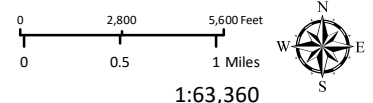




**CASE: CDP 2023-0040**  
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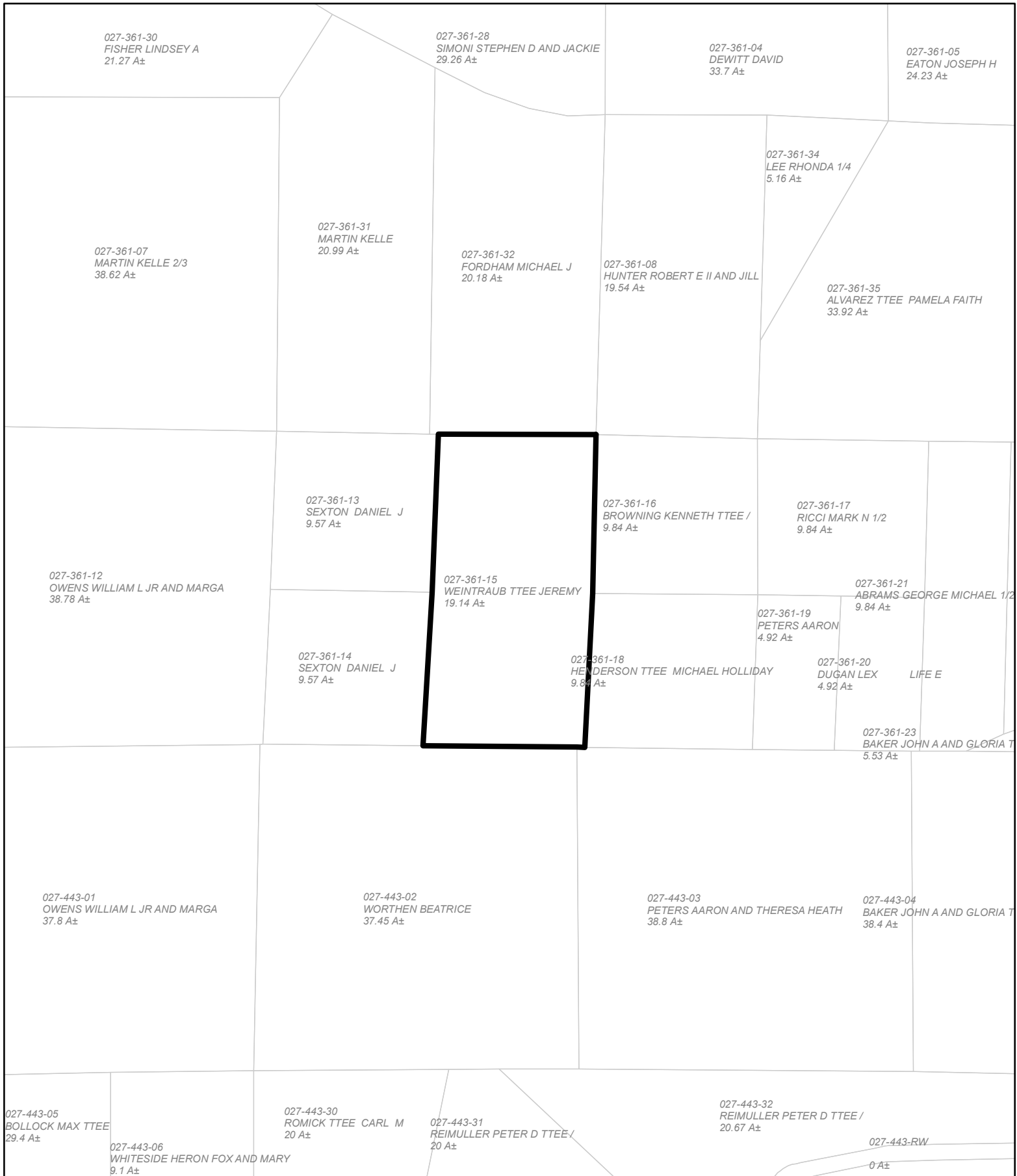
 Coastal Zone Boundary  
 Highways  
 Major Roads




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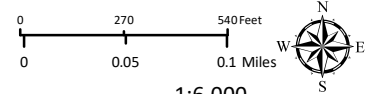
LOCATION

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 Assessors Parcels



1:6,000  
**ADJACENT PARCELS**

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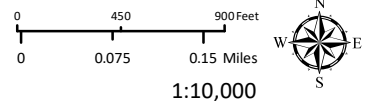




Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community

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Public Roads  
Private Roads  
Driveways/Unnamed Roads



1:10,000  
AERIAL IMAGERY

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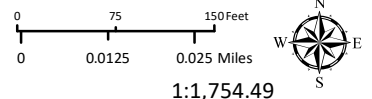




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== Private Roads  
---- Driveways/Unnamed Roads

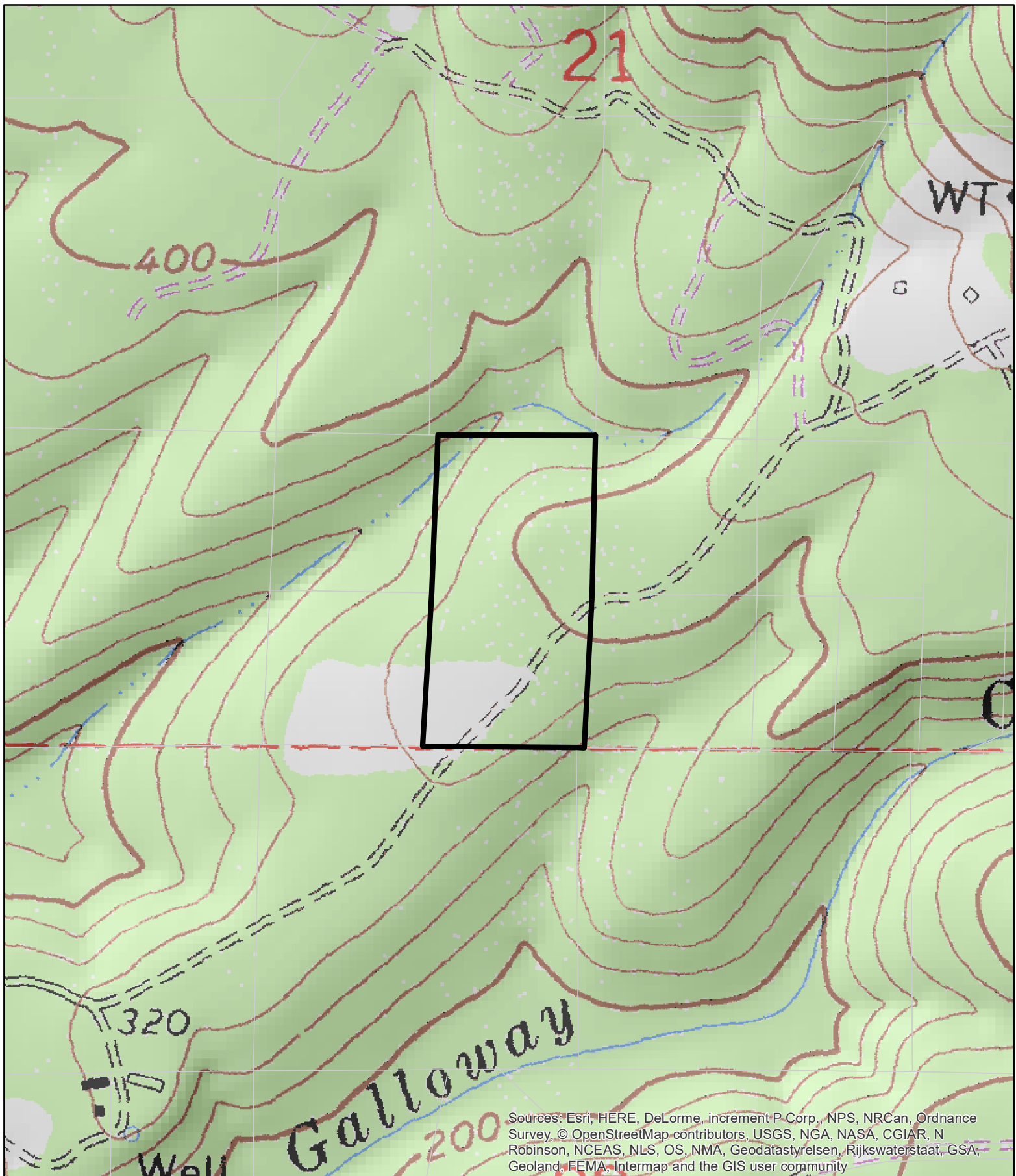


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**AGENT: Wynn Coastal Planning**  
**ADDRESS: 45400 Bill Owens Rd.**

 Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
1:6,000  
**TOPOGRAPHIC MAP**  
CONTOUR INTERVAL IS 40 FEET

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Lands of Weintraub  
Section 21, Township 12 North,  
Range 16 West, Mount Diablo Meridian  
Mendocino County, CA

General Notes

Proposed Land Use:

SFR, Guest Cottage, Use of a Trailer Coach:  
Occupancy while Constructing a Dwelling,  
Camping, Septic Infrastructure  
& Water Storage Tanks

General Plan Designation:

Zoning District:

Entitlement Permit Type:

Appealable to Coastal Commission:

Corridor Preservation Setback:

Highly Scenic Area:

Height Limit:

Tree Removal:

Yard Setbacks:

RR 10

RR 10

CDP

No

n/a

No

28'

None

50' front, rear & sides,

200' TPZ from Southern line

30'

Environmental Constraints:

Potential Geologic Hazards:

Water Source:

Wastewater Disposal:

Yes

No

Proposed on-site well

Proposed on-site septic

Lot Coverage Tabulation Gross Site Area:

Gross Site Area:

Maximum allowable lot coverage:

19.14 ac (833,738 sf)

10% (83,374 sf)

Lot Coverage:

(E) Footprint - Shed:

(P) Footprint - Residence:

(P) Footprint - Attached Garage:

(P) Footprint - Decks:

(P) Footprint - Patio:

(P) Footprint - Guest Cottage:

(P) Footprint - Deck:

120 sf

2,014 sf

836 sf

250 sf

44 sf

624 sf

152 sf

Total Building Footprint:

4,040 sf (0.48%)

(P) Driveway & Parking:

Total Driveway & Parking:

7,132 sf

7,132 sf

Sensitive Resources:

