	<b>Acres</b>	<b>Percent (%)</b>
<b>No predicted fire</b>	115.61	16%
<b>Surface fire canopy cover &lt; 20%</b>	281.37	39%
<b>Surface fire with canopy &gt; 20%</b>	283.08	39%
<b>Torching fire (passive crown fire)</b>	39.94	6%
<b>Crown fire</b>	1.82	0.3%

A combination of no predicted fire and surface fire in a canopy cover of less than 20% accounts for 55% of the Silverado area. These areas are concentrated in the golf course areas of Silverado as well as between homes.

Of the places predicted to have only a surface fire, we identified those areas with a higher canopy (over 20%) to highlight areas that do not torch but are likely to. These areas account for 39% of the predicted surface fire. Places where torching is predicted account for another 39% of the total area. These are predominantly on steep mid-slopes and places where the vegetation is not protected from strong winds. They occur throughout the Silverado area and surround many of the residential plots in the northeastern part of the community. And lastly 0.3% of the area is predicted to have active crown fire. Active crown fire is predicted on the steepest north- and east-facing slopes throughout the area, particularly along the canyon walls.

## Fire History

In the past decades, many fires have been recorded occurring near the Silverado area. Most notable are the Atlas fire of 2017 and the Atlas Peak fire of 1981.

Large fires have directly impacted most of the area within the Silverado community. The fire history map shows that the northeaster part of the neighborhood was last visited by fire in 2017, suggesting a relatively lower fuel load than in other areas that have not experienced fire recently.

*Table 5. List of recorded fires near the Silverado area (CAL FIRE, 2020).*

Year	Month	Date	Fire Name	Cause	Acres	Comments
1953	August	8/25/1953	B. HICKEY	14 - Unknown / Unidentified	671.4	
1957	August	8/2/1957	STATE HWY 37 #1	14 - Unknown / Unidentified	248.9	
1960	June	6/20/1960	NAPA SODA SPRINGS	14 - Unknown / Unidentified	2244.8	
1960	October	10/15/1960	C. FOSBERG #2	14 - Unknown / Unidentified	3797.0	
1961	September	9/4/1961	ROADSIDE #32	14 - Unknown / Unidentified	568.9	
1961	July	7/8/1961	E. PROCTOR	14 - Unknown / Unidentified	876.7	
1964	September	9/21/1964	ROADSIDE #42	14 - Unknown / Unidentified	8956.8	
1981	June	6/22/1981	ATLAS PEAK	7 - Arson	33606.4	
2006	October	10/25/2006	ATLAS	2 - Equipment Use	71.2	DURING NORTH WINDS
2007	July	7/11/2007	PEAK	2 - Equipment Use	46.3	
2017	October	10/8/2017	ATLAS	14 - Unknown / Unidentified	51624.7	
2022	May	5/31/2022	OLD	14 - Unknown / Unidentified	375.9	

A recurring history of large fires (over 10,000 acres in size), which typically burn for several days, has been well established in Napa County. The typical period between such large fires is approximately 20-30 years. Like much of California, fires in Napa County are almost entirely caused by human-related accidental ignitions. With that said, in 2020, several lightning-strike fires burned in Napa County and west into Sonoma County.

In the past, fires did not involve large numbers of structures because of the historic rural nature of Napa County; however, structure damage is now a common concern whenever wildland fires of any size occur.

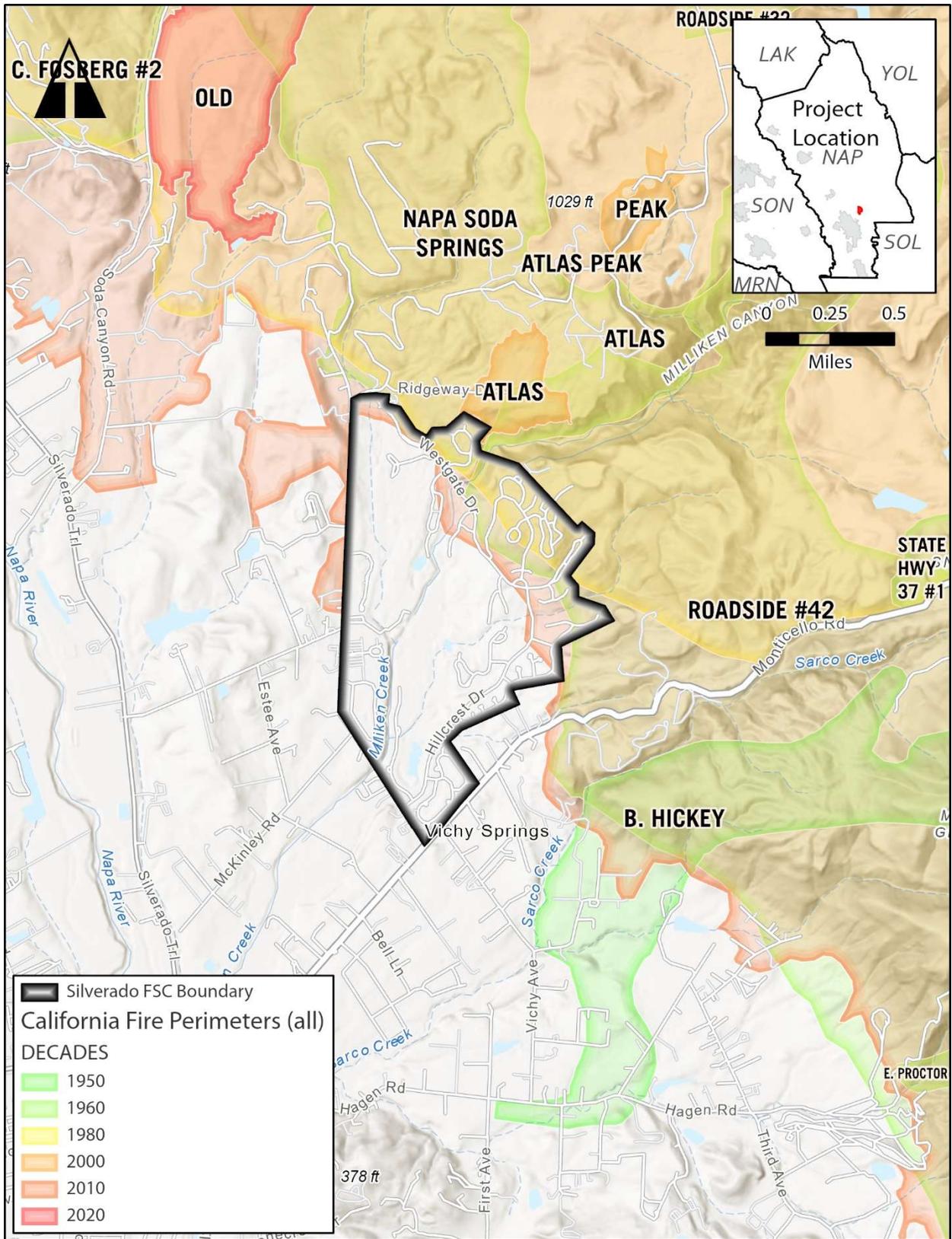


Figure 8. Fire perimeters/fire history map of Silverado area (CAL FIRE FRAP, 2021).

## Access

In general, access to the boundaries and interior of the Silverado area is limited to Atlas Peak Rd and Monticello Rd. The interior roads of Hillcrest Dr and Westgate Dr allow access to the residential parcels of the community. There are no other means of egress into or out of the community.

Most roads are two lanes with no shoulders, although a few of the roads in the residential areas are a bit wider and have shoulders of moderate width. Pavement (road surface) is generally in good shape, with some areas showing signs of pavement deterioration. A few curves are simultaneously sharp and steep. Although many residences are easily accessible, some are served by long shared driveways behind locked gates. Locked gates are common and can further delay emergency response. Locked gates also discourage/prevent inspection by local fire authorities.

Regardless of the condition of the roadbed, access can be blocked by roadside vegetation. Trees can fall, blocking passage or vegetation can burn with such intensity that emergency response and evacuation cannot occur.

A few roadsides (particularly Atlas Peak Road) have abundant roadside vegetation. This vegetation could block the road while burning, and after, as trees fall (a common event during a fire). Roadside vegetation has been maintained on most of the roads and driveways within the Silverado area, however anywhere vegetation may burn with intensity or where trees may fall across the road could prove significant in the event of a fire.

See map on next page.

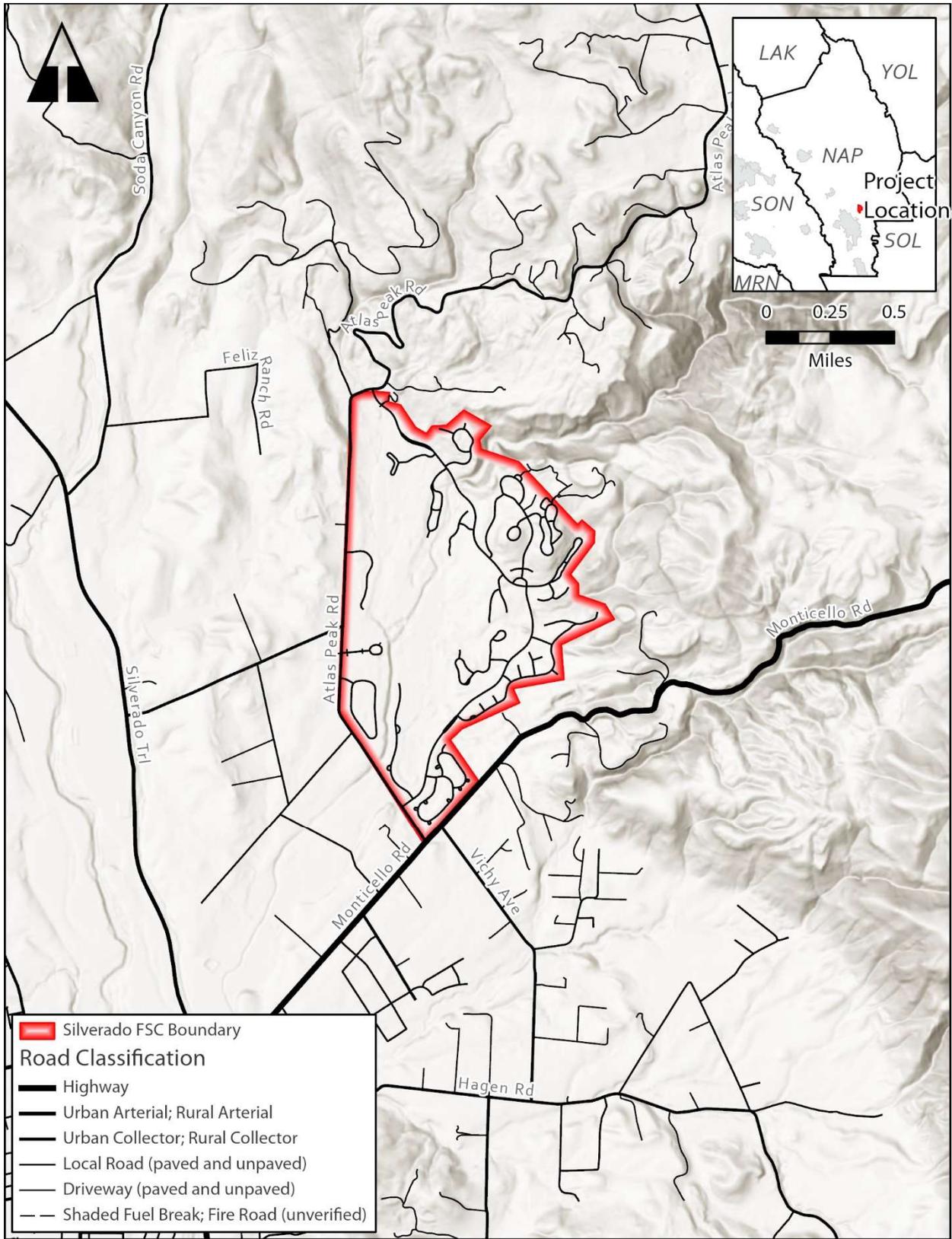


Figure 9. Access and street map of Silverado area (shown with red outline).

## Hazard Ranking

The northeastern part of the Silverado area is within CAL FIRE’s State Responsibility Area (SRA) – 25%. The remainder is within a Local Responsibility Area (LRA) – 75%.

For the SRA portions of the Silverado area where CAL FIRE determined a fire hazard assessment, the entirety is categorized as a **Very High Fire Hazard Severity Zone**. Within the LRA area, 27% was designated as also **Very High Fire Hazard**.

*Table 6. Fire hazard severity zone by area (acres) within Silverado area boundary (CAL FIRE, 2007 – current version).*

<b>Fire Hazard Severity Zone (CAL FIRE)</b>	<b>Acres</b>	<b>Percent (%)</b>
<b>SRA Very High</b>	177	24.6%
<b>LRA Very High</b>	194	26.9%
<b>LRA Non-Designated</b>	349	48.5%

See map on next page.

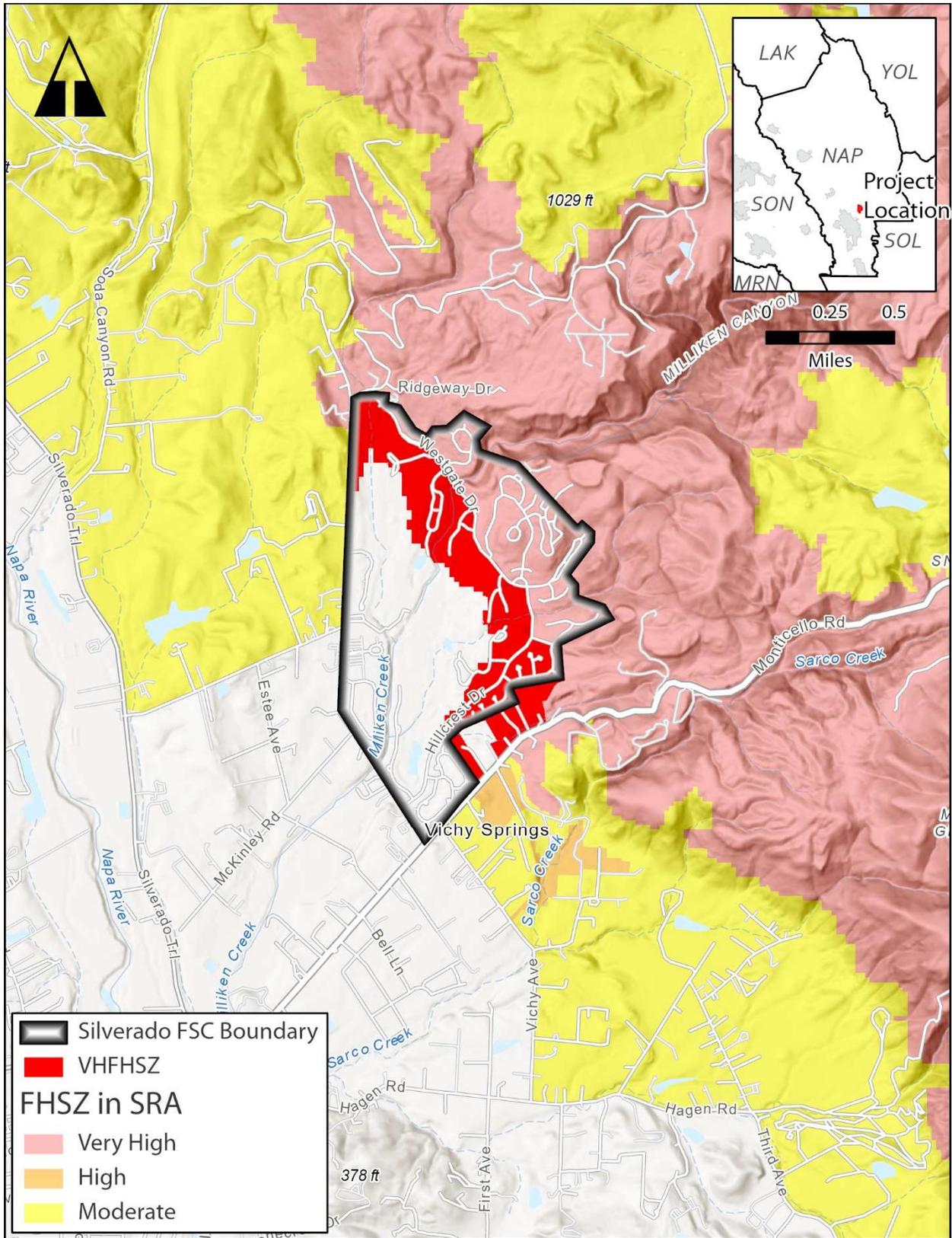


Figure 10. Distribution of Fire Hazard Severity Zones (CAL FIRE, 2007).

## Land Use Distribution and Neighborhoods

Residential development, on large lots is generally scattered following the winding road network. Vineyards are located at the edge of the community, and some are newly developed large lots adjacent to the community.

9% of the Silverado area is comprised of parcels designated as vacant.

Commercial or golf course parcels account for 43% of the total area.

Residential lands (approximately 31%) account for a significant area within the Silverado. These lands are surrounded by the golf course and vacant lands outside of the community.

Most vacant parcels are large enough that the landowners can influence fire behavior to protect their structures; structures are rarely within 100-ft of the neighboring parcel. In contrast, most of the homes in the Silverado Fire Safe Council are less than 30-feet from each other. In this case, actions of one neighbor does indeed affect the other. This emphasizes the need for community action.

*Table 7. Acres by broad land use and percent of total within the Silverado area (see Table 1 for more details).*

Category	Acres	Parcel Count	Percent (%)
<b>COMMERCIAL</b>	282.87	2	43%
<b>OTHER: CONDO/TOWNHSES</b>	102.57	36	16%
<b>RESIDENTIAL</b>	201.03	1031	31%
<b>ROW (right of way)</b>	12.50	5	2%
<b>VACANT</b>	59.72	77	9%

There are 15 neighborhoods within the Silverado Property Owners Association (SPOA) which encompasses almost all the developed extent of the fire safe council. These are:

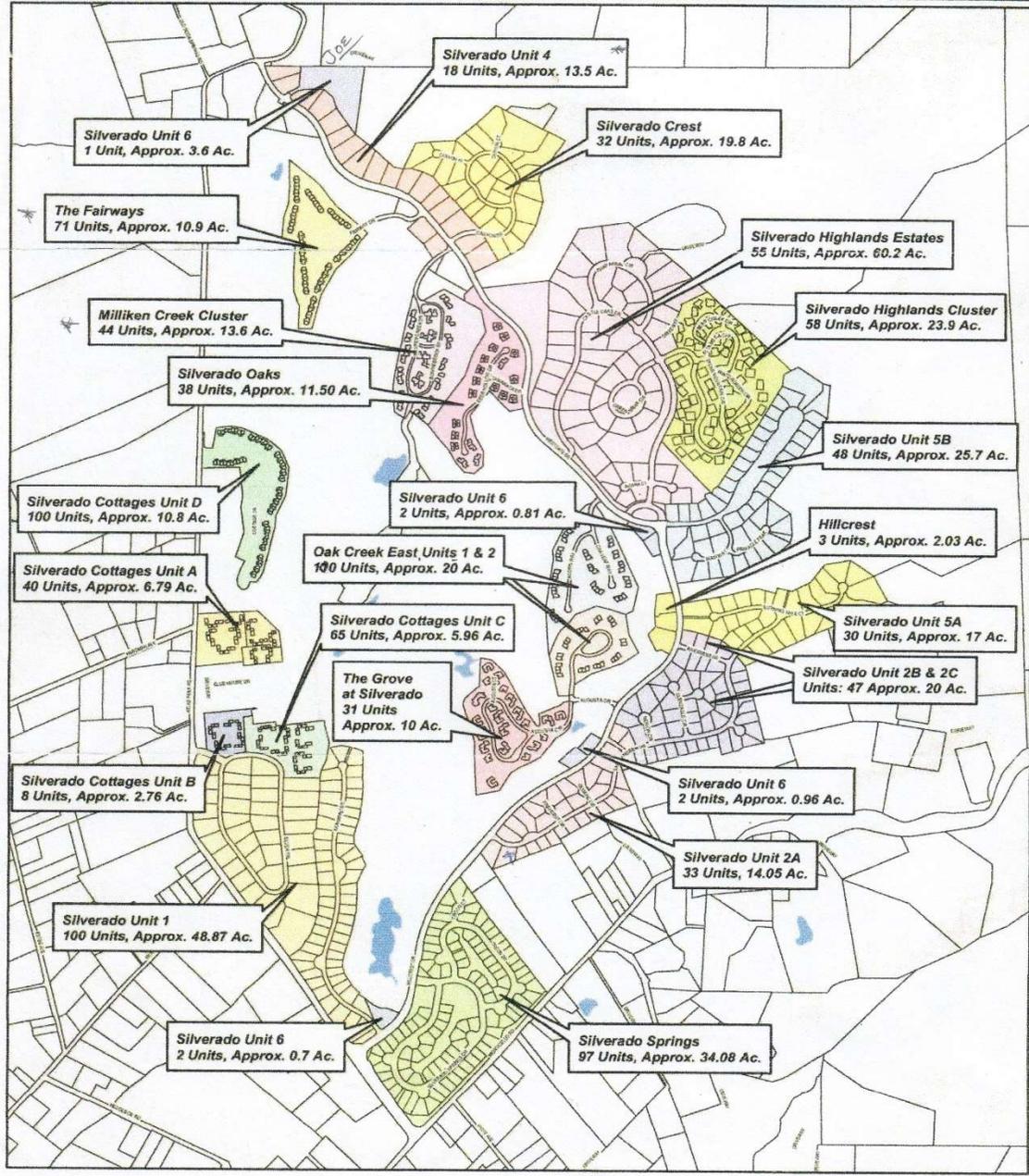
- Fairways
- Oak Creek
- Milliken Creek Cluster
- Silverado Crest
- Silverado Cottages Units A,B,C,D
- Silverado Highlands Cluster
- Silverado Highland Estates
- Silverado Oaks
- Silverado Springs
- Silverado Unit 1
- Silverado Unit 2a,b,c
- Silverado Unit 4
- Silverado Unit 5a
- Silverado Unit 6
- The Grove at Silverado

## Silverado Index

Disclaimer: This map was prepared for informational purposes only. No liability is assumed for the accuracy of the data delineated herein.

Horizontal Datum: NAD 83  
CA State Plane Coordinates  
Zone 9, East  
Vertical Datum: 110212

County of Napa  
Planning Department



Newsletter Editor - Bob Andresen

Figure 10. Neighborhoods within the Silverado community neighborhood boundary.

# Projects

Project development for this CWPP addresses three areas: Assessment (existing conditions, + risk assessment, + recommendations + priorities), Engagement (engage interested parties), Action (approval and implementation).

## Completed Projects

The projects completed since the first CWPP were reviewed. While some of the projects have been funded by NCFE, many projects were accomplished by the FSC, including the Silverado Resort. The projects are as follows:

- Fuel Break of 200 to 300 feet from Atlas Peak Road to the middle of Saint Andrews Drive covering 12 separate parcels.
- This fuelbreak was maintained in 2023-24 using goats and hand labor, funded by a combination of NCFE funding and Silverado community private funding and the Silverado Resort.
- The entire Milliken Creek through the community, including near the Kaanapali neighborhood, along the Silverado Resort and Golf Course, and the Milliken Creek Cluster. This was done with a combination of funding from NCFE funding, Silverado community private funding, the Flood Control district, and the Silverado Resort.
- The small unnamed creek between Silverado Oaks and Creekside.
- Hazardous fuel reduction on the two north Westgate Islands have been completed and are in the maintenance mode.
- Multiple educational sessions occurred to include formal education events, a Safety Fair, Fire Engine days in two areas, newsletters, SPOA web-site references.

## Planned and Proposed Projects

There are nine recommended projects to enhance the fire safety within the Silverado area. Some span the entirety of the study area, while others are specific to a neighborhood.

The elements of this Plan have been arrived at through a collaborative process, with the understanding that some elements of this Plan will require outside funding, that some elements will be easier to accomplish than others, and that all elements will take some time. Projects were chosen that focus on Life Safety Evacuation and Access, Reduction of Ignition Sources, To Reduce Property Damage, and Assist in Containment.

The following projects are updated from those listed in the 2019 CWPP.

### **Project 1 – Maintain Perimeter Fuelbreak.**

Retain this project as a maintenance project which provides for life safety, structure protection, and defensible space. An Initial Perimeter Fuel Break of 200 to 300 feet from Atlas Peak Road to the middle of Saint Andrews Drive was completed in 2022 through funding by Napa County and a CALFIRE Grant (\$850,000). This project was an item identified as a priority in the Napa Communities Firewise Foundation’s Five-Year Plan. This covered 12 land parcels adjacent to the Silverado Community. In 2023 and early 2024 maintenance of the original fuel break was accomplished by sheep/goats and a CALFIRE crew funded entirely by community residents.

### **Project 2 – Maintain low fuel volume in creek beds.**

Retain this project as a maintenance project which provides for life safety, structure protection, and defensible space. This was accomplished with a combination of NCCFF funding, private resident funding, the Silverado Resort and the Water District.

### **Project 3 – Educational Workshops on defensible space, structure retrofit options.**

Retain this as the community still requires increased education on fire behavior, safety and creating defensible space at the individual home level. This education is needed to improve landscaping (junipers and other shrubs), home hardening actions, and to heighten life safety knowledge on actions needed in preparation for and during an evacuation. This includes restricting wood lattice on fences. Lattice does continue to present a greater risk than plain fencing. The installation of metal gates next to the house was recommended or a metal flashing barrier.

### **Project 4 – Work with adjacent neighbors with Wildlands**

Retain this project as it is necessary for maintaining the northern perimeter fuel break.

### **Project 5 – Work with PG&E to develop an underground electrical source.**

Above ground power lines are only located around perimeter (Atlas Peak), along Monticello Road parallel to the Silverado Community and in Silver Trail. With the recent storm multiple trees damaged the lines in Silver Trail.

### **Project 6 – Install compliant address signs.**

Signage is primarily an issue in the non-HOA areas. Signage has been improved in the Crest and Curb painting on Saint Andrews, Burning Tree Court and all adjacent streets, circles, and courts. Continued work is needed in this area.

**Project 7 – Assist homeowners in retrofitting features to increase ignition resistance**

Needed structure retrofitting such as 1/8” home vent screens, wood fencing attached to homes, wooden roofs, landscaping, and general home hardening. This would focus on neighbors in need and may involve assisting with finding grants or individuals to do the home hardening.

**Project 8 – Explore viability of a temporary shelter in place zone**

Consideration of developing a shelter in place safe zone within the community on the golf course (golf tournament parking area). A dialog with the landowner, Emergency Operations and CAL FIRE is needed to determine if this is a viable project.

**Project 9 – Evaluate Fire Safe Council Boundaries**

Explore expanding the boundaries of the FSC to include areas that have been treated and will be maintained by SVFSC, including lands that pose potential threats to the structures of the community.

**Mapped Projects**

Planned, completed and proposed fuel management projects have been mapped for the SVFSC and fall into the following categories: Fuel Breaks (including Creekside), and Grazing.

Figure 11 shows the fuel management projects planned, proposed, and completed for Silverado Fire Safe Council.

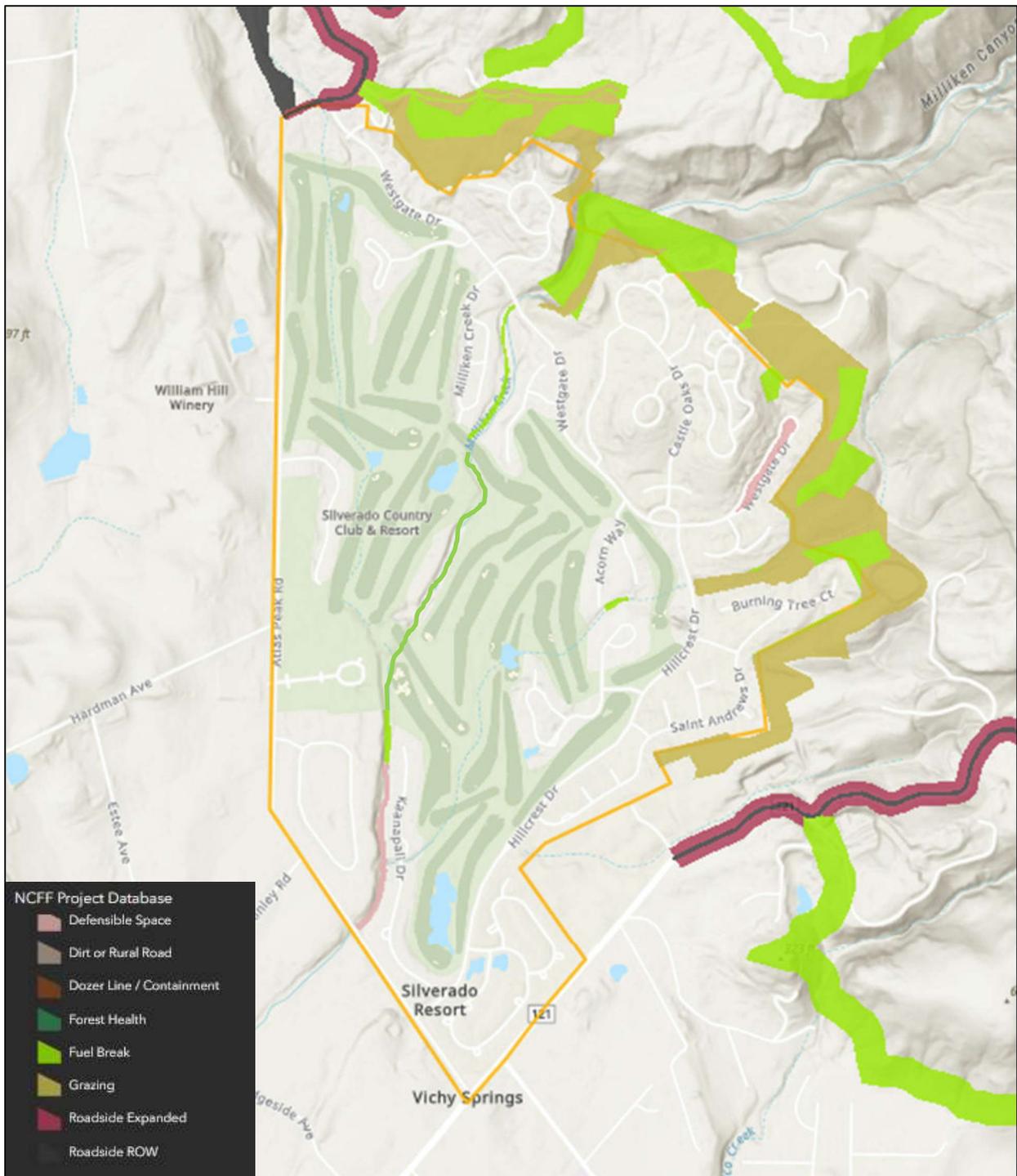


Figure 11. Map of fuel management projects planned, proposed, and completed for Silverado Fire Safe Council.

## NFPA Firewise USA Community Action Plan

The following is a compilation of activities submitted with the NFPA Firewise USA Community application. These activities span three years, starting in 2024, and cover Education and Outreach, Home Hardening, Defensible Space/Fuel Reduction, and Evacuation Planning. These activities generally address activities the FSC can do without outside funding, whereas the Projects listed in the previous section may require outside funding for implementation.

### Education and Outreach Goals

1. Obtain and distribute educational information on defensible space, home hardening and preparation for fire emergencies.
2. Update annually the FSC's information on the Silverado Property Owners web-site with informational and educational materials.
3. Participate in at least one wildfire-related education/information meeting with a subject matter expert to improve awareness of wildfire risks; convey salient points to FSC.
4. Convene at least two FSC steering committee meetings to review programs and plans.
5. Conduct voluntary parcel-by-parcel evaluation of residences in the FSC area regarding defensible space and fire-resistant landscaping choices, and retrofit options in non-HOA area
6. Participate in at least one education/information meeting to share educational materials and opportunities regarding defensible space, fire resistant landscaping choices, retrofitting and home hardening options, proper signage, wildfire evacuation preparedness.
7. Inform, encourage and assist residents to apply for defensible space cost-share grant as appropriate to non-HOA residences.
8. Inform and encourage residents to access the Napa County free chipping program for their property.
9. Provide residents with consistent and detailed project updates.
10. Encourage residents to sign up for Everbridge alerts.
11. Educate residents about the need to identify locations suitable for emergency refuge in the event evacuation comes difficult or impossible.
12. Help to organize and invite residents to local Fire Resource Fairs and educational events to access home hardening information, materials, and resources.
13. Develop and distribute a newsletter containing topics such as home maintenance, home hardening, landscaping, defensible space, fire behavior and prevention, evacuation, and preparation for evacuation.

14. Fire Engine Days – conduct a visit from CAL FIRE in separate neighborhoods where our experts provide homeowners with education on individual home fire mitigation opportunities, as part of local FireSafe Fair.
15. Offer a home assessment course to the council members/community via zoom.
16. Update a list of properties that require defensible space work that are owned by disadvantaged, low income and/or senior homeowners in non-HOA areas.

#### **Home Hardening Goals**

1. Obtain and post educational materials on webpage and in newsletter of best practices for structure retrofitting.
2. Inform residents about possible financial incentives through PG&E and NCCF for hardening homes.
3. Showcase good examples of home hardening and defensible space throughout the community.
4. Provide contractors details for home hardening jobs by referring residents to the NCCF website.
5. Encourage residents to attend local FireSafe Fair, to access home hardening information, materials, and resources.

#### **Defensible Space / Fuel Reduction Goals**

1. Complete roadside vegetation treatments along key access routes.
2. Promote and encourage residents to participate in NCCFs defensible space cost-share program.
3. Develop FSC capacity to raise funds for vegetation management and fire protection activities by NCCF.
4. Support NCCF in obtaining grants for large fuel reduction projects, and develop significant roadside fuel reduction projects within the community.
5. Assist with neighborhood fuel reduction projects.
6. Continue to work with the Silverado Community Services District and the property owners to maintain fuel reduction and alternative evacuation access routes.
7. Work with homeowners, the resort and the Silverado Community Services District to remove hazard trees along roads.
8. Work with homeowners, the resort and the Silverado Community Services District to remove problematic roadside vegetation.
9. Identify other landscape modification actions that would provide protection against wildfire spread and plan their funding and implementation, especially in the ember-resistant zone.

10. Work with the Silverado Community Services District and the Resort to remove hazardous trees
11. Work with the Silverado Community Services District to remove roadside vegetation and create shaded fuel breaks.
12. Work with NCCFF to continue to remove roadside vegetation and create shaded fuel breaks.

#### **Evacuation Planning (Ex. Preparedness and Routing) and Wildfire Preparedness**

1. Create a FSC evacuation plan.
2. Distribute evacuation information found on the website via a mailing to all homeowners
3. Continue to encourage residents to know their neighbors' special needs, identifying those who will need more time to evacuate, and create a notification plan in the event of an impending evacuation order.
4. Create a FSC evacuation plan utilizing the existing resort plan and working with the local emergency management authorities and police authorities
5. Develop plans with the local authorities, resort, and the county emergency operations and distribute to the community residents-
6. Communicate the plans for evacuation to the residents and post on the websites.
7. Carry out a practice evacuation in one of the non-HOA areas - table top exercise at local gatherings.
8. Continue working with homeowners in developing and implementing their personal evacuation plans.
9. Continue to refine the evacuation plan for the community and include the resort's special events into the planning.

## Approval Signatures

The Silverado Fire Safe Council Community Wildfire Protection Plan was developed collaboratively and in consultation with interested parties, including Napa Communities Firewise Foundation, Napa County Fire Department, CAL FIRE, and the residents of the Silverado community.

The Plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends other types and methods of treatments that will protect the Silverado Community.

The following entities mutually agree with the contents of this Community Wildfire Protection Plan:

  
Agreed: [Alfredo Pedroza \(Aug 8, 2024 09:47 PDT\)](#) Date: \_\_\_\_\_  
Alfredo Pedroza, Supervisor, Napa County District 4

  
Agreed: \_\_\_\_\_ Date: \_\_\_\_\_  
Matt Ryan, Unit Chief, CAL FIRE and Fire Chief, Napa County Fire Department

  
Agreed: [Christopher Thompson \(Aug 8, 2024 11:12 PDT\)](#) Date: \_\_\_\_\_  
Christopher Thompson, President, Napa Communities Firewise Foundation

  
Agreed: [Linda Cantey \(Aug 8, 2024 12:03 PDT\)](#) Date: \_\_\_\_\_  
Linda Cantey, Co-Lead, Silverado Fire Safe Council

  
Agreed: [Bill Foureman \(Aug 12, 2024 14:17 PDT\)](#) Date: \_\_\_\_\_  
Bill Foureman, President, Silverado Property Owners Association

# Silverado FSC CWPP Final

Final Audit Report

2024-08-12

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By:	Sharon Gardner (shari@napafirewise.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAA0St9OoeEopCFR42OEEbsB8u1CcGi_Suq

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