

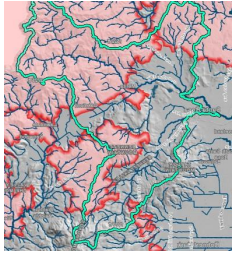
## Map Report Contents

This page provides an overview of the maps included in your map report. To view full maps and map descriptions specific to your selected parcel or watershed, continue to page 3.

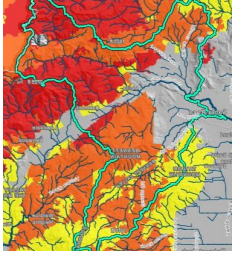
### DATASET

### ABOUT THIS MAP

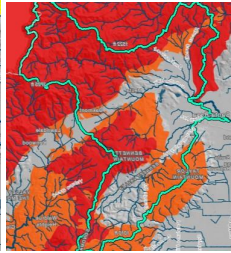
#### Fire History



#### CAL FIRE Hazard



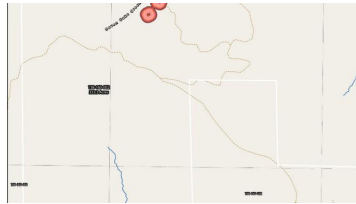
#### Sonoma Hazard



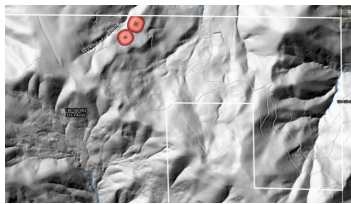
Fire History: Past wildfires in the last 40 years within the parcel or watershed (**Map 1, left pane**)

CAL FIRE Hazard & Sonoma Hazard Index: Areas of fire hazard and risk based on factors such as fuel, slope, fire weather, and utility infrastructure such as powerlines (**Map 1, middle and right panes**)

#### Street Map



#### Hillshade



Street Map: A simple map with an overview of streets, buildings and streams (**Map 2**)

Hillshade: A 3D representation of the area, illustrating the physical features of your landscape (**Map 3**)

#### 2013 Imagery



#### 2020 Imagery

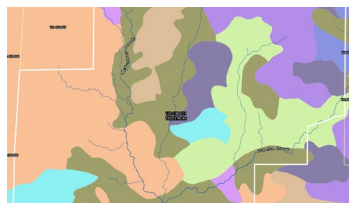


2013 & 2020 Imagery: These maps provide a detailed aerial view for the years of 2013 and 2020 with an overlay of streams and buildings. These two maps can be compared to one another to observe changes in your landscape over time (**Maps 4 and 5**)

#### Slope



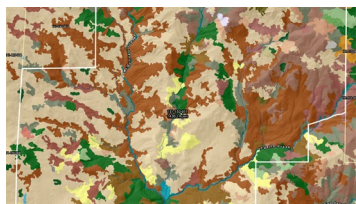
#### Soils



Slope: Shows the slope of the ground, highlighting areas of steep terrain where fire could spread rapidly (**Map 6**)

Soils: Soil types as mapped by the Natural Resource Conservation Service Soil Survey (**Map 7**)

#### Vegetation



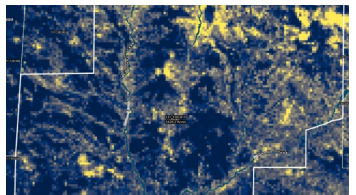
#### Vegetation Height



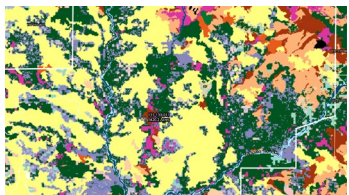
Vegetation: Illustrates the different vegetation types on your property (**Map 8**)

Vegetation Height: Shows the height of tree-tops, or forest canopy, across your property (**Map 9**). For a table of acreages by veg type, see the end of the report

#### Ladder Fuels



#### Fuel Model



Ladder Fuels: Ladder fuels, or near-ground vegetation that can carry ground fire into the canopy (**Map 10**)

Fuel Model: Map of different classifications of surface fuels, a primary driver of fire behavior (**Map 11**). See the end of the report for more information on the fuel model.

# Sonoma County Wildfire Fuel Mapper Parcel Report

APN:	115-120-045
Current Address:	0 NONE
Acres:	34.2 Acres

## Report Contents

This report contains environmental and fire related information for the parcel, including 11 maps. Each map provides insight into landscape characteristics that can help assess fuel and fire hazards. The following pages include maps of the parcel's fire history, vegetation, fuels and physical geography and can be used to aid in planning fuel treatments and for general natural resource management.

## Parcel Wildfire Information

The table below gives information about fire history and wildfire hazard on the parcel of interest. The wildfire hazard maps were created to inform the prioritization of wildfire mitigation across California and Sonoma County. The responsibility area informs the parcel's designation of defensible space requirements. More information can be found in the Wildfire Fuel Mapper [User Manual](#).

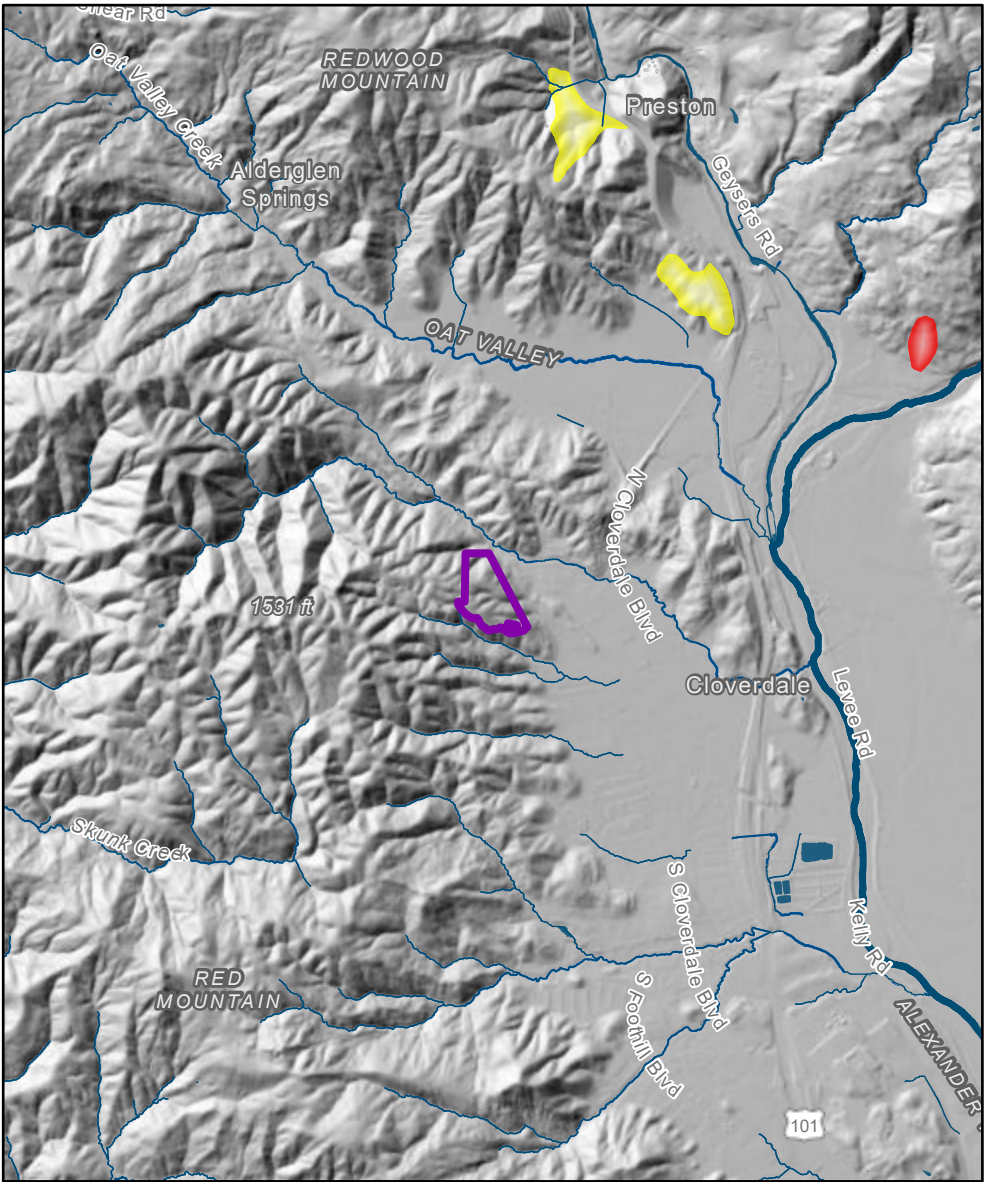
<b>SONOMA HAZARD INDEX (2019)</b> <i>Relative Wildfire Hazard with acreages</i>	Moderate Relative Hazard - 14.01 ac., High Relative Hazard - 9.79 ac., Low Relative Hazard - 9.52 ac., Very Low Relative Hazard - 0.92 ac.
<b>CAL FIRE HAZARD (2007)</b> <i>Classes: Moderate Hazard, High Hazard, Very High Hazard</i>	Very High - 34.23 ac.
<b>CAL FIRE FIRE HISTORY</b> <i>Name of Fire, year of fire, and acres burned</i>	No Fires
<b>CAL FIRE Responsibility Areas for Firefighting</b>	State Responsibility Area - 34.23 ac.

## Contact Information

Questions or comments? Please contact Dr. Stephanie Larson ([slarson@ucanr.edu](mailto:slarson@ucanr.edu)) or Dr. Tosha Comendant ([tcomendant@pepperwoodpreserve.org](mailto:tcomendant@pepperwoodpreserve.org))



# Fire History



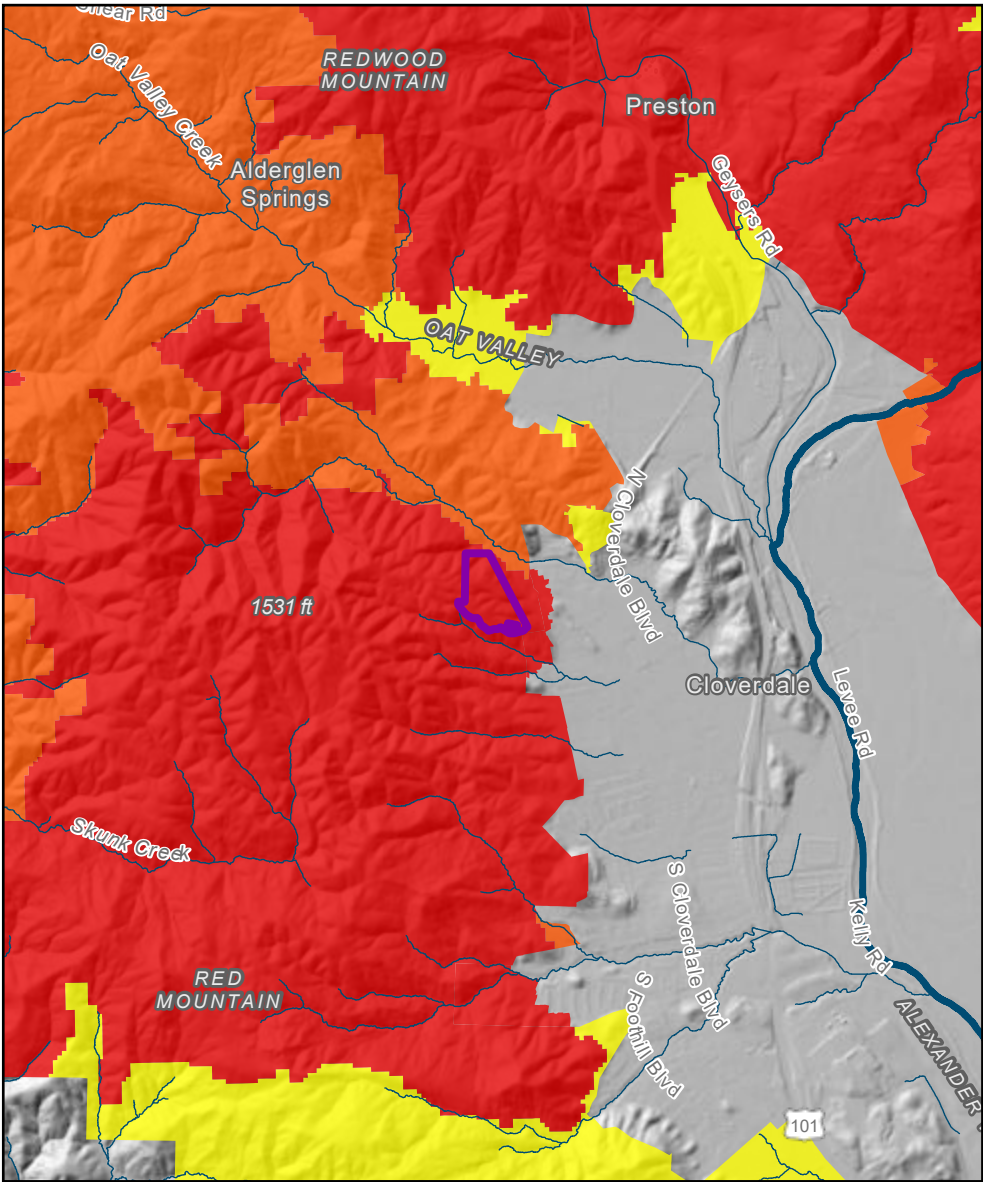
**About This Map**  
This map shows 1990-2020 fire history for a large area of Sonoma County centered on the parcel of interest. Fire perimeters are collected and maintained by CAL FIRE. Fire perimeters are classified by three date ranges: 1990-2000 fires, 2001-2010 fires and 2011-2020 fires.

Note that CAL FIRE excludes small fires from the fire history layer. Also note that this map does not include prescribed burns. The CAL FIRE fire history layer is available for download here:

<https://frap.fire.ca.gov/mapping/gis-data>

- Fires 1990-2020**
- 1990 - 2000 Fires
  - 2001 - 2010 Fires
  - 2011 - 2020 Fires
  - 115-120-045

# CAL FIRE Hazard



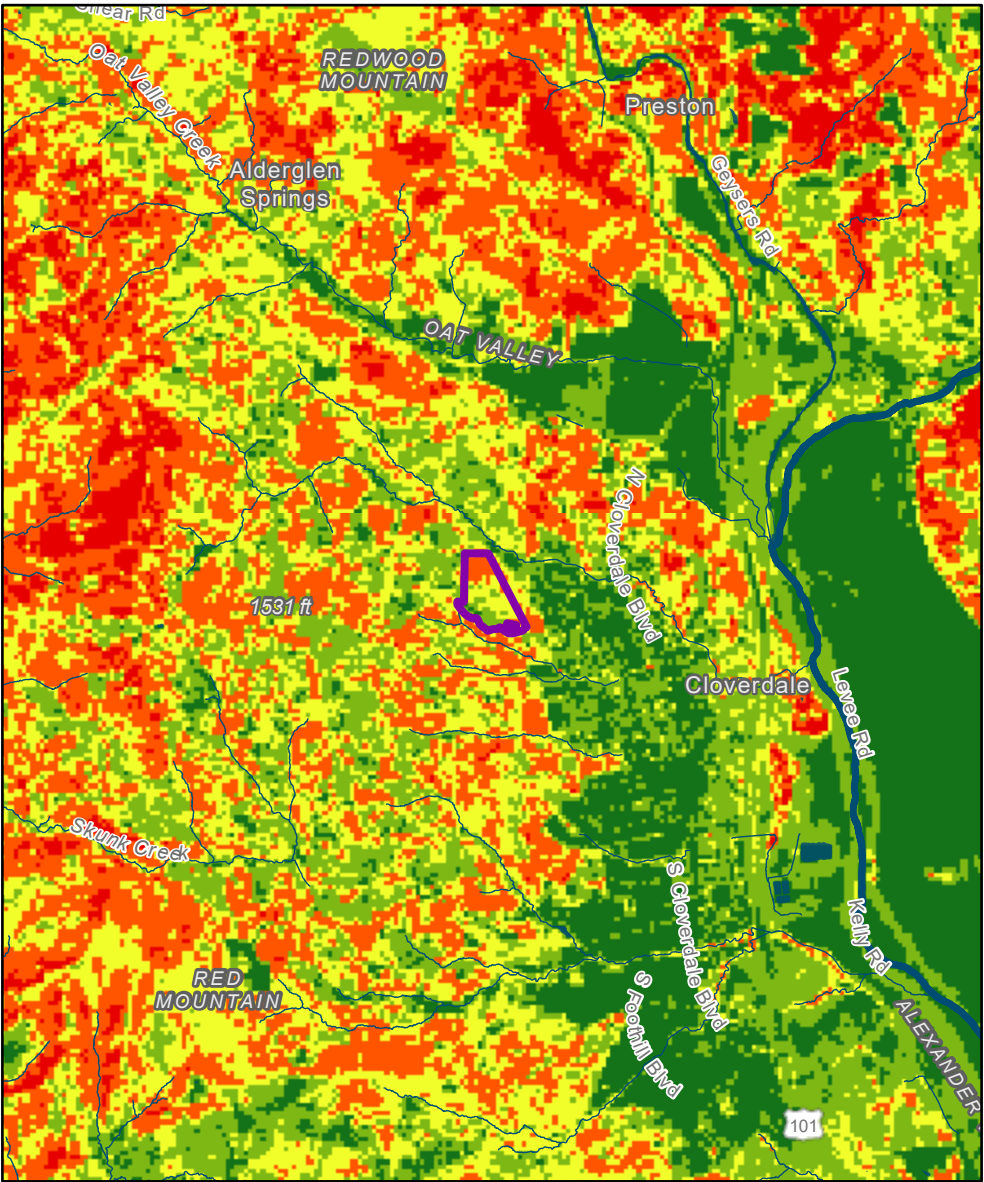
**About This Map**  
This map, created by CAL FIRE in 2007, shows areas of wildfire hazard. It is based on factors such as fuel, slope, and fire weather. For more information about the CAL FIRE hazard maps, go to:

<https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414/>

- Hazard Class**
- Moderate Hazard
  - High Hazard
  - Very High Hazard
  - 115-120-045



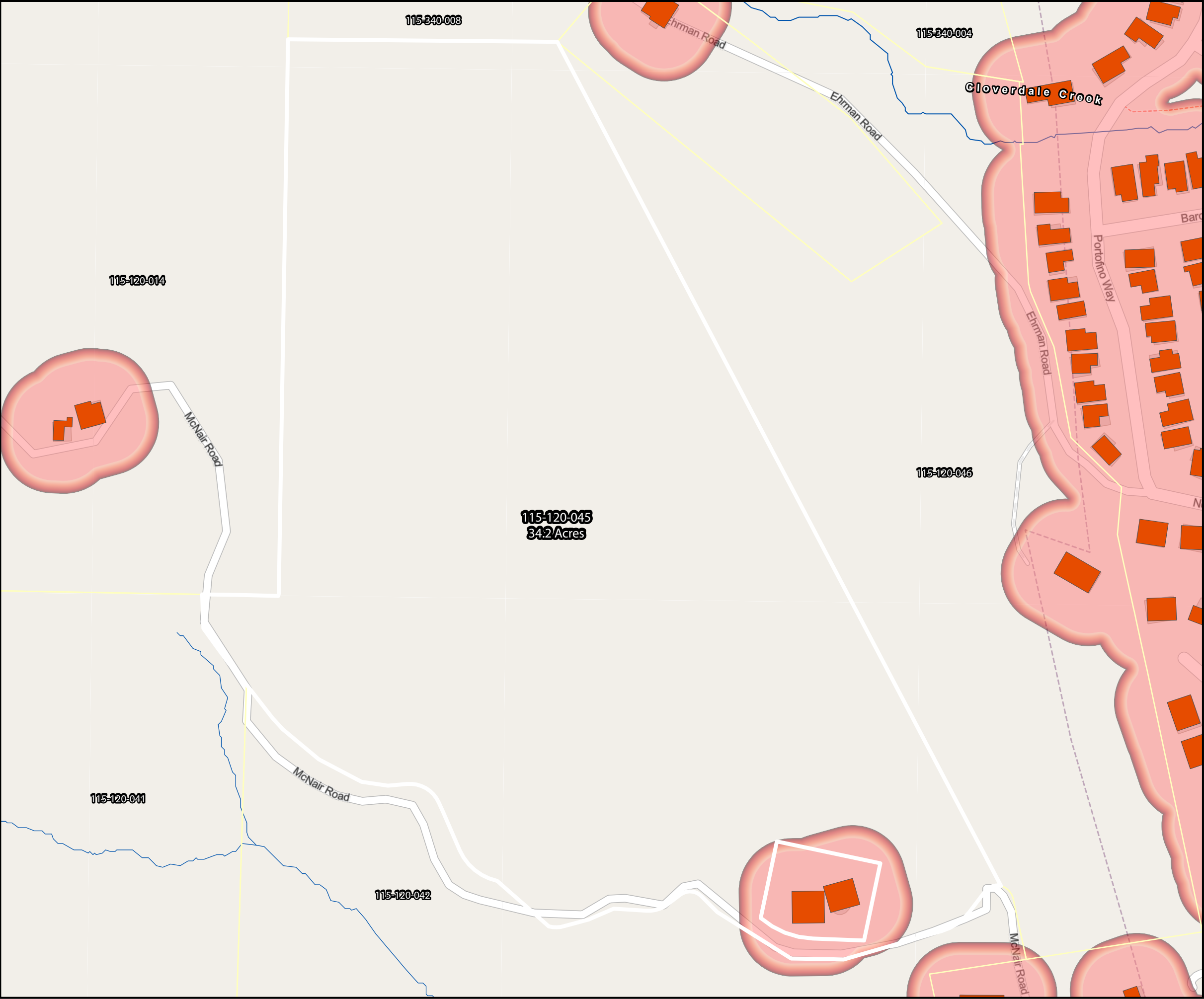
# Sonoma Wildfire Hazard Index



**About This Map**  
The Sonoma County Wildfire Hazard Index predicts relative wildfire hazard on the landscape. The index is based on inputs that inform potential fire behavior, inputs that represent fire probability occurrence in any 1 pixel, and a model of wildfire suppression difficulty. The county-wide index is generated at a higher resolution than statewide data sets, allowing a better depiction of variability in relative threat within CAL FIRE Hazard Classes, which can be useful for prioritizing at a parcel scale. For a story map that describes the hazard model and how it was created, see the story map below:

[https://vegmap.press/sonoma\\_hazard\\_index\\_story](https://vegmap.press/sonoma_hazard_index_story)

- Hazard Class**
- Very Low Relative Hazard
  - Low Relative Hazard
  - Moderate Relative Hazard
  - High Relative Hazard
  - Very High Relative Hazard
  - 115-120-045



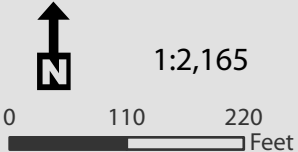
Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings
- 100 Ft. Building Buffer

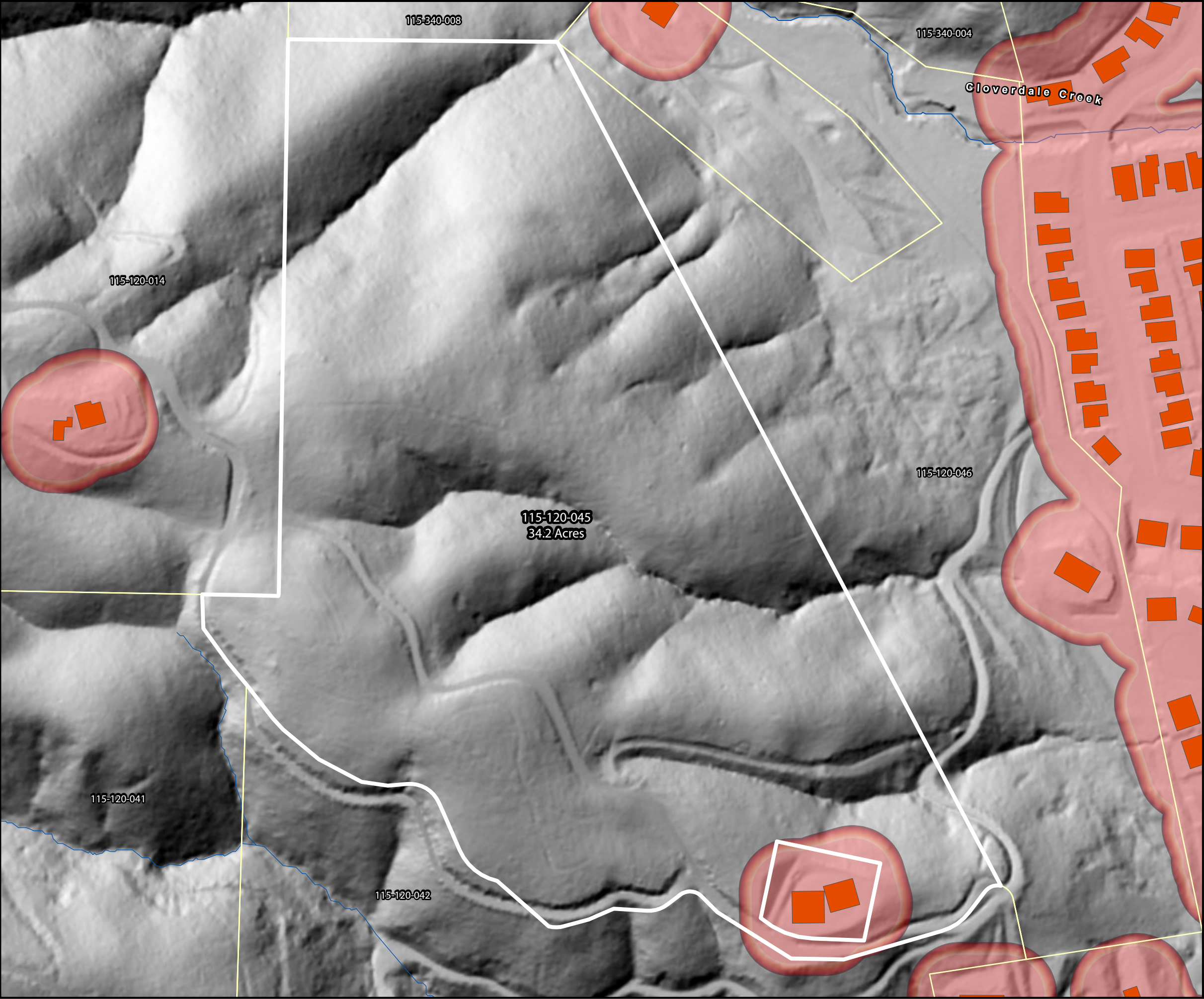
About This Map

This map shows Open Street Map, a crowdsourced map of roads, trails, and other transportation. Open Street map is continuously updated, free, and open source. Some trails or roads – especially roads on private land – may not appear on the map. The Street map is useful for orienting a user to the basic geography on their parcel and shows where they might have transportation access to conduct fuel treatments that require machinery.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate







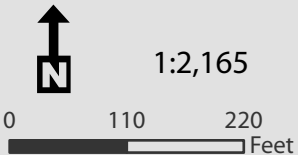
Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings
- 100 Ft. Building Buffer

About This Map

This map shows the property in shaded relief, revealing the landscape with varying illumination and shadowing. Hillshades are a great reference data source for mapping streams and roads and for understanding a property's physical geography. Because lidar penetrates the forest canopy, hillshades are useful for seeing roads and trails that in aerial photography are occluded by vegetation. This data was collected as part of the 2013 Sonoma Veg Map.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate



1:2,165





2013 Imagery

Map 4

Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

About This Map

This map shows high resolution (6-inch) orthoimagery from fall, 2013. Parcels, streams and buildings with a 100 ft. buffer are also shown. As with many of the maps in this report, this map uses data from the 2013 Sonoma Veg Map project where high-resolution remote-sensing data was gathered for all of Sonoma County. Users can compare the 2013 map to the 2020 map for a rough indicator of how much their parcel's vegetation might have changed during that time period and how that might influence vegetation management implementation or planning.

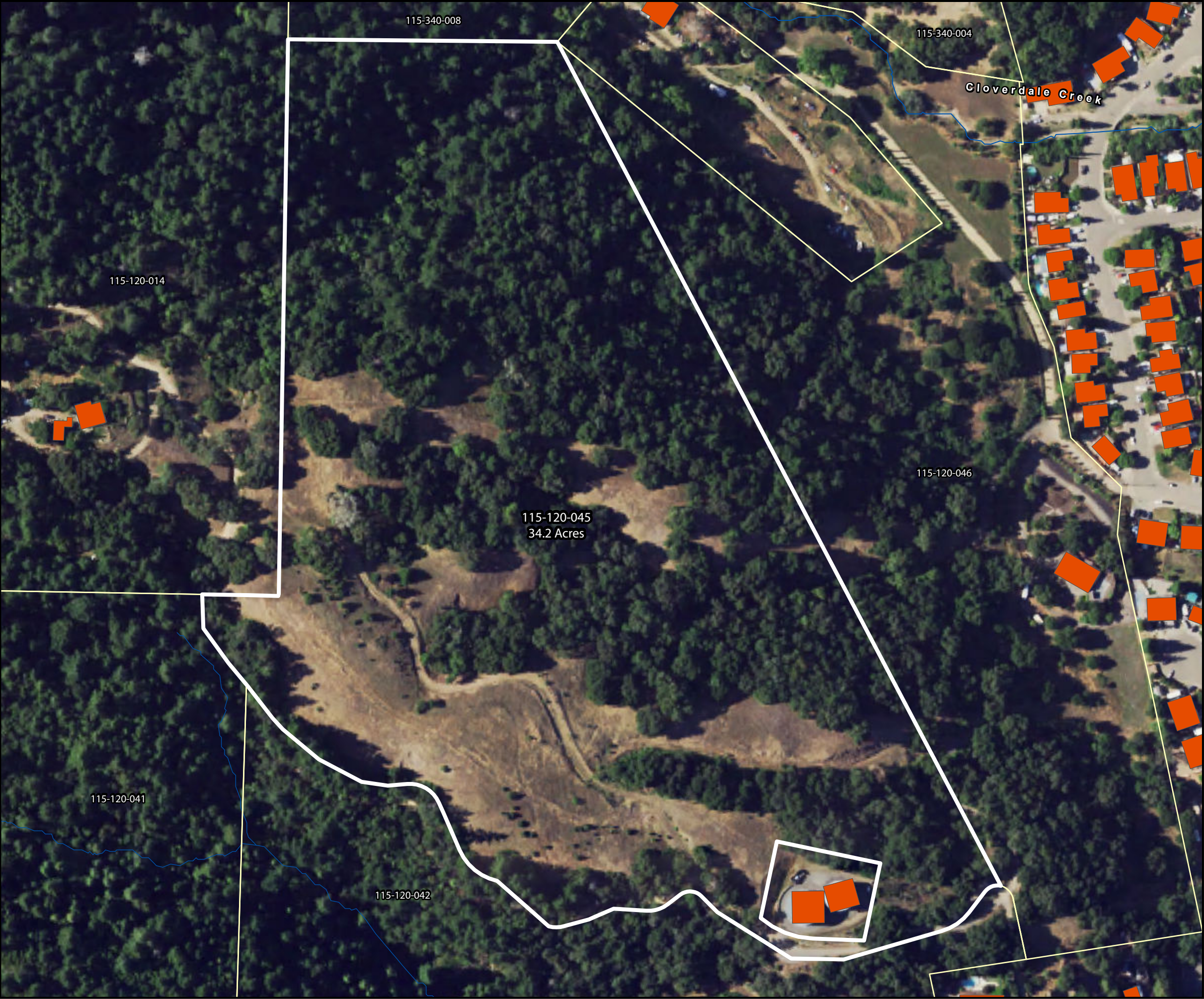
Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate



1:2,165

0 110 220 Feet





2020 Imagery

Map 5

Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

About This Map

This map shows National Agriculture Imagery Program (NAIP) imagery from June, 2020. The imagery is 2-ft. resolution. Parcels, streams and buildings with a 100 ft. buffer are also shown. Users can compare the 2013 map to the 2020 map for a rough indicator of how much their property vegetation might have changed during that time period and how that might influence vegetation management implementation or planning.

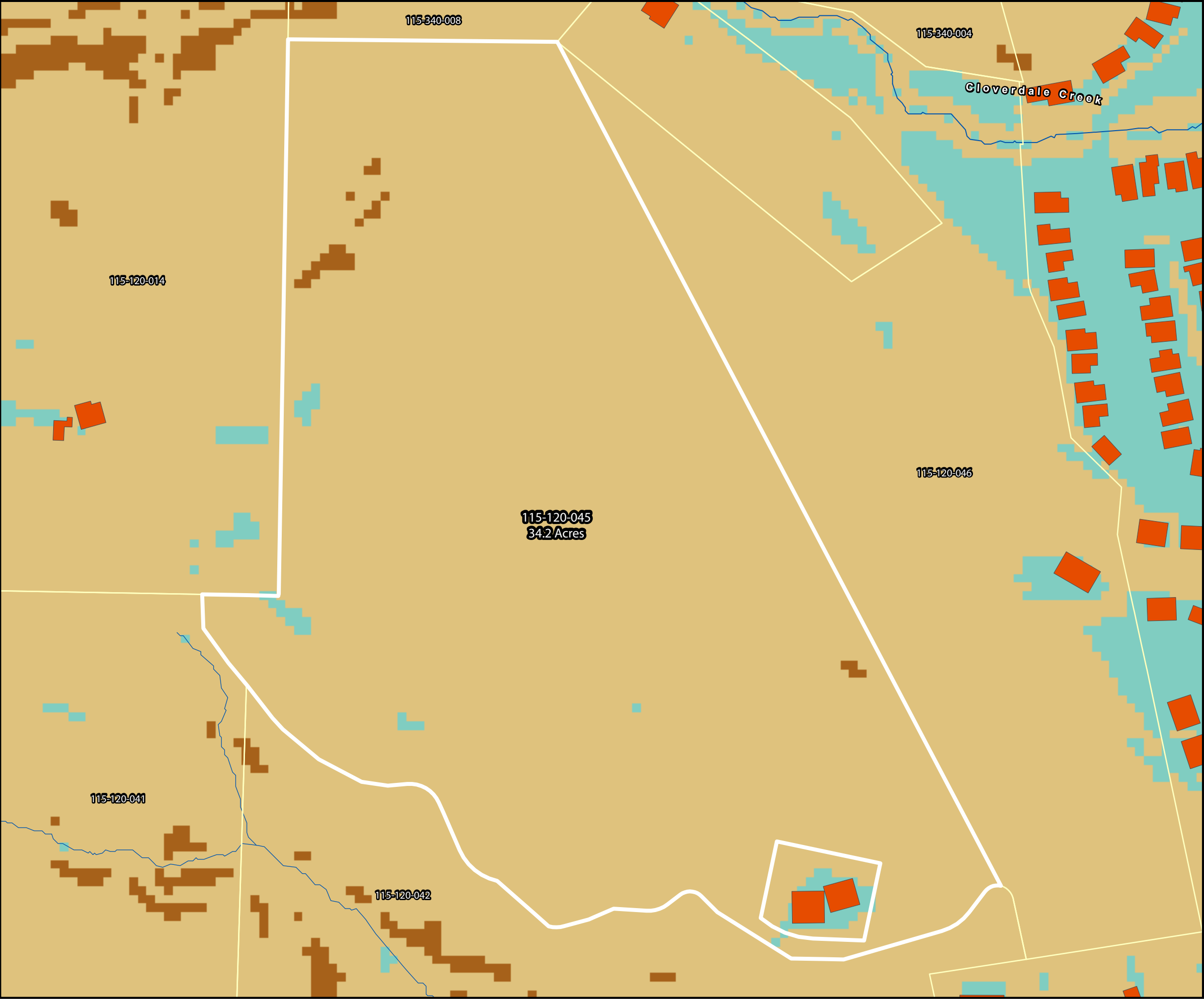
Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate



1:2,165

0 110 220 Feet





Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

Slope

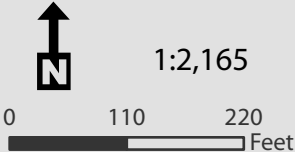
Value

- 0-5 Degrees
- 5-20 Degrees
- 20-40 Degrees
- 40+ Degrees

About This Map

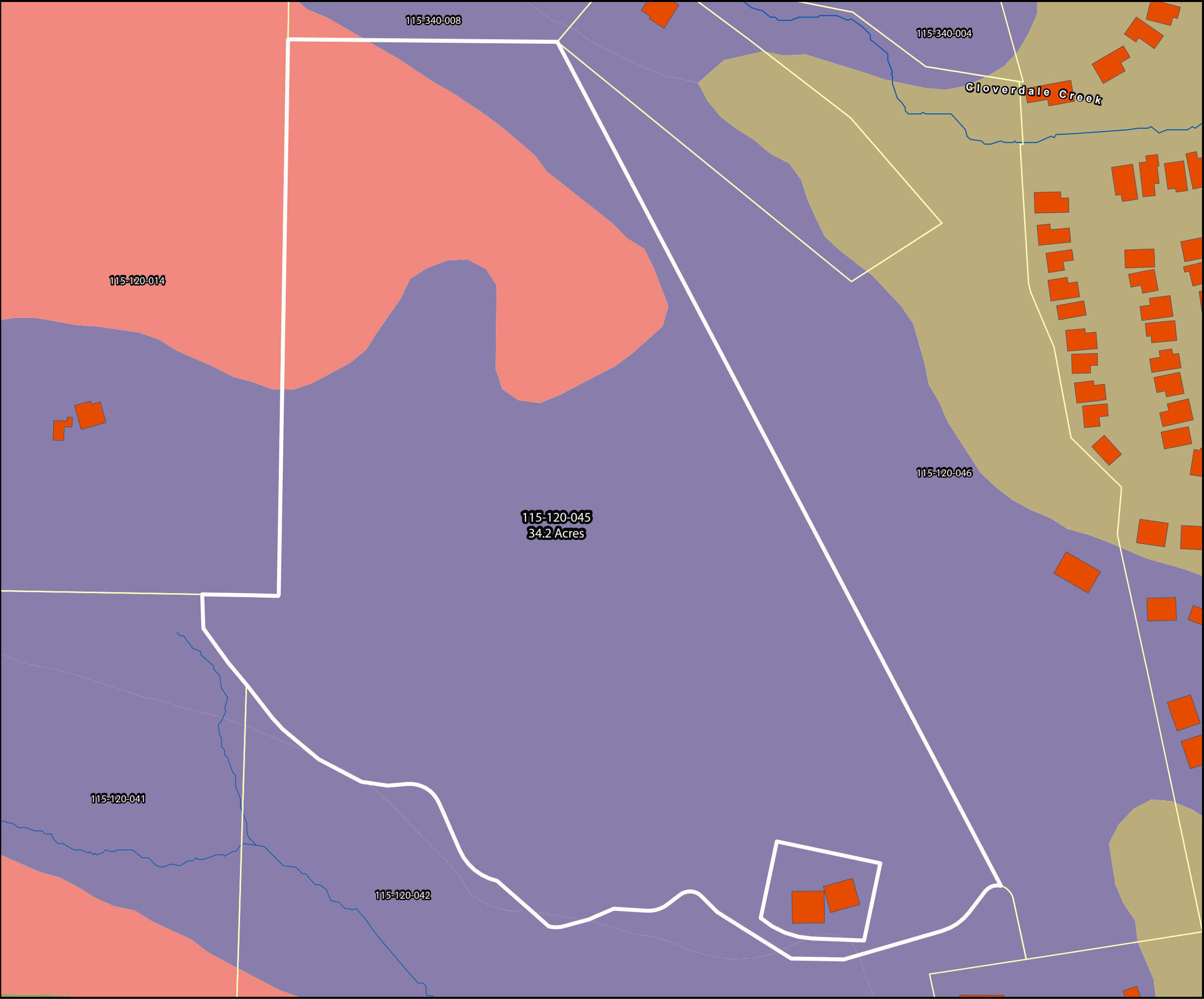
This map depicts the downhill slope (in degrees). It is classified into 4 classes from the gentlest slopes shown in green to the steepest slopes shown in brown. Slope is an important driver of fire behavior. Fire burns more intensely and spreads more rapidly on steeper slopes, and fire suppression is easier on gentle slopes. Slope can also be an important factor in planning fuel treatment strategies. Gentle slopes near roads can be much easier to treat than steep areas because of the difficulty of moving machinery and working on steep ground.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
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Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

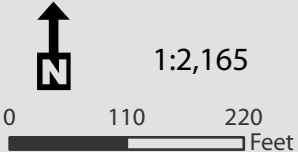
Soils

- Hugo very gravelly loam
- Josephine loam
- Laughlin loam
- Pajaro clay loam

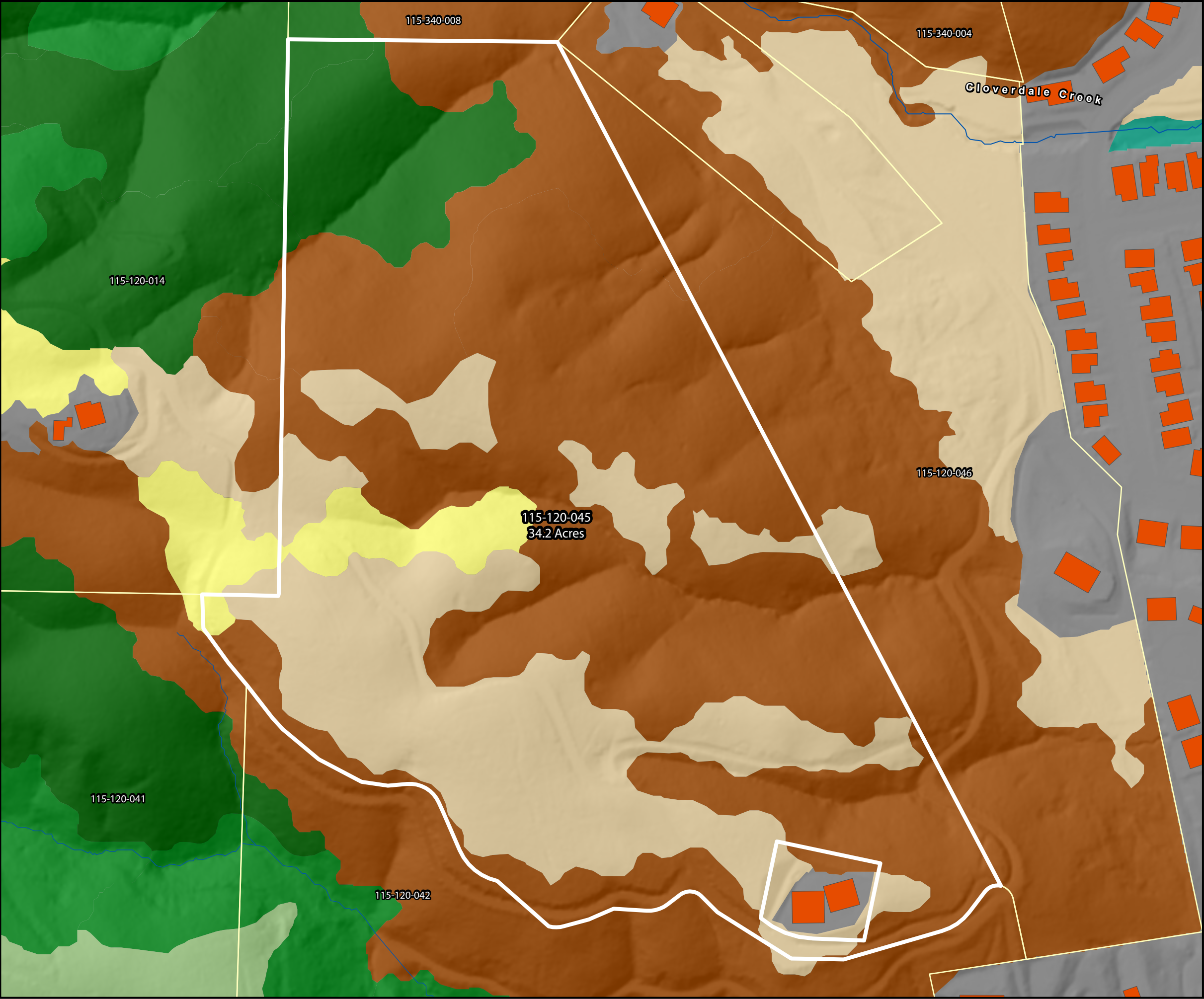
About This Map

This map shows soil types as depicted in the Natural Resource Conservation Service Soil Survey Geographic Database (NRCS SSURGO). The type and characteristics of soil play an important role in determining the density and type of vegetation on a site, as well as the potential for erosion and debris flow. Understanding soil type can help inform decisions both about fuel management and post-fire restoration. More information on Sonoma County soils, and the characteristics and information associated each the soil map units, can be found here: [https://www.nrcs.usda.gov/Internet/FSE\\_MANUSCRIPTS/california/sonomaCA1972/sonomaCA1972.pdf](https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/sonomaCA1972/sonomaCA1972.pdf)

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate



1:2,165



Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

2013 Vegetation

- Conifer
- Pseudotsuga menziesii Alliance
  - Sequoia sempervirens Alliance

- Hardwood
- Arbutus menziesii Alliance
  - Quercus spp. Alliance
  - Quercus agrifolia Alliance

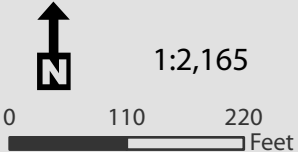
- Riparian Forest
- Riparian Evergreen and Deciduous

- Herbaceous
- California Annual and Perennial Grassland Macrogroup

- Developed and Built Up
- Developed
  - Urban Window

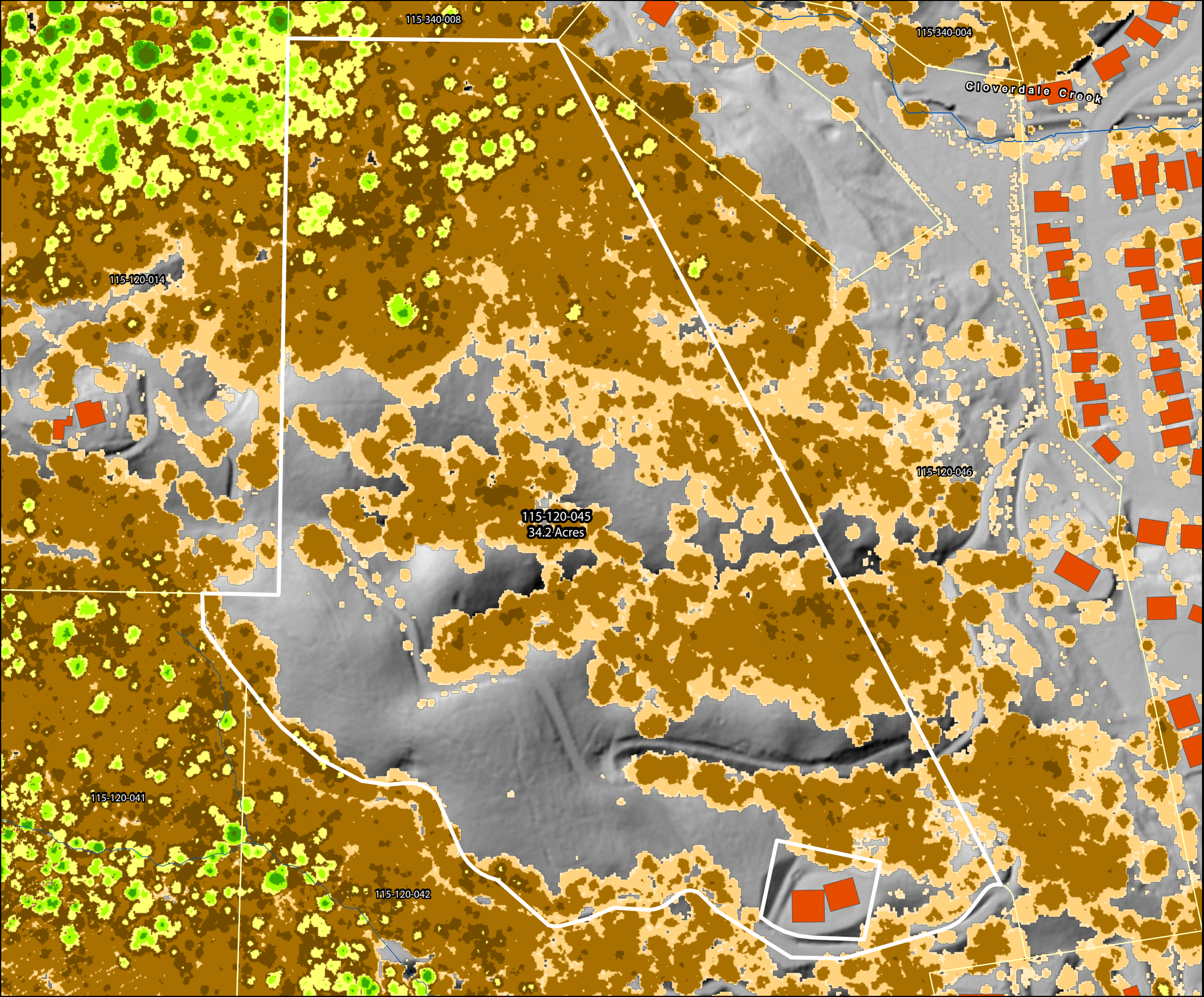
**About This Map**  
See the end of this PDF for more information about the vegetation map, including a table of acreages by type.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate



1:2,165





# Vegetation Height

Map 9

## Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

## 2013 Canopy Height

- Less than 10 Feet
- 10 - 30 feet
- 30 to 60 Feet
- 60 - 80 Feet
- 80 - 100 Feet
- 100 - 120 Feet
- 120 - 150 Feet
- 150 -200 Feet
- Greater than 200 Feet

## About This Map

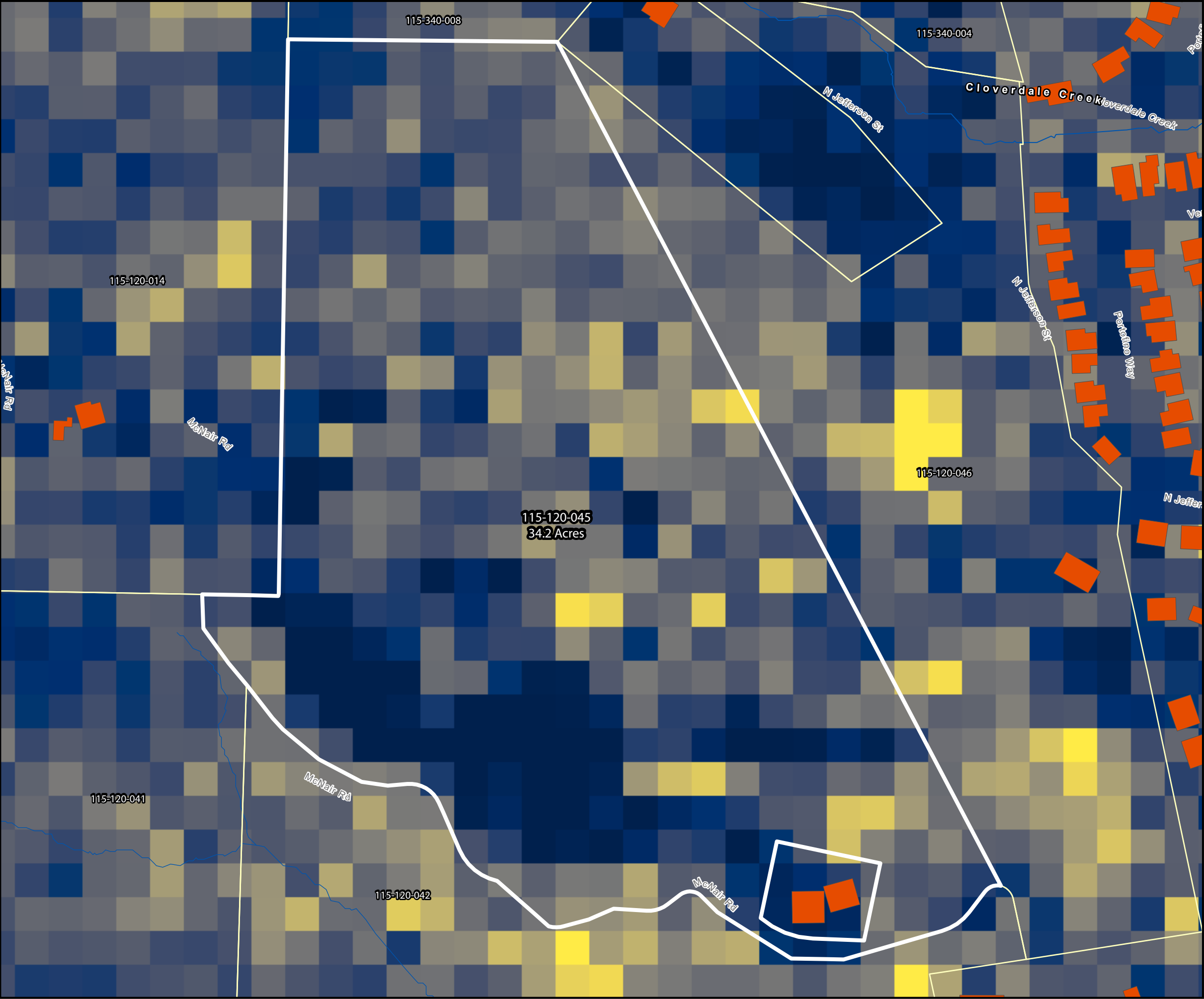
This map depicts the height of vegetation in 2013. Vegetation height was derived from the 2013 Sonoma Veg Map LiDAR data. The vegetation height, or canopy height, across a landscape can impact both wildfire's ability to spread embers and influence the wildfire behavior. Note that vegetation height in unburned areas may have increased since 2013 and vegetation height may have changed in areas disturbed by wildfire and other types of disturbance. Note that gray areas in this map are less than 8 ft. tall - in these areas the LiDAR-derived hillshade is visible.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
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1:2,165

0 110 220 Feet



Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

2013 Ladder Fuels (1-4 meters above ground)

Value

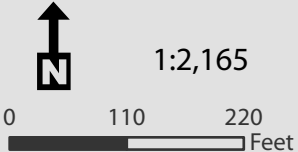
High

Low

About This Map

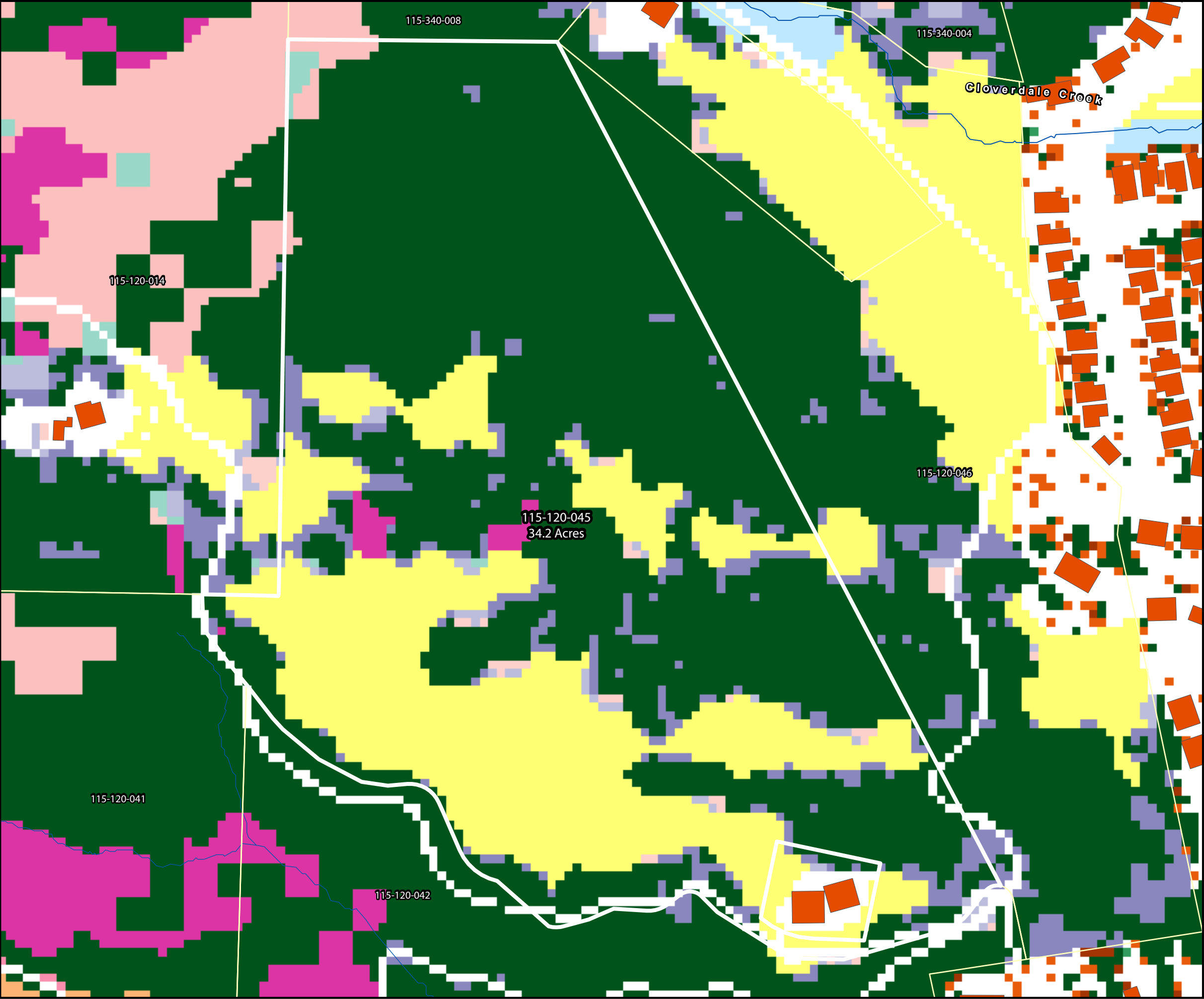
This map is a LiDAR derived estimate of ladder fuels, or small trees and tall shrubs and branches, that connect the ground to the tree canopy. Reducing ladder fuels is a key element of a fire resilient landscape because fewer ladder fuels improves chances that fire will stay on the ground rather than turn into an uncontrollable and destructive fire across the tree canopy. The ladder fuels in this map were derived from 2013 LiDAR data and reflect 2013 conditions. If the parcel has burned since 2013, the ladder fuels have changed from what is shown here.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
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parcel linework may be inaccurate



1:2,165





# Fuel Model

Map 11

### Parcels, Buildings and Water

- 115-120-045
- Parcels
- Buildings

### 2018 Fuel Model

- Custom Riparian Fuel Models

### Grass Fuel Models

- GR1
- GR2
- GR4

### Grass-Shrub Fuel Models

- GS1
- GS2
- GS3
- GS4

### Non-Burnable Fuel Models

- NB1
- NB3
- NB8
- NB9

### Shrub Fuel Models

- SH1
- SH2
- SH3
- SH4
- SH5
- SH6
- SH7
- SH9

### Timber Litter Fuel Models

- TL1
- TL2
- TL3
- TL5
- TL6
- TL7
- TL8
- TL9

### Timber Understory Fuel Models

- TU5
- TU1
- TU2
- TU3
- TU4

### About This Map

The legend groups the fuel types by broad class (grass, shrub, timber understory, etc.), with each specific fuel model listed below the group heading. The fuel models are used to predict fire behavior. A full definition of each fuel type based on the code is provided at the close of this report, in addition to links that provide greater detail and guidance on potential treatments.

Parcel Data Source: County of Sonoma ISD  
Date of County Parcel Data: October, 2020  
Parcel boundaries are not always survey quality;  
parcel linework may be inaccurate

1:2,165

0

110

220

Feet

## Vegetation Map Information

### About this Map

The Vegetation Map (Map 8, pg. 10) depicts classification of vegetation types across the selected parcel. Vegetation groupings, such as conifers and hardwood, are listed in the legend. Specific vegetation classes are also listed in the legend and shown on the map with a range of colors. Different vegetation types will require different fuel treatment methods. Some vegetation types are at a greater risk for wildfire ignition. The Vegetation Map can help users visualize the breakdown of vegetation types on their property, which can help in considering various treatment methods and informing the development of a management plan. This map was created using high resolution LiDAR data that was collected for Sonoma County in 2013 for the Sonoma Veg Map project, providing fine-scale and high-resolution information.

### Parcel Information: Vegetation Types & Acreages

List of vegetation classifications and total acreages found within the selected parcel; as shown in the Vegetation Map (Map 8, pg. 10):

Common Name	National Vegetation Classification Name	Acres
Coast live oak woodland	Quercus agrifolia Alliance	20.2
California Annual and Perennial Grassland	California Annual and Perennial Grassland Macrogroup	9.9
Douglas-fir forest	Pseudotsuga menziesii Alliance	2.9
Mixed oak forest	Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizenii) Alliance	1.2

### Learn More

Additional information can be found in the Wildfire Fuel Mapper [User Manual](#) (pg. 19-20). To learn more about the Sonoma Veg Map project, visit: <http://sonomavegmap.org>.



## Fuel Model Map Information

### About this Map

The Fuel Model Map (Map 10, pg. 12) is a fine-scale map of fuel conditions across the selected parcel, classifying different types of surface fuels based on the Scott and Burgan Surface Fuel Classification. These surface fuels are a primary driver of fire behavior. Each of the fuel classes on the map have different characteristics when they burn. These characteristics include how much fuel the class contains per unit area (fuel load), how quickly the fire spreads in the class, and how intensely the class burns.

Fuel models are used by professionals as inputs for larger models that demonstrate and predict fire behavior and spread across a landscape. Fuel models are described by common fire carrying fuel types, including grass, grass-shrub, brush, and timber litter or understory. This is the most technical map in the report and is useful when working with a mapping professional or fire expert on predicting fire behavior across your property and identifying areas for hazard containment. However, the Fuel Model Map can be helpful in providing users with an initial context of fuel conditions in watershed. Fuel Models are most often used as inputs for fire behavior models. These fire behavior models are useful for simulating the effects of fuel management projects on fire behavior, prioritizing and planning fuel treatments, and for evacuation and pre-attack planning. Fuel models can also be used to prioritize treatments through the development of a spreadsheet or decision tree that describes the type of concern, recommended treatment options, and the benefits of treatments associated with each fire behavior fuel model. The Sonoma County 5-meter Fuel Model was developed by Pepperwood and Tukman Geospatial, with funding from the Thornton Foundation. The fuel model was developed from a combination of LiDAR data representing forest structure and topography, combined with information from Sonoma County's fine-scale vegetation map. The 5-meter fuel model offers a higher spatial resolution than the existing publicly available fuel models.

### Parcel Information: Fuel Model Classifications

The table below lists the Fuel Model classifications for the selected watershed:

Fuel Model (Type)	Information (Description, Load, etc.)	Acres
TU5	Fuelbed is high load conifer litter with shrub understory. Spread rate moderate; flame length moderate.	21.0
GR2	Moderately coarse continuous grass, average depth about 1 foot. Spread rate high; flame length moderate.	9.8
GS2	Shrubs are 1 to 3 feet high, moderate grass load. Spread rate high; flame length moderate.	1.9
NB1	Urban or suburban development; insufficient wildland fuel to carry wildland fire.	0.4
TL9	Very high load, fluffy. Spread rate moderate; flame length moderate.	0.3
GS1	Shrubs are about 1 foot high, low grass load. Spread rate moderate; flame length low.	0.2
TL2	Low load, compact. Spread rate very low; flame length very low.	0.2
TL3	Moderate load conifer litter. Spread rate very low; flame length low.	0.2
TU1	Fuelbed is low load of grass and/or shrub with litter. Spread rate low; flame length low	0.1

### Learn More

Find additional information in the Wildfire Fuel Mapper [User Manual](#) (pg. 19-20). To learn more about fuel classifications and how a fuel model can be used in prioritizing fuel treatments, visit: <https://sonomaopenspace.egnyte.com/dl/yAxsmIvuND/>.

## Important Resources

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The following links are provided to help users better understand how to interpret their map reports and utilize them to create a fuel treatment plan.

- [Wildfire Fuel Mapper Website](#): The website for the Wildfire Fuel Mapper project is the hub where users can access all the components of the toolkit.
- [User Manual](#): The user manual provides a how-to guide for accessing and interpreting map reports. It also introduces the principles of fuel management and provides users with details on how to create their own fuel management plan.
- [Story Map](#): The Wildfire Fuel Mapper Story Map is an interactive web platform that gives an introduction to fuel management and provides context for the land management history in California and Sonoma County.

## Contact Information

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Questions or comments? Please contact Dr. Stephanie Larson ([slarson@ucanr.edu](mailto:slarson@ucanr.edu)) or Dr. Tosha Comendant ([tcomendant@pepperwoodpreserve.org](mailto:tcomendant@pepperwoodpreserve.org))



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Digital Mapping