Legend

Type

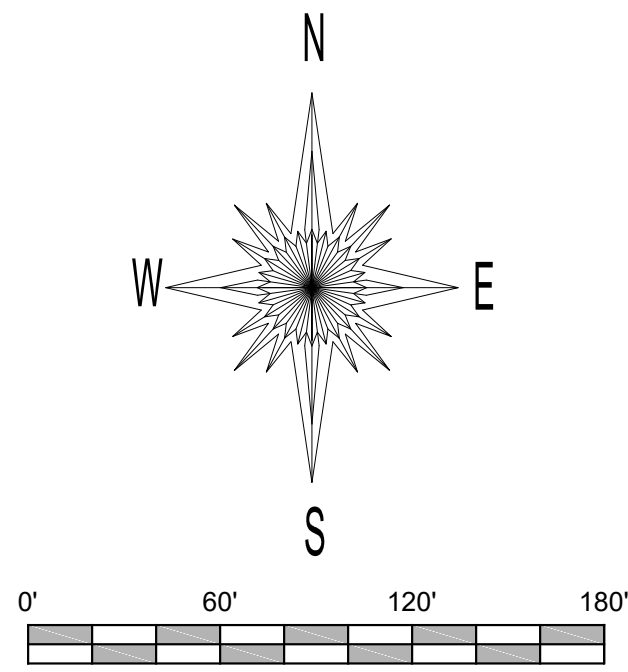
Distance from Development

WATER COURSE

270'±

EPHEMERAL WATERCOURSE

191'±



(P) REPLACEMENT  
LEACHFIELD

EXTENT OF TOPSOIL COVER

MODIFIED HIGHLINE  
LEACHFIELD

POSSIBLE LOCATION OF  
1200 GALLON CONCRETE SEPTIC TANK

(P) SFR  
w/ ATTACHED GARAGE

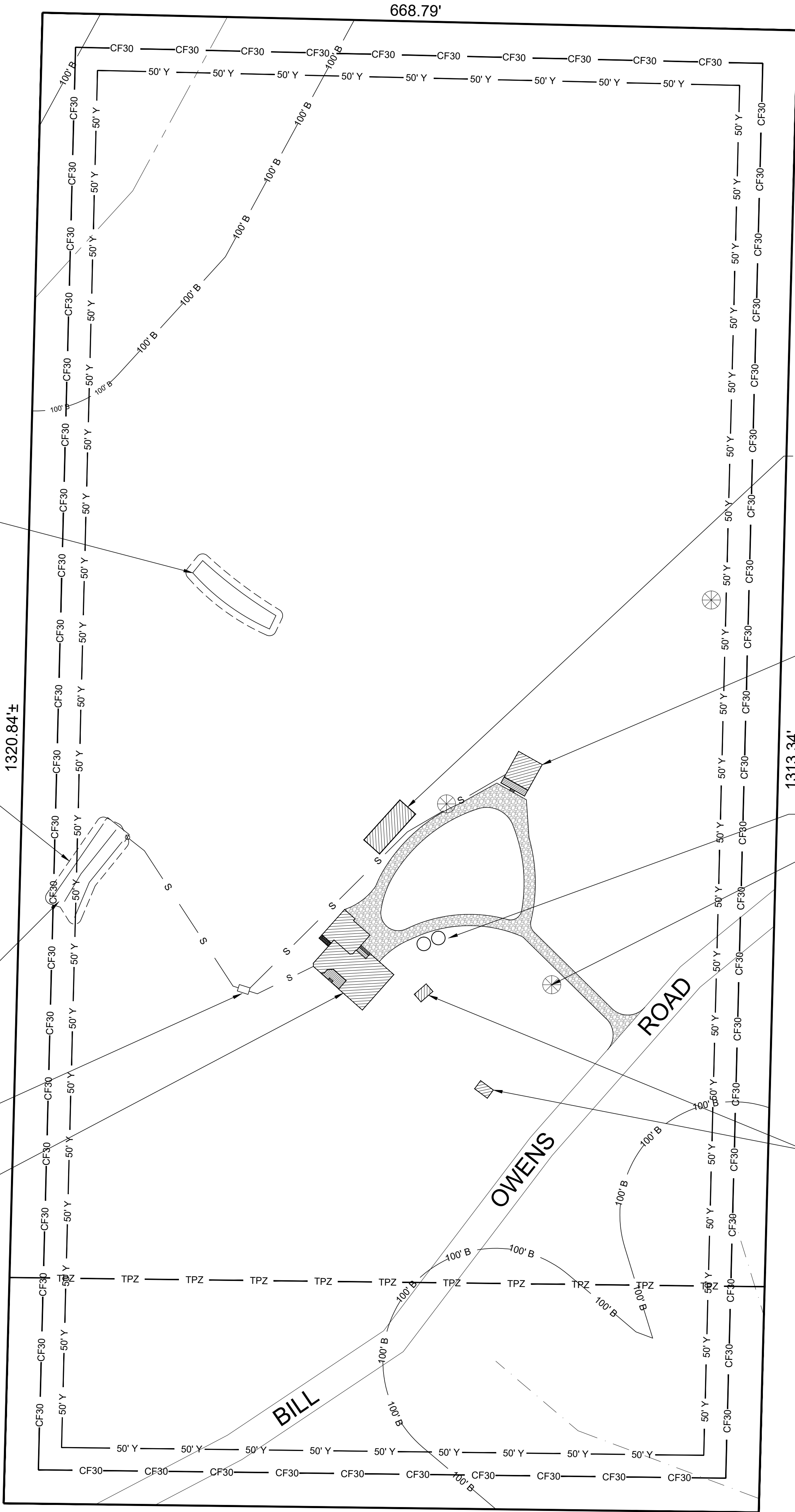
(P) USE OF A TRAILER  
COACH: OCCUPANCY  
WHILE CONSTRUCTING  
A DWELLING

(P) GUEST  
COTTAGE

(P) WATER TANKS

(E) TEST WELL  
(P) PRODUCTION  
WELL

(E) SHED



LEGEND:

- (E) GRAVEL DRIVEWAY
- (P) GRAVEL DRIVEWAY & PATH
- (P) CONCRETE PATIO
- (E) TEST WELL
- 100' B 100' BUFFER
- CF30 30' CAL FIRE SETBACK
- 50' Y 50' YARD SETBACK
- CPS CORRIDOR PRESERVATION SETBACK
- TPZ 200' TIMBER RESOURCES SETBACK TO DWELLING

SITE PLAN 1:60

1

SHEET

REVISION

BY DATE

APN

027-361-15-00

DRAWN BY: TH

DATE: 10/25/2023

SCALE: AS SHOWN

APPROVED BY:

WEINTRAUB

45400 Bill Owens Road  
Point Arena, CA 95468







703 North Main Street, Fort Bragg CA 95437  
ph: 707-964-2537 fx: 707-964-2622 www.WCPlan.com

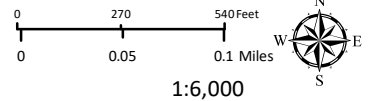
Design review, not meant  
for construction.





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**ADDRESS: 45400 Bill Owens Rd.**

-  Zoning Districts
-  Assessors Parcels
-  Public Roads
-  Private Roads

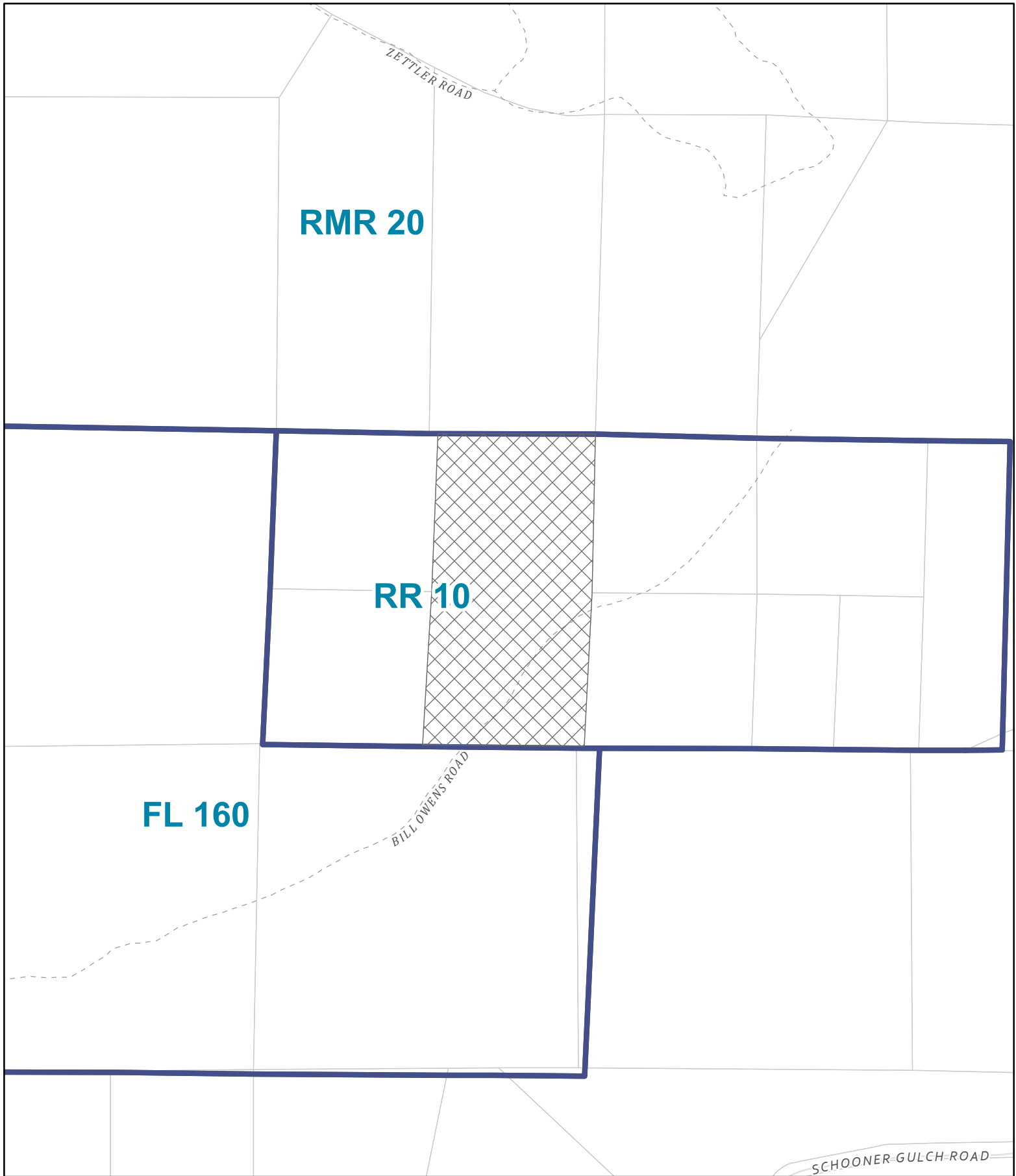


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**ZONING**

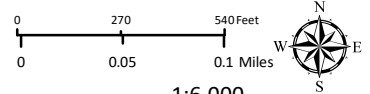
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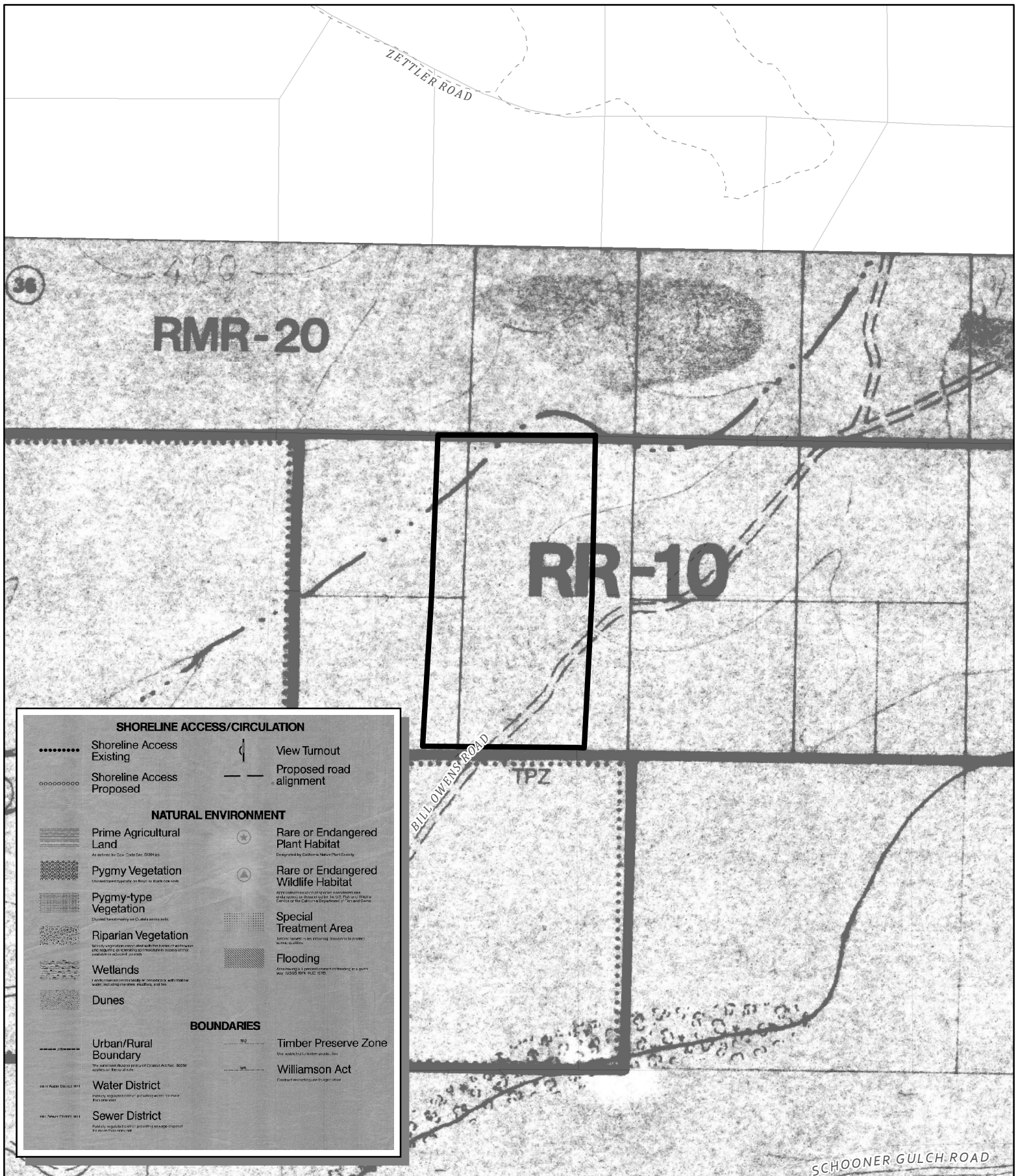
— Public Roads  
- - - Private Roads  
□ Assessors Parcels



1:6,000  
**GENERAL PLAN**

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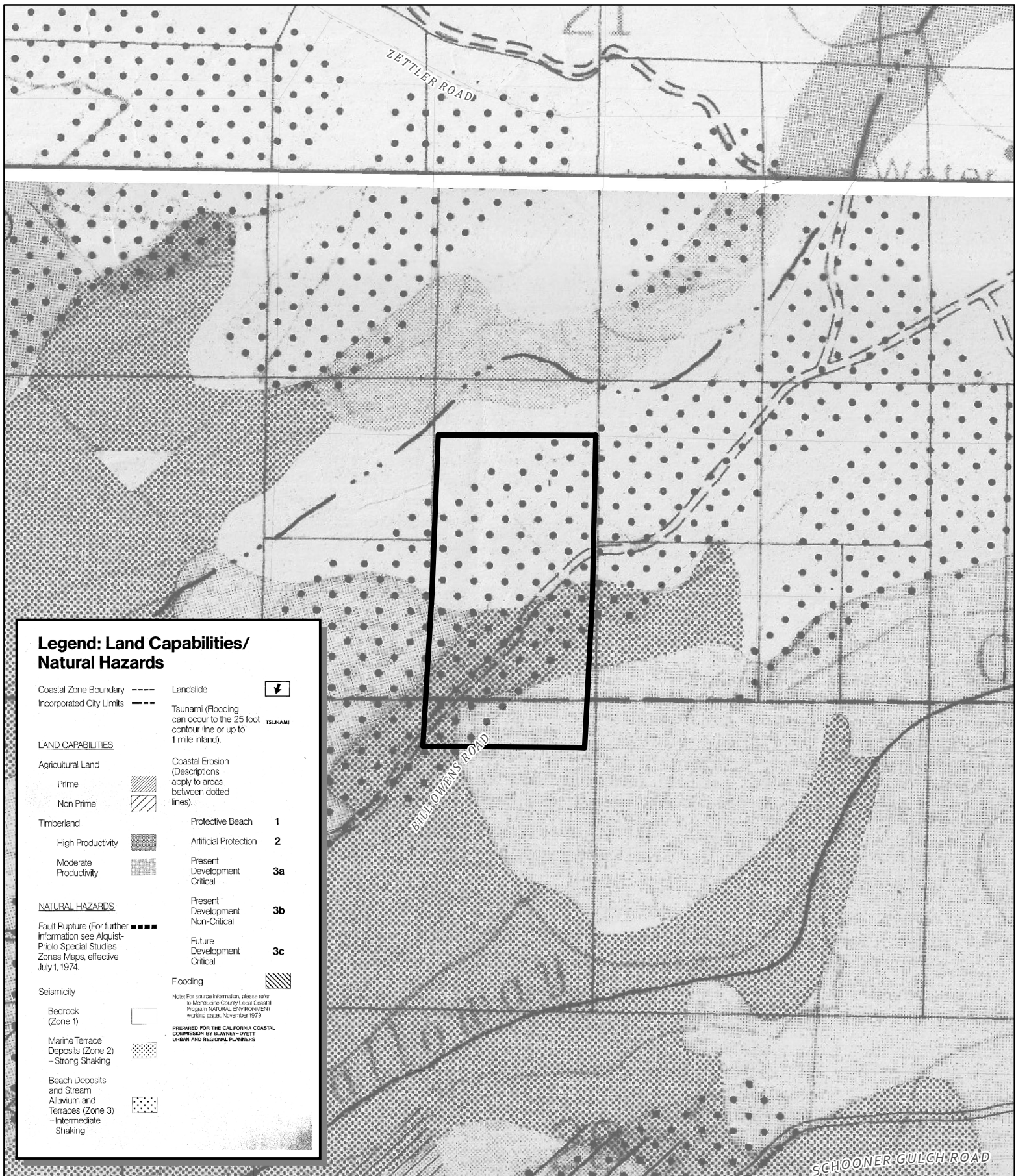




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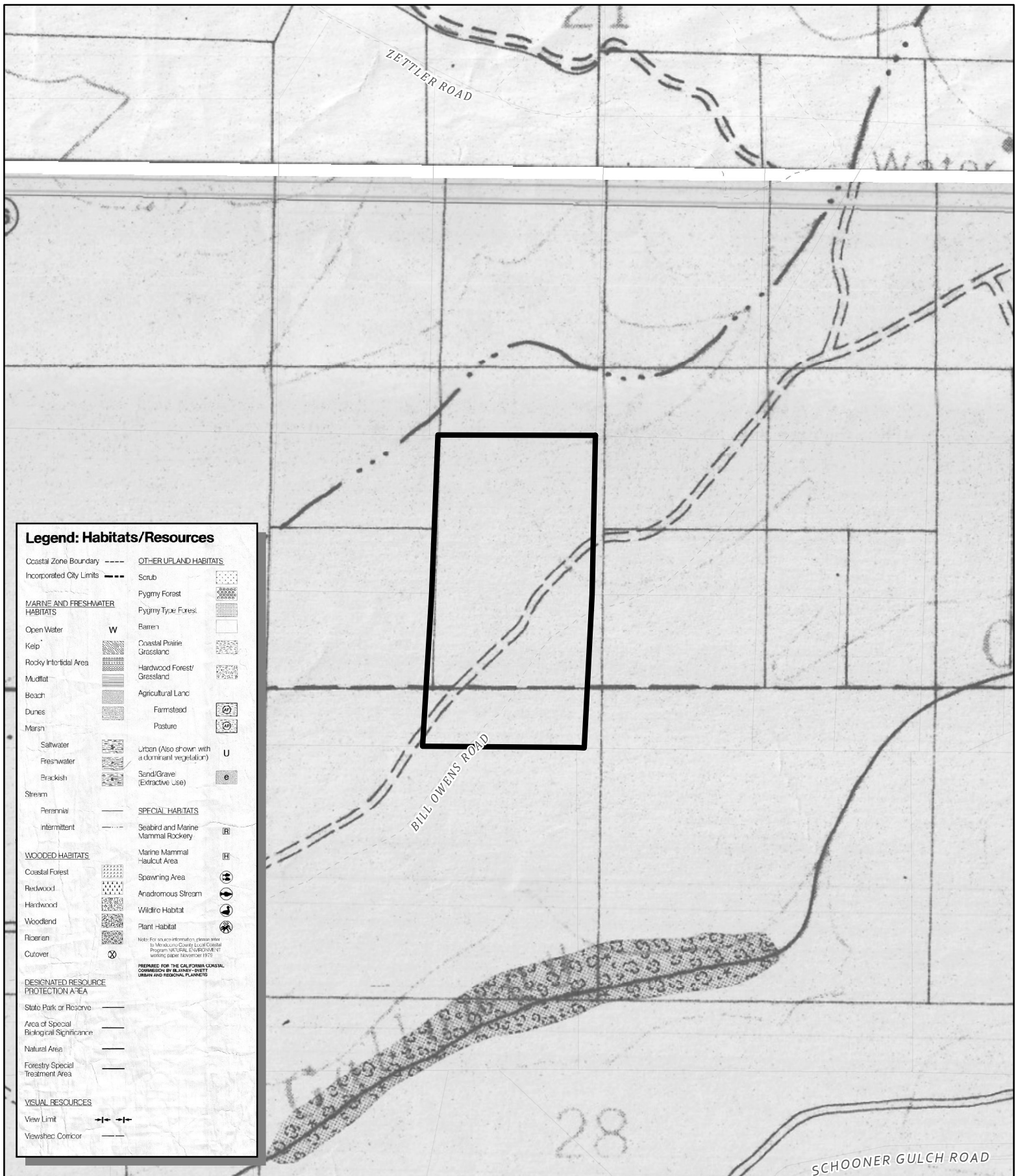


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**ADDRESS: 45400 Bill Owens Rd.**

LCP LAND CAPABILITIES & NATURAL HAZARDS

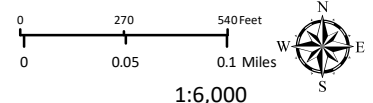
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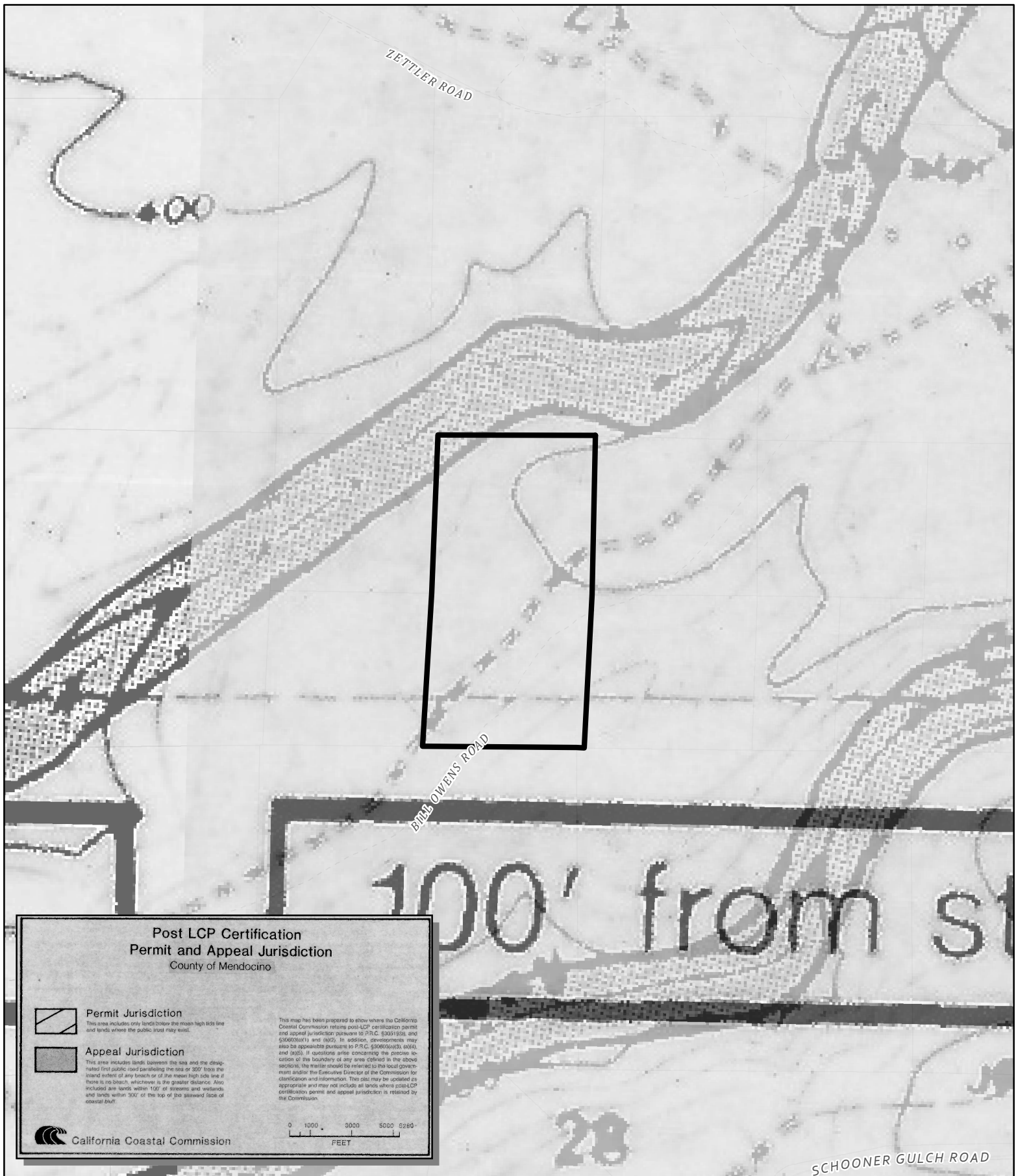
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Public Roads  
 Private Roads  
 Assessors Parcels



**LCP HABITATS & RESOURCES**

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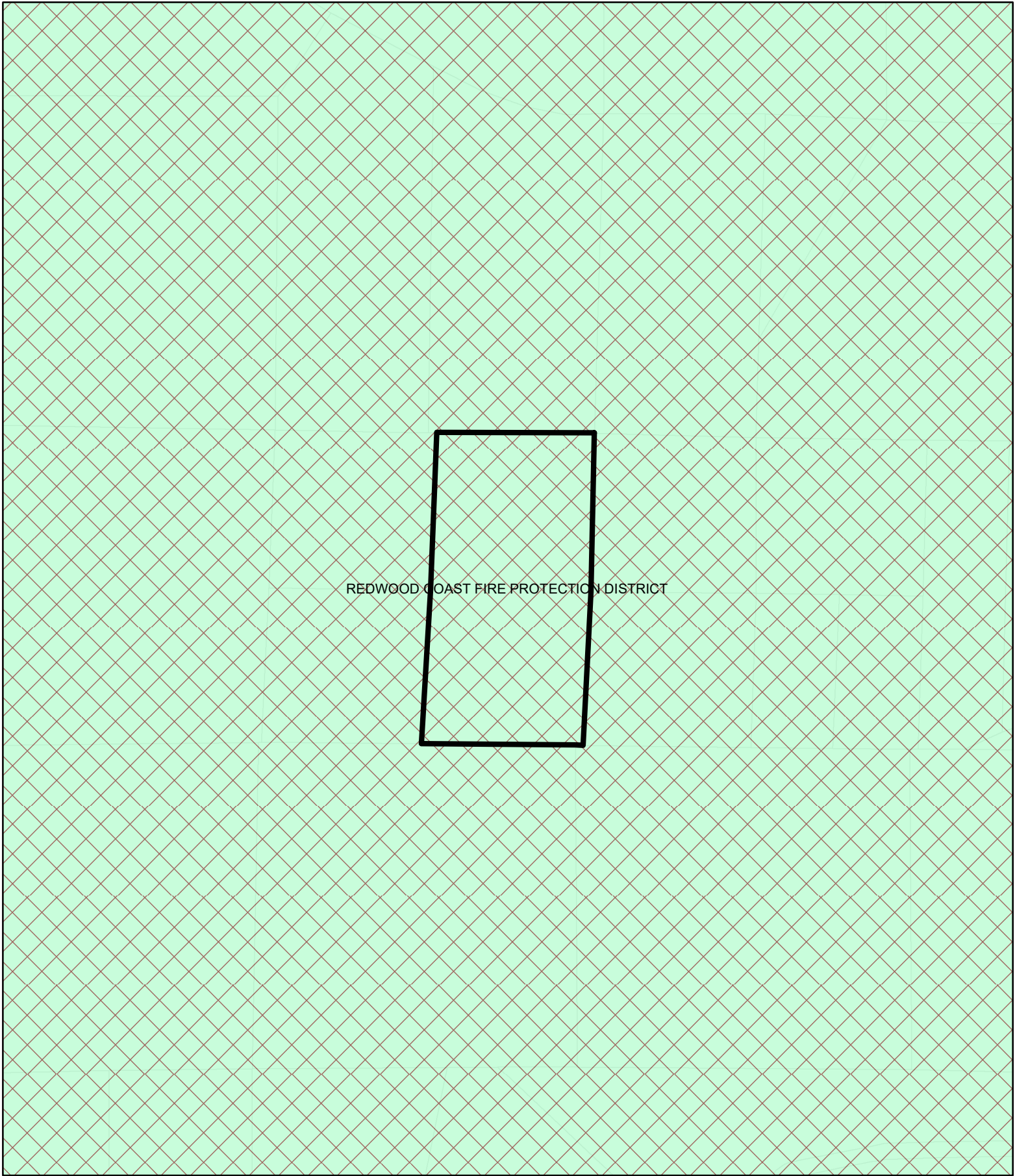
Public Roads  
Private Roads  
Assessors Parcels

0 270 540 Feet  
0 0.05 0.1 Miles  
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**POST LCP CERTIFICATION & APPEAL JURISDICTION**

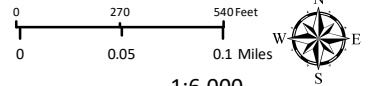
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REDWOOD COAST FIRE PROTECTION DISTRICT

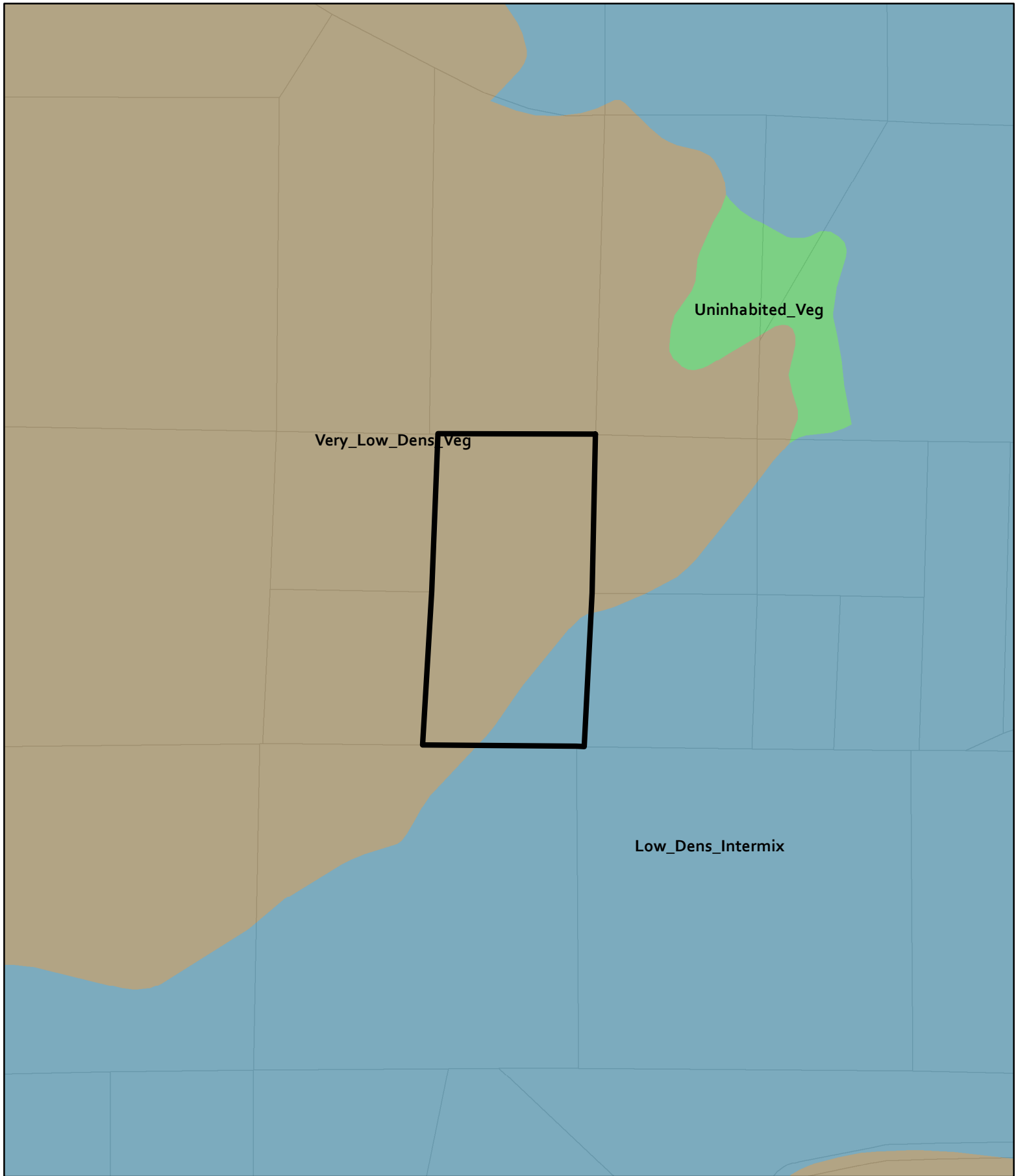
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**APLCT: Jeremy & Miranda Weintraub**  
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**ADDRESS: 45400 Bill Owens Rd.**




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**FIRE HAZARD ZONES & RESPONSIBILITY AREAS**  
STATE RESPONSIBILITY AREA

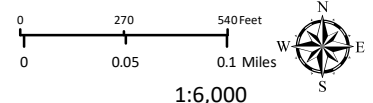
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 Assessors Parcels

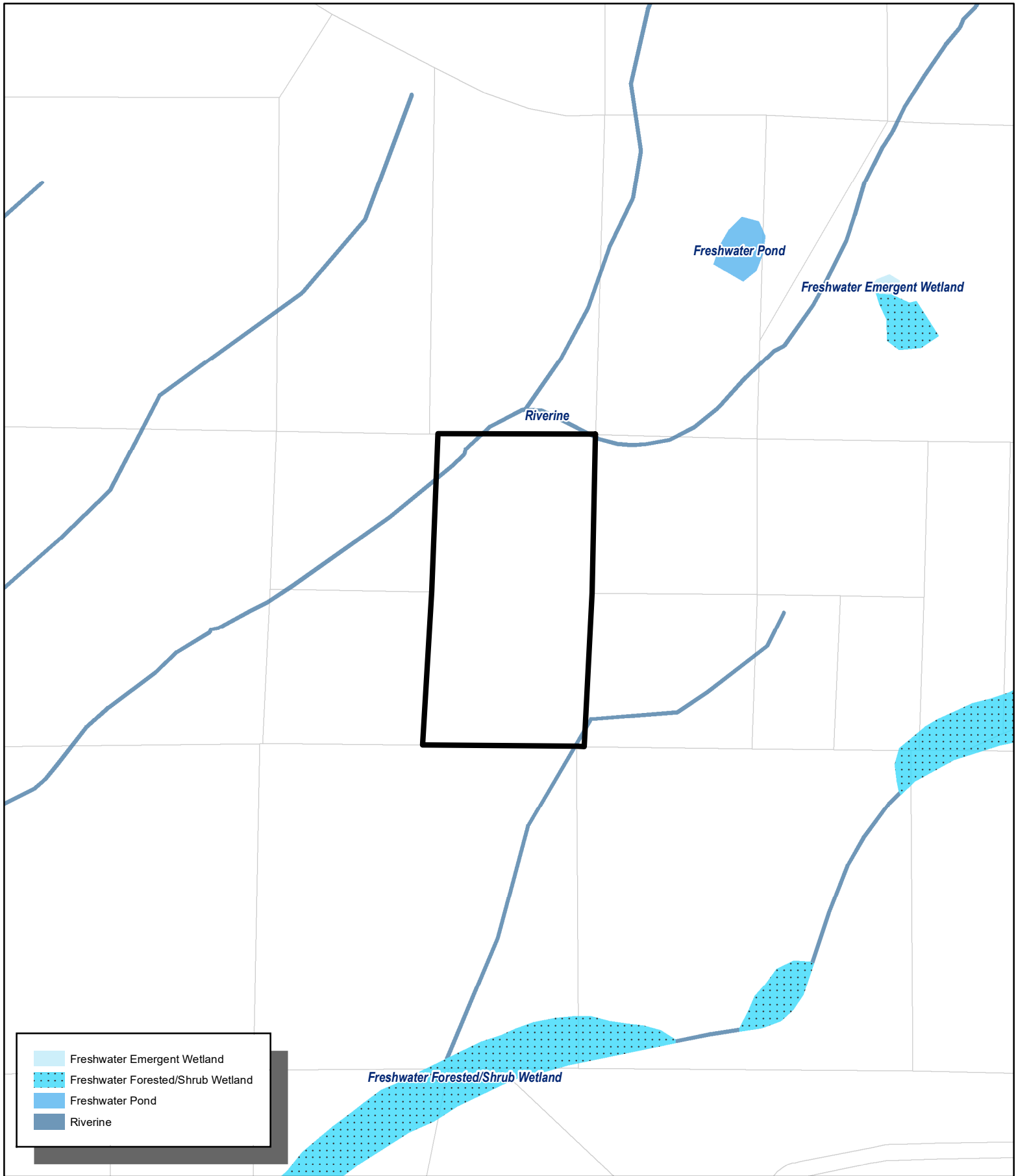


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**WILDLAND-URBAN INTERFACE**

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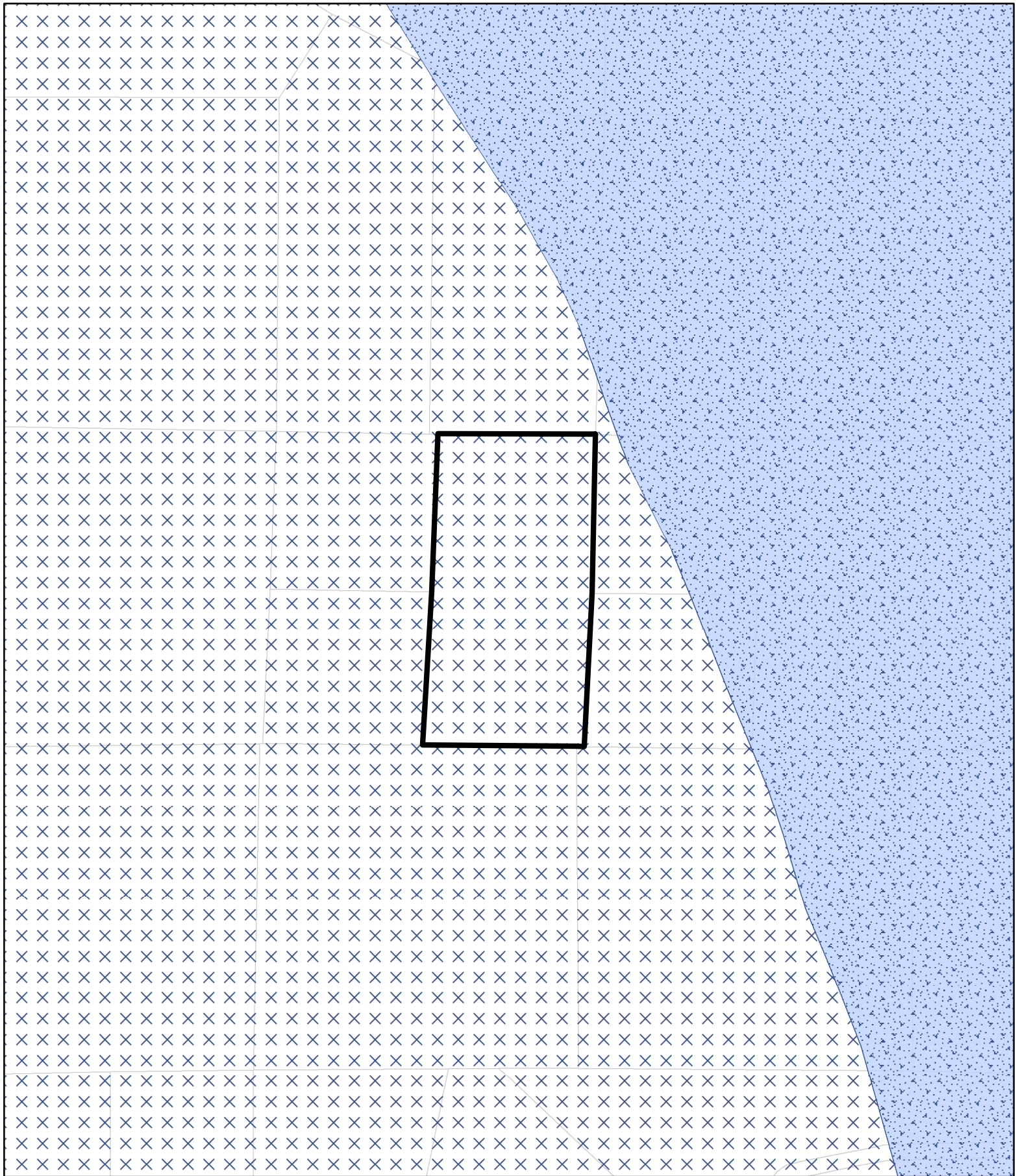


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**ADDRESS: 45400 Bill Owens Rd.**




Assessors Parcels

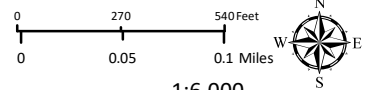
**WETLANDS**

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-  Critical Water Resources
-  Critical Water Resources Bedrock
-  Assessor's Parcels

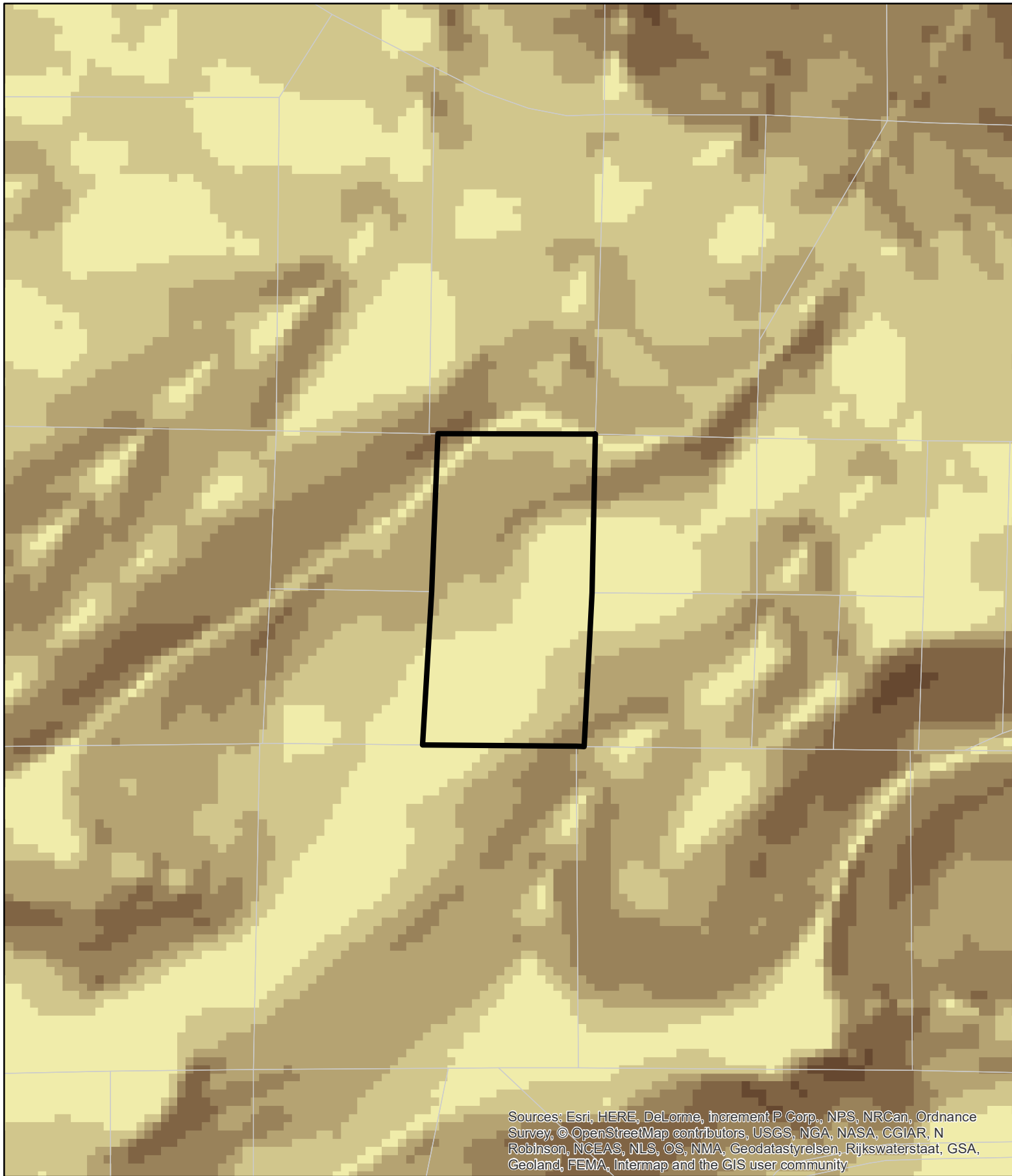


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## COASTAL GROUND WATER RESOURCES

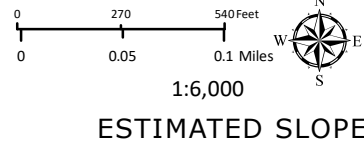
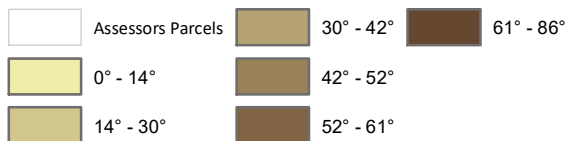
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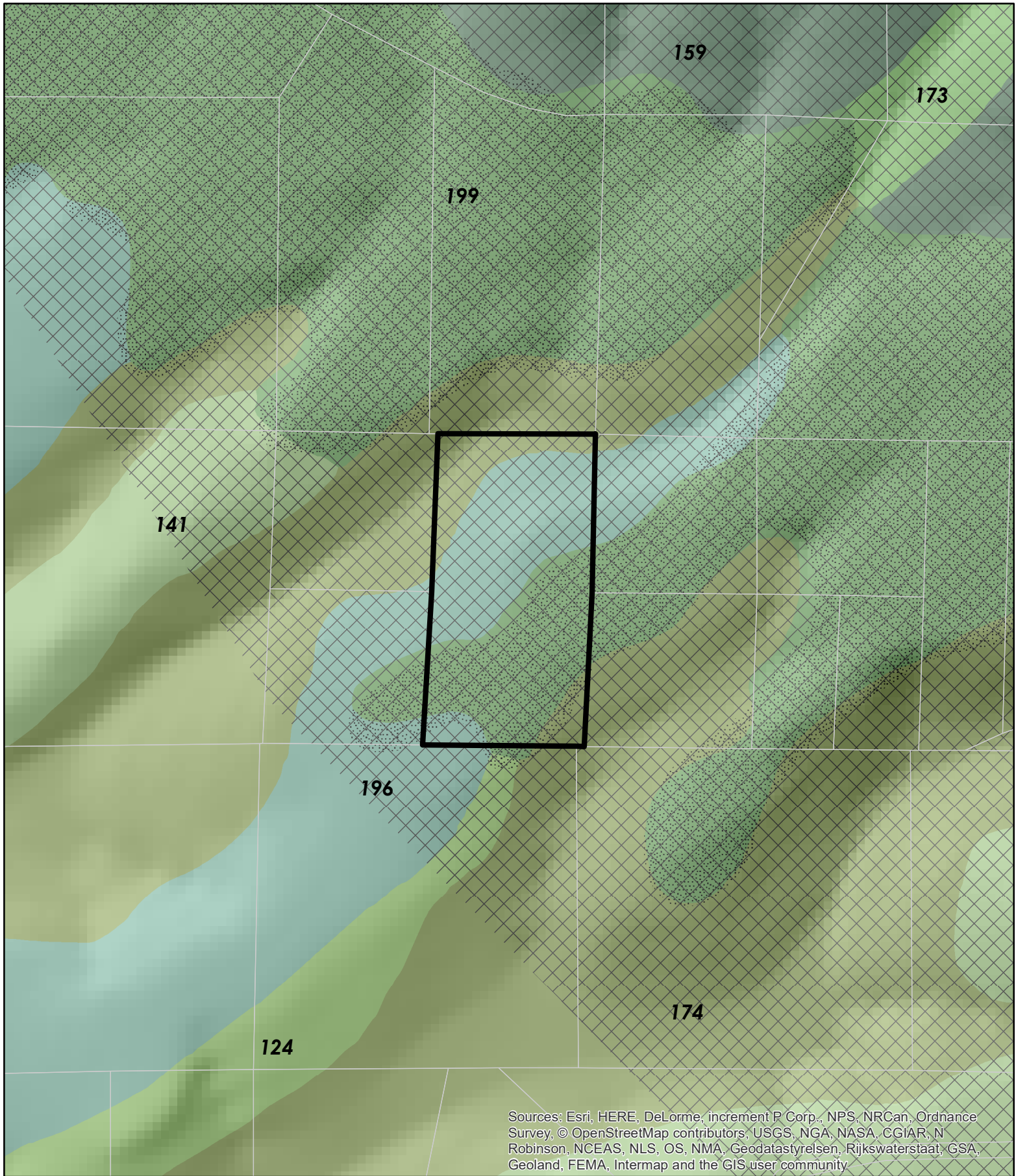


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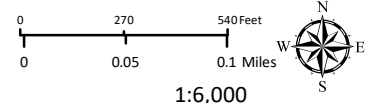
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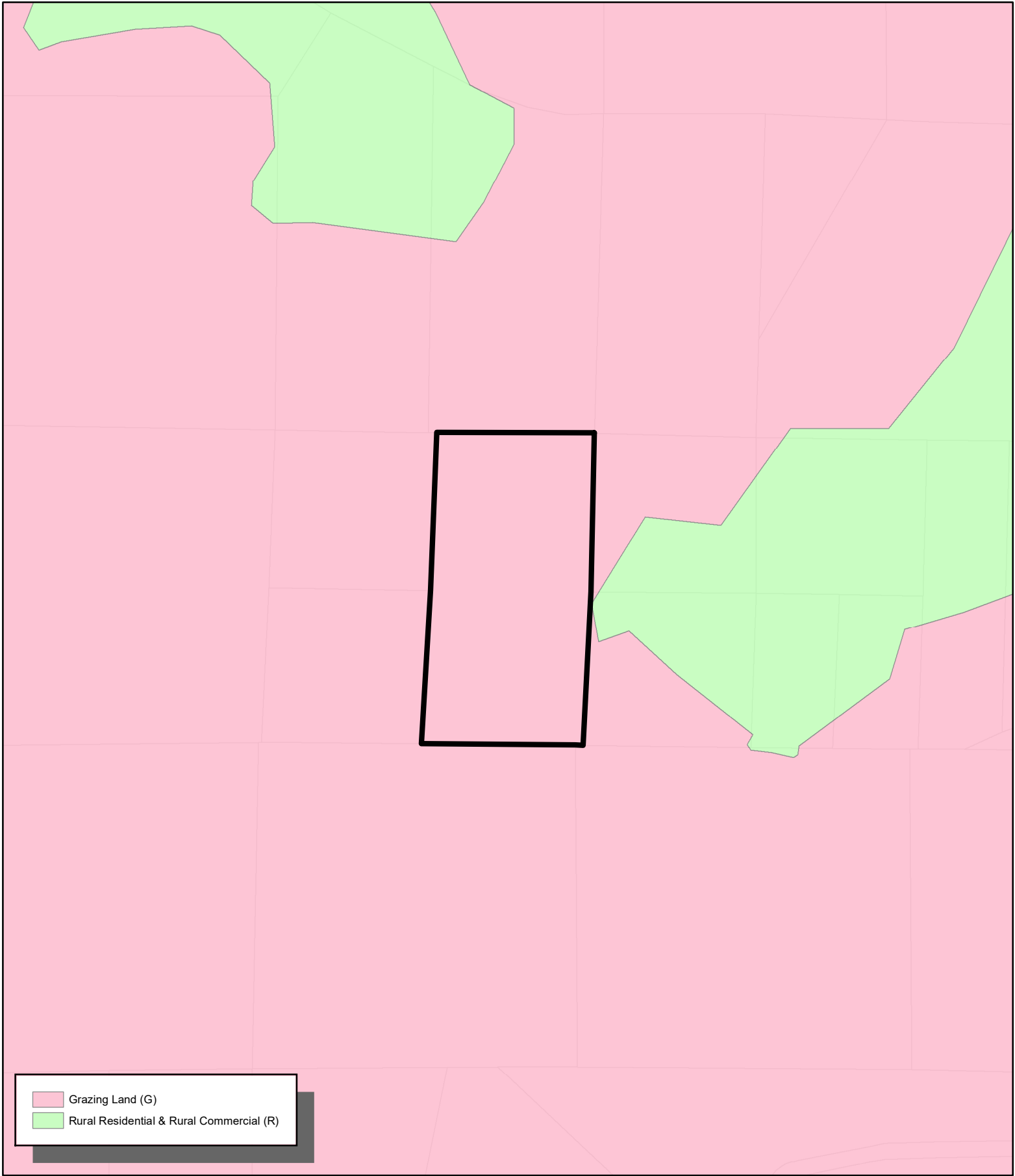
-  Assessor's Parcels
-  Shinglemill-Gibney Complex
-  Bishop Pine



**WESTERN SOIL CLASSIFICATIONS**

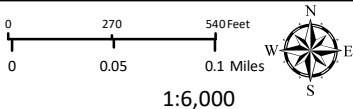
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Grazing Land (G)

Rural Residential & Rural Commercial (R)

Assessors Parcels

1:6,000

IMPORTANT FARMLANDS


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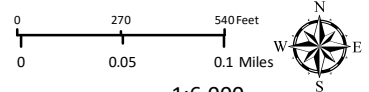
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# Arena Union Elementary

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 Assessors Parcels

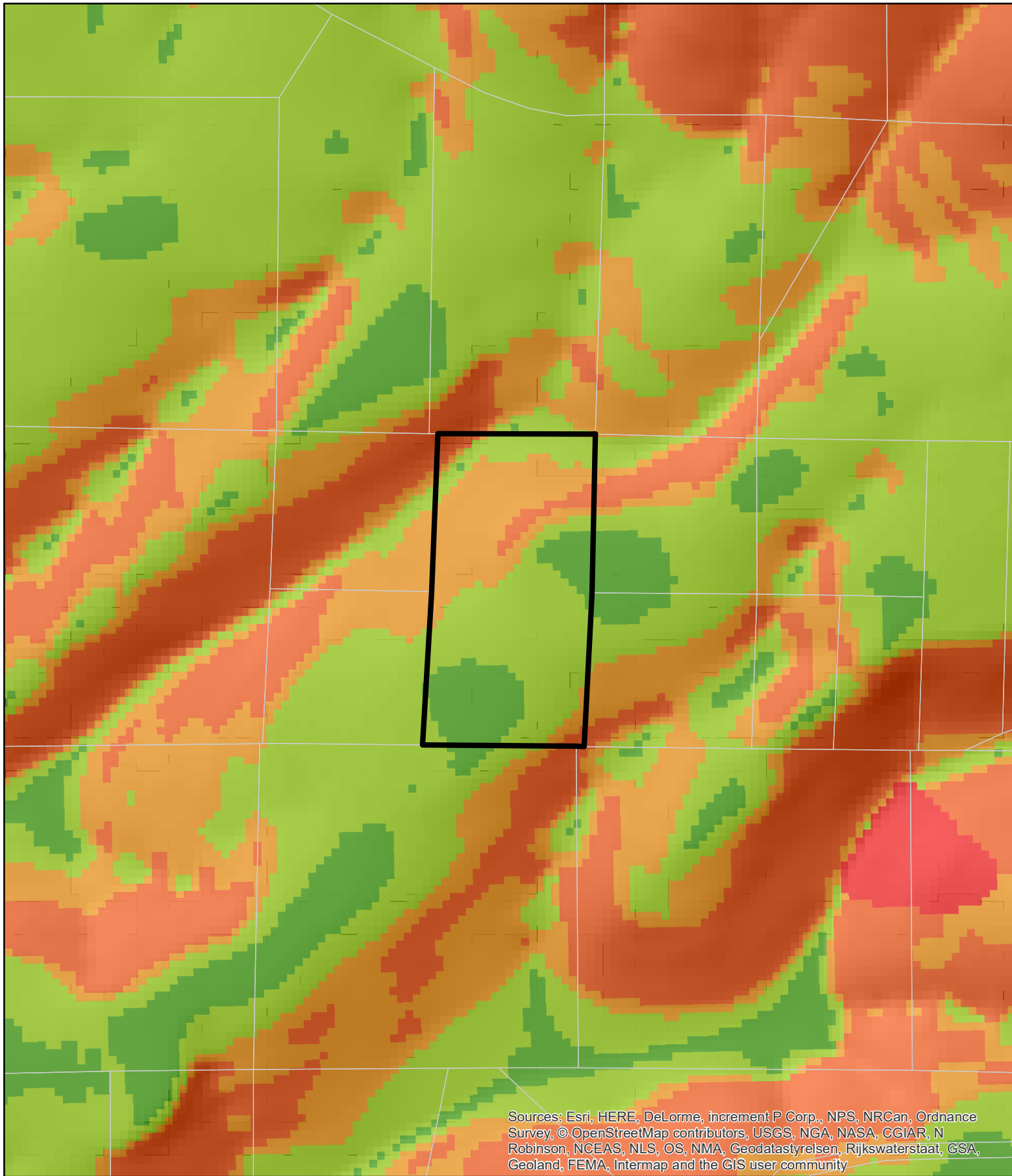


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SCHOOL DISTRICT

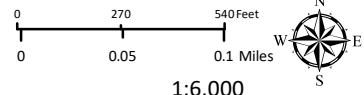
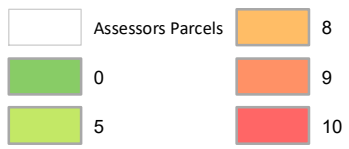
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1:6,000  
**LANDSLIDE HAZARDS**

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# **BOTANICAL SCOPING, WETLAND DELINEATION, AND BIOLOGICAL SCOPING SURVEY REPORT**

FOR

45400 BILL OWENS ROAD  
POINT ARENA, CA  
MENDOCINO COUNTY  
APN 027-361-15



*prepared for:*

Jeremy and Miranda Weintraub

*prepared by:*

Spade Natural Resources Consulting  
Teresa R Spade, AICP  
611 Albion Street  
PO Box 1503  
Mendocino, CA 95460  
(707) 397-1802  
spadenrc@gmail.com

January 25, 2021

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## 1.0 Summary and Background

On November 6 and November 20, 2020, botanical and biological scoping surveys occurred at 45400 Bill Owens Road in Point Arena (APN 027-361-15). A wetland delineation occurred on November 20, 2020. The survey was conducted in areas within 100 feet of the development area as shown on the site plan. The purpose of the survey effort was to determine whether any natural resource constraints were present at the property that may impact proposed development, which consists of a proposed single-family residence and associated development.

The property is located in the Coastal Zone, east of Highway 1, and is undeveloped.

The property is vegetated by redwood forest. No special status plants were found within 100 feet of the proposed project area during scoping efforts, however additional botanical surveys are still needed in May and June of 2021. Special status wildlife habitat within 100 feet of the project area includes migrating habitat for California red legged frog, red bellied newt, California giant salamander, nesting birds, Townsend's big-eared bat and other special status bats. A buffer area of 100 feet is recommended to the streams on the property.

The biological scoping survey and wetland delineation has been conducted to facilitate the issuance of a permit to build within the Coastal Zone in Mendocino County. Mapping locations are approximate and a professional survey is recommended for accuracy. The determinations outlined in this study reflect the professional opinion of Spade Natural Resources Consulting. Agencies may need to be consulted to determine if they are in agreement.

## Weintraub Location Map 45400 Bill Owens Road

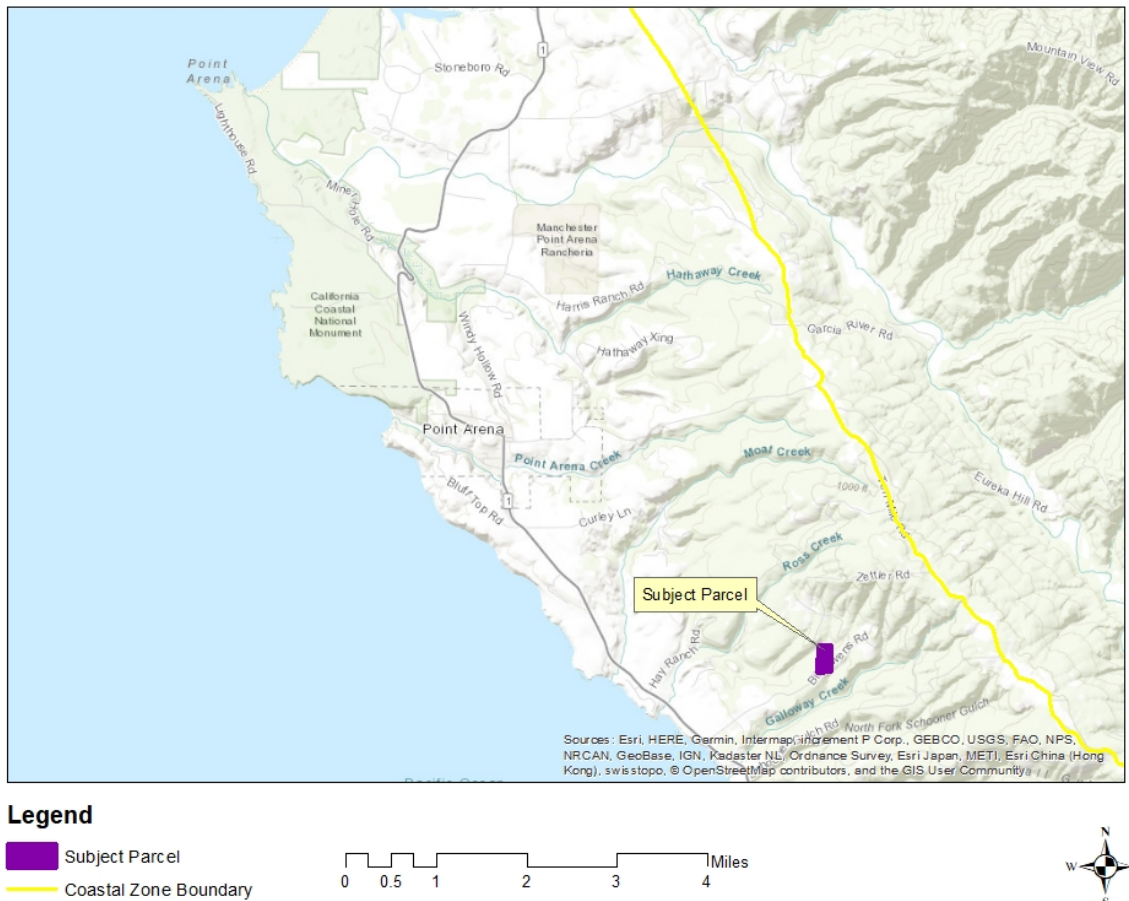


Figure 1. Project location.

## 2.0 Project Site Description

### 2.1 GENERAL SITE DESCRIPTION

The 19.14-acre property is located in the Coastal Zone, east of Highway 1, and is undeveloped. The property is about 4.5 miles south of Point Arena and about 1.5 miles east of Highway One on Bill Owens Road. Bill Owens Road runs through the flat portion of the property. On both the northwest and southeast sides of the property, the property slopes downward towards streams.

### 2.2 VEGETATION, HYDROLOGY, AND SOILS

In the vicinity of the building envelope, the property is forested with redwood forest. A tributary to Galloway Creek is present just southeast of the property, and a tributary to Ross Creek is present in the northwest corner of the property. Soils are mapped as Shinglemill-Gibney Complex, 2 to 9 percent slopes, and Quinliven-Ferncreek Complex, 2 to 15 percent slopes in the vicinity of the project area as shown in the NRCS Custom Soil Resource Report, included as Appendix E. Some soils within the Shinglemill-Gibney Complex are considered hydric soils, including Shinglemill (45%), Tregoning (5%), and Tropaquepts (5%).



## 3.0 Methods

### 3.1 WILDLIFE SCOPING SURVEY

Wildlife scoping surveys were based on the scoping lists in Tables 1-3 in Appendix A, and were conducted within the building envelope. The investigator, Teresa R. Spade, has a Bachelor's Degree in Natural Resources Planning and Interpretation.

Surveys were conducted by walking the project area and areas within 100 feet, and documenting all observed habitat for special status wildlife species.

### 3.2 BOTANICAL SURVEY

Survey methodology was informed by guidance provided in the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). Per the CDFW 2018 protocol, special status plants, for the purposes of this document, include all plants that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA) or candidates for possible future listing as threatened or endangered under the ESA (50 C.F.R., § 17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.)<sup>4</sup>. In CESA, “endangered species” means a native species or subspecies of plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code, § 2062). “Threatened species” means a native species or subspecies of plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA (Fish & G. Code, § 2067). “Candidate species” means a native species or subspecies of plant that the California Fish and Game Commission has formally noticed as being under review by CDFW for addition to either the list of endangered species or the list of threatened species, or a species for which the California Fish and Game Commission has published a notice of proposed regulation to add the species to either list (Fish & G. Code, § 2068).
- Listed as rare under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish & G. Code, § 1901).

- Meet the definition of rare or endangered under CEQA Guidelines section 15380, subdivisions (b) and (d), including:
  - Plants considered by CDFW to be “rare, threatened or endangered in California.” This includes plants tracked by the California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1 or 2;
  - Plants that may warrant consideration on the basis of declining trends, recent taxonomic information, or other factors. This may include plants tracked by the CNDDB and CNPS as CRPR 3 or 4.
- Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include plants that are at the outer limits of their known geographic range or plants occurring on an atypical soil type.

To the extent possible, natural communities or vegetation alliances are described and mapped based on the online Manual of California Vegetation (Sawyer and Keeler Wolf, 2009). Sensitive natural communities are determined by the most current version of the California Department of Fish and Wildlife’s List of California Terrestrial Natural Communities found online at the VegCamp website.

Surveys were based on the scoping lists in Tables 1-3 in Appendix A, and were conducted in the areas of the proposed development and areas within 100 feet. The investigator was Teresa R. Spade, AICP. Teresa R. Spade has a BS degree in Natural Resources Planning and Interpretation. She has 15 years of experience working in land use planning and natural resources, and is a certified planner per the American Institute of Certified Planners. She has contributed to hundreds of coastal development projects in Mendocino County. She has been trained in Army Corps wetland delineation by Richard Chinn Environmental Training in Sacramento, CA. She is on the Fish and Wildlife Service approved list for Point Arena mountain beaver surveys and has surveyed for the Federally Endangered Behren’s silverspot butterfly.

### **3.2.1 Botanical Survey Literature Review**

Existing records of special-status plant and animal species occurrences were reviewed to determine which special-status species have the potential to occur in the project vicinity. The following sources were consulted:

- California Native Plant Society (CNPS) Electronic Inventory occurrence records, nine-quad search centering in the Point Arena USGS 7.5 minute quadrangle.



- California Natural Diversity Data Base (CNDDB) occurrence records for Point Arena 7.5 minute quadrangle.
- Aerial imagery and topographic maps analysis, to gather baseline info regarding habitat in the project area.

### 3.2.2 Botanical Survey Field Methods

The surveys were conducted on November 6 and November 20, 2020, using as guidance the floristic survey protocol recommended in CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (March 20, 2018). **Follow up surveys are expected to occur in May and June of 2021 in order to assure that bloom windows for special status plants with potential for presence have been met.** Field survey schedules to identify special status plants were determined based on the known blooming periods of these species, the geographic location, the natural communities present, and the weather patterns of the year in which the surveys were conducted. Plant species are identified to the taxonomic level necessary to determine rarity and listing status. Nearby accessible known occurrences of sensitive plant species are expected to be observed to determine that the plants are identifiable at the time of the survey.

Botanical surveys are conducted by field observers walking throughout the project area, and areas within 100 feet, in a systematic method sufficient to ensure thorough coverage. All plant species detected within the project area are recorded. The location of any found special status plant or plant community was recorded using a Global Positioning System (GPS) where available, or by use of a detailed map (1:24,000 or larger) showing the locations and boundaries of each special status plant community and population in relation to the project area, with occurrences and boundaries marked as accurately as possible. In areas under the forest canopy, GPS is less accurate. A professional survey by a land surveyor is recommended for a greater degree of accuracy, where special status plants or habitats are found within 100 feet of the project area. Where the number of individual species is small, that number is counted. Where large populations are observed, the number of individuals is estimated. A meter by meter population estimating square is used to estimate larger populations. To the extent possible, information is provided on the percentage of each special status plant in each life stage observed such as seeding, vegetative, flowering, and fruiting. The density of populations is provided, describing whether special status plants are present in a relatively low, medium or high density. Photographs are also taken of special status plants and vegetation alliances, showing identifying features.

For known occurrences, any adverse conditions, such as disease, drought, predation, fire, herbivory or other disturbances that may preclude the presence or identification of potentially present special status plants or vegetation alliances are considered when making a negative finding. If adverse conditions exist during survey efforts, the known occurrence is considered still potentially present until surveys are repeated during

appropriate times of the year for proper identification, when normal conditions are present and known reference sites are consulted to verify that blooms or other identifying features should be visible.

### **3.3 WETLAND DELINEATION**

Surveys were conducted to identify the presence, extent, and quality of waters, including wetlands that may be considered jurisdictional by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act, and areas considered by the California Coastal Commission as Coastal Act wetlands.

This report summarizes the results of the wetland investigation and provides technical documentation for all delineated wetlands. Included in this report are the wetland delineation data necessary for a jurisdictional determination by the Corps, Regional Water Quality Control Board, (RWQCB, or Water Board), California Department of Fish and Wildlife (CDFW), and the California Coastal Commission (CCC). The wetland methodology used in this report is consistent with methods described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE, 2008) and the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987). This wetland delineation is subject to review and approval by the RWQCB, USACE, CDFW, CCC, and Mendocino County Department of Building and Planning. The maps included in this report were generated from field measurements, aerial photography, Global Positioning System (GPS) data, and existing geospatial datasets.

#### **3.3.1 Wetland Delineation Literature Review**

Imagery - Aerial photographs or satellite imagery can be particularly useful for the identification of saturated soils where plant cover is sparse and ponding or where drainage patterns become evident. Particularly, a comparison of the same site over time and at different times during the year can show areas of inundation or saturation or patterns of vegetation reflecting hydric conditions. Numerous sources of imagery are available such as National Agriculture Imagery Program (NAIP), Land Satellite (LANDSAT), Digital Orthophoto Quadrangles (DOQ), and Google Earth. These types of images are also useful in the identification of riparian vegetation and prominent wetland features that are not accessible or that occur adjacent to but offsite the project area.

The ArcGIS world imagery service layer was used in aerial photo mapping.

Saturation visible on aerial imagery is considered by the Army Corps as a secondary indicator for the presence of hydrology in a study area. These signatures of wetland hydrology can be examined in the office and then confirmed during a field site visit. Prior to the wetland delineation site visit, aerial imagery from GoogleEarth was used to determine any visible saturation in the project area. No visible saturation was observed.



National Wetland Inventory Maps - The USFWS produces wetland maps and geospatial wetland data for the United States and makes these data available to the public (USFWS 2018). Wetlands are primarily mapped by identifying them from aerial imagery and then classified using the Cowardin system (FGDC 2009). These maps are a supplemental tool for onsite wetland investigations and should be used with caution as all wetlands have not been mapped and the maps can be limited by scale.

A USFWS NWI map was created by using the web application (Figure 2) to show its relation to the Study Area.

Soil Survey - NRCS maintains published soil surveys for counties across the United States that provide information on the origin of soils, their composition and texture, and their use for agriculture. Additionally, NRCS maintains the “Hydric Soils List of California,” which lists soils from county soil surveys that are sufficiently wet in the upper part to develop anaerobic conditions during the growing season.

The online database for the national list of hydric soils was reviewed prior to the wetland delineation field visits, and a soil map and report were produced using NRCS’s online Web Soil Survey (NRCS 2020). These reports are useful in determining the composition of the soil map units, which are rarely comprised of entirely the same soil.

A custom soil report for the project area was created using NRCS’s online Web Soil Survey (Appendix E).

### **3.3.2 Wetland Delineation Field Methods**

Section Potential 404 Jurisdictional Wetlands - This delineation study has been conducted in accordance with the U.S. Army Corps of Engineers Wetlands Delineation Manual (Corps Manual) (Environmental Laboratory 1987) and the Western Mountains, Valleys, and Coast Region (Version 2.0) Regional Supplement (USACE 2010). This study evaluated the presence or absence of indicators of three wetlands parameters described in the Corps Manual. The three parameters used to determine the presence of wetlands are (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. According to the Corps Manual (1987): “...[E]vidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation.”

Sample points in the study area were established to collect data on vegetation, hydrology, and soils and reported on Western Mountains, Valleys, and Coast Region Corps data forms included in Appendix D. A description of these three indicators is summarized below. The location of these sample points and the extent

of the wetland boundary were recorded using a Wide Area Augmentation System (WAAS) corrected GPS receiver and the area of the delineated wetland was calculated using GIS software.

**Hydrophytic Vegetation** - The indicator status assigned to a species designates the probability of that species occurring in a wetland. A species with an indicator of OBL, FACW, or FAC is considered to be typically adapted for life in a wetland (hydrophytic vegetation). A species indicator of, FACU and UPL determines an upland species. The wetland occurrence probability and abbreviations utilized in the lists are presented below.

**Table 1. Wetland Indicator Status Groups**

| Wetland Indicator Status   | Definition   |
|----------------------------|--|
| Obligate Wetland (OBL)     | Almost always occur in wetlands                          |
| Facultative Wetland (FACW) | Usually occur in wetlands, but may occur in non-wetlands |
| Facultative (FAC)          | Occur in wetlands or non-wetlands                        |
| Facultative Upland (FACU)  | Usually occur in non-wetlands, but may occur in wetlands |
| Obligate Upland (UPL)      | Almost never occur in wetlands                           |

The vegetation at each sampling point was recorded and evaluated for prevalence of hydrophytes using the most recent list of hydrophytic plants (Lichvar 2016).

**Hydric Soils** - The Natural Resource Conservation Service defines a hydric soil as: “A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” (Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.) Soils formed over long periods of time under wetland (anaerobic) conditions sometimes possess characteristics that indicate that they meet the definition of hydric soils. In each pit distinct soil layer depths were noted and their matrix and mottle colors (if present) were compared to the Munsell soil color chart (GretagMacbeth 2000) for color appearance (hue), intensity (value), and shade (chroma). Redoximorphic features and soil texture were noted.

**Wetland Hydrology** - Wetland hydrology is a term which encompasses hydrologic characteristics of areas that are periodically inundated or saturated within 12 inches of the surface at some time during the growing season. Recorded data can be used when available to determine wetland hydrology. Recorded data showing inundation or saturation within 12 inches of the surface for a minimum of five percent of the growing season (approximately 14 days) is considered evidence of wetland hydrology. When studies are conducted at a time of year when surface water, ground water, or saturated soils cannot be observed, evidence of wetland hydrology is based on observation of the hydrologic indicators described in the 1987 Corps Manual. Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, and drift lines, or indirect indicators (secondary indicators), such as oxidized root channels and algal mats. If indirect or secondary indicators are used, at least two secondary



indicators must be present to conclude that an area has wetland hydrology. The wet areas in the study area were examined for these hydrologic indicators. The presence of any primary or secondary wetland hydrologic indicators was noted at each sampling point.

Potential Section 404 Jurisdictional “Other Waters” - Non-wetland non-tidal waters are those bodies of water that convey water such as perennial, intermittent and ephemeral streams, or bodies of water such as lakes and ponds that are deep enough to exclude the growth of hydrophytic vegetation. Typically, these are hydrological features with a defined stream channel, bed, and bank.

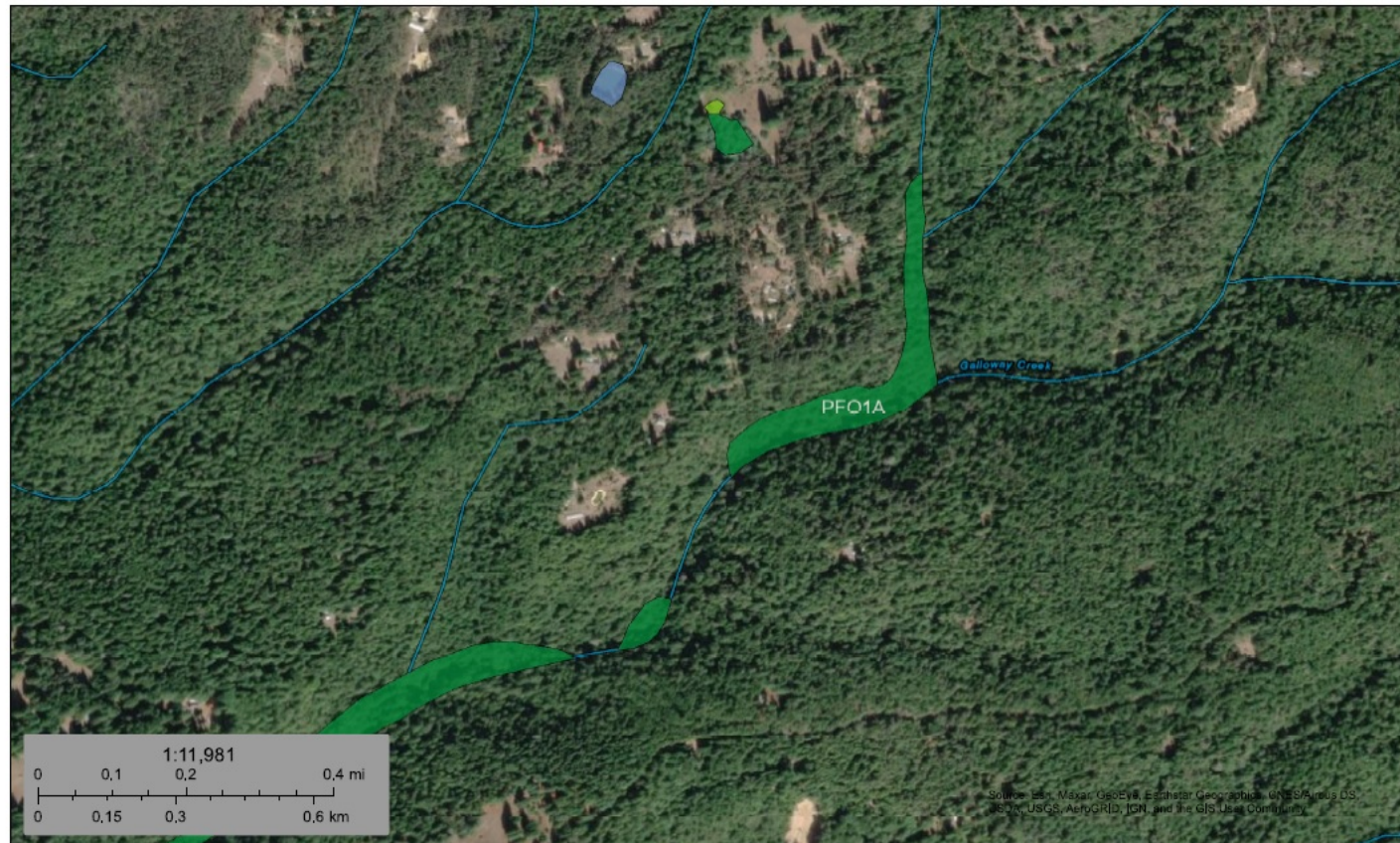
All of these types of features that were present, were documented within the project area and mapped in the field with a GPS or also with the aid of georeferenced aerial photography in GIS.

Potential Section 401 Jurisdictional Waters - Some water bodies, such as isolated wetlands that the Corps would not regulate, fall under the jurisdiction of the SWRCB if there is discharge involved. However, if the Corps determines that a water body is not subject to regulation under Section 404, then no 401 certification is required by the State *if* there is no discharge into waters of the State. Because “waters of the State” is a much more encompassing term than “waters of the United States,” it can be used to regulate isolated wetlands and wetlands not otherwise under federal jurisdiction.

Wetlands and other waters were delineated using the same methods for determining presence of wetland indicators: hydrophytic vegetation, hydric soils, and hydrology.



Potential Section 1602 Jurisdictional Waters- Riparian vegetation often includes vegetation beyond that growing in the active channel or floodplain. The measurement of riparian vegetation can extend to a point where vegetation provides shade for plants and wildlife as well as to a point where vegetation contributes large woody debris (LWD) or fine litter to the watercourse. This can be above the floodplain and even above the terrace on to the hillslope. Generally, CDFW’s jurisdiction over lakes and streams is measured from channel to the top of the bank or edge of the riparian as determined by the upland side of the dripline, whichever is greater.

Potential California Coastal Act Jurisdictional Wetlands and Waters- All wetlands and waters that can be considered 404 and 401 jurisdictionally regulated, including one and two parameter wetlands and riparian vegetation and watercourses regulated under 1602 can be considered for regulation by the California Coastal Commission (CCC). Essentially, the CCC can regulate any and all wetlands and waters regulated or not regulated by ACOE, RWQCB, and CDFW. Therefore all methods for identifying federal and state waters and wetlands and riparian vegetation are used for identifying the same features regulated by the CCC.



December 3, 2020

**Wetlands**

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

**Figure 2. USFWS NWI wetland map in project area.**

## 4.0 Survey Results

### 4.1 SPECIAL STATUS PLANTS

Site visits occurred on November 6 and November 20, 2020. Areas surveyed included areas where development is proposed and areas within 100 feet. No special status plant species were observed during scoping survey efforts. **Additional botanical surveys need to occur in May and June of 2021 in order to meet bloom windows for special status species and those that are larval food plants for special status butterflies that are potentially present.**

**An addendum to this study will be submitted after the May and June surveys occur, including the results of those surveys and a plant list of species observed.**

### 4.2 VEGETATION ALLIANCES/ASSOCIATIONS

Vegetation alliances/Associations observed in the project area are described below.

#### 4.2.1 Redwood Forest and Woodland

##### *Sequoia sempervirens* Forest and Woodland Alliance (G3 S3)

##### **86.100.16 *Sequoia sempervirens* – *Notholithocarpus densiflorus* – *Vaccinium ovatum* association (G3 S3)**

Coast redwood (*Sequoia sempervirens*) dominates the overstory, with tanoak (*Notholithocarpus densiflorus*) prominent in the understory, and Douglas fir (*Pseudotsuga menziesii*) also present. In general, the forest floor is littered with redwood needles, with little vegetation under the thick canopy of redwood, tanoak and Douglas fir. Other overstory trees present include bishop pine (*Pinus muricata*) and madrone (*Arbutus menziesii*). Understory species that are typically associated with this alliance that are present include bracken (*Pteridium aquilinum* var. *pubescens*) and huckleberry (*Vaccinium ovatum*) most prominent, with manzanita (*Arctostaphylos columbiana*), wax myrtle (*Morella californica*), salal (*Gaultheria shallon*), redwood violet (*Viola sempervirens*), sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), wood strawberry (*Fragaria vesca*), and Douglas iris (*Iris douglasiana*).

The G3 S3 ranking indicates this vegetation alliance is considered special status according to the California Department of Fish and Wildlife. This alliance has recently been divided into 29 associations. The Global ranking of G3 and State ranking of S3 indicates that the alliance is vulnerable on a global and



state level - at moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

The Manual of California Vegetation Online indicates that the ranking system can be quantified as follows:

### Global and State Ranks

- G1 S1: *Fewer than 6 viable occurrences worldwide/ statewide, and/ or up to 518 hectares*
- G2 S2: *6-20 viable occurrences worldwide/ statewide, and/ or more than 518-2,590 hectares*
- G3 S3: *21-100 viable occurrences worldwide/ statewide, and/or more than 2,590-12,950 hectares*
- G4 S4: *Greater than 100 viable occurrences worldwide/ statewide, and/or more than 12,950 hectares*
- G5 S5: *Demonstrably secure because of its worldwide/ statewide abundance*

A hectare is 2.47105 acres. According to the Manual of California Vegetation Online, a G4S4 (secure) alliance would be one in which there is more than 32,000 acres. According to [Save the Redwoods League](#), there are 382,000 acres of protected redwood forest, and 1.2 million acres of privately owned redwood forest. Old growth redwood forest is estimated by Save the Redwoods League at 110,000 acres.

The *Sequoia sempervirens* – *Notholithocarpus densiflorus* – *Vaccinium ovatum* association (G3 S3) is known from surveys in Sonoma County as being limited in range.

Although it is known that a significant amount of redwood forest is present in Mendocino County, much of that forest has not been surveyed and classified into vegetation alliances and associations, so the acreage of this association is not quantified in Mendocino County at this time. Figure 3 shows the distribution of redwood forest in California according to Save the Redwoods League mapping. Figure 4 shows the area where vegetation mapping has been conducted which contributes towards the data that is used by CDFW. Accordingly, less than 1/3 of the distribution area for redwood forest has been classified by CDFW, meaning that more than 2/3 of the redwood forest has not been classified nor does it contribute towards rankings data. Most of Mendocino County has not been classified for redwood forest. For this reason, the CDFW rankings and associated rarity status data are inaccurate relative to redwood forest in Mendocino County.

It is the professional opinion of Spade Natural Resources Consulting that the redwood forest association type found at the site is common in Mendocino County and should not be considered special status.



Figure 3. Save the Redwoods League redwood forest distribution map.

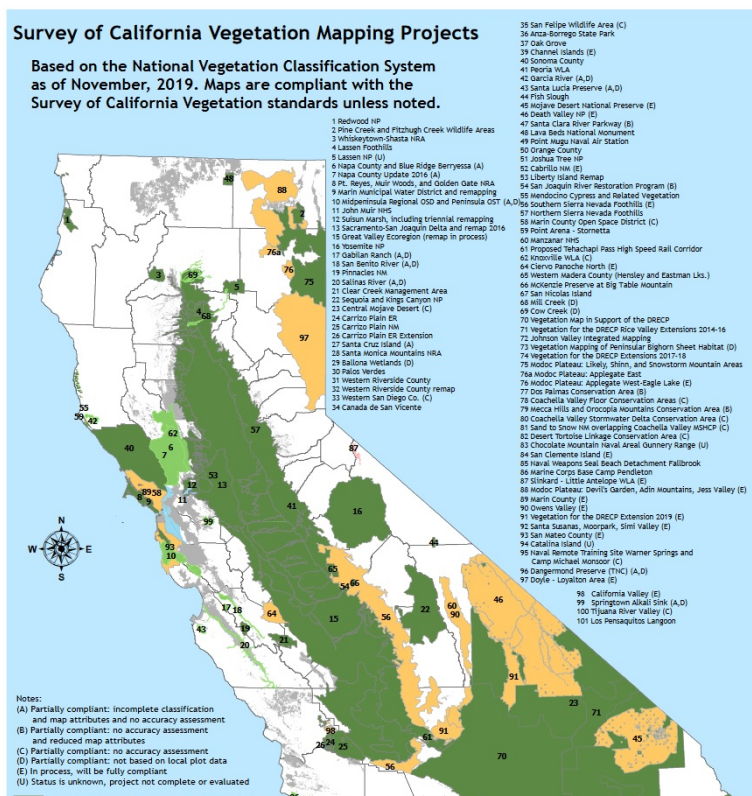


Figure 4. California Department of Fish and Wildlife National Vegetation Classification System Map of California.

## 4.3 SPECIAL STATUS WILDLIFE HABITAT

### 4.3.1 Invertebrates

#### Lotis blue butterfly



Figure 5. Male and female lotis blue butterflies (photo credit USFWS File Photograph)

The Lotis blue (*Lycaeides argyrognomon lotis* [aka *Lycaeides idas lotis*]) was first recognized as a Federally Endangered species in 1976. At that time, it was sighted at a single location in a sphagnum bog, approximately two miles north of the town of Mendocino. It was last observed there in 1983.

Little is known of the Lotis blue butterfly's habitat requirements and ecology, however other northern California *Lycaeides idas* typically occur in wet meadows, bogs, seeps, springs, and along the shorelines of streams. Coastal lotus (*Hosackia gracilis*) is a presumed larval food plant.

**Follow up surveys need to occur during the bloom time for coastal lotus (March-July). An addendum to this study will need to be provided by a qualified botanist outlining the bloom window site visit and the results of that survey.**

#### Behren's silverspot butterfly



Figure 6. Male and female Behren's silverspot butterflies (photo credit SpadeNRC).

The Behren's silverspot (*Speyeria zerene behrensii*) is Federally Endangered, listed December 5, 1997. The known historic range is along the coast from near the Town of Mendocino in Mendocino County to Salt Point State Park in Sonoma County. The larval food plant is currently thought to be early blue violet (*Viola adunca*), based on studies of the closely related coastal subspecies, Oregon silverspot butterfly (*Speyeria zerene hoppolyta*). It inhabits coastal terrace prairie habitat in areas with a strong ocean influence.

The project area is within the range of this species. **Follow up surveys need to occur during the bloom time for early blue violet (April-August). An addendum to this study will need to be provided by a qualified botanist outlining the bloom window site visit and the results of that survey.**



### **Monarch butterfly**

Monarch butterfly (*Danaus plexippus*) overwinters in coastal forests within 1.5 miles of the Pacific Ocean. Tree species preferred include eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*). Clusters can also be found on red gum eucalyptus (*Eucalyptus camadulensis*), sycamore (*Platanus racemosa*), coast redwood (*Sequoia sempervirens*), coast live oak (*Quercus agrifolia*) and other tree species. Monarchs begin arriving at overwintering sites in September and the first half of October, and by mid-November have formed more stable aggregations that are present through January or February (Western Monarch Milkweed Mapper 2020). The Anchor Bay area is the northernmost point of the monarch overwintering range on the Mendocino Coast. The forested areas of the property are potential habitat areas for overwintering monarch butterflies, however no monarchs were observed at or near the site during the survey effort.

### **Obscure bumblebee**

Obscure bumblebee (*Bombus caliginosus*) is an IUCN vulnerable ranked species in decline along the west coast of the United States, which is its native range. This species is very similar to the common yellow-faced bumblebee (*Bombus vosnesenskii*), differentiated by the structure of the male genitalia. The obscure bumblebee tends to have longer hairs, however, and yellow hairs are found on the underside of the abdomen.

This species is found in open, grassy, coastal prairies and coast range meadows. The Mendocino Coast is within the historic range for obscure bumblebee. The property does not contain adequate habitat for this species.

### **4.3.2 Fish**

The project is not expected to detrimentally impact special status fish, as the project area is not near any fish habitat. CalFish data was used to locate fish habitat.

**Coho salmon** (*Oncorhynchus kisutch* pop. 4) Central California Coast (Federal and State Endangered)  
Coho salmon require beds of loose, silt-free, coarse gravel for spawning. They also need cover, cool water, and sufficient dissolved oxygen. Galloway Creek, which is south of the project area, is considered a spawning area for Central California Coast Coho Salmon.

**Steelhead** (*Oncorhynchus mykiss irideus* pop. 16) Northern California DPS (Federally Threatened) Adult steelhead require high flows with at least 18 cm deep water for passage. They may leap up to ~3 meters for spawning. They need sufficient streamflow over clean gravel, cool water temperature, depth, and cover for escape (a deep pool with cover). The project is within the winter range for steelhead.

**Gualala Roach** (*Lavinia symmetricus parvipinnis*) Species of Special Concern

Gualala Roach is found from Roseman Creek (south of Point Arena) to around Fort Ross in Sonoma County. They are usually found in small, warm streams but are adaptable to a variety of habitats including coastal streams and mountain foothill streams. Gualala roach breed in gravel beds or riffles, March through early July. The Gualala Roach is limited to the Gualala River and its tributaries (CDFW 2010). The property is not within the range of this species.

### 4.3.3 Amphibians

**California Red Legged Frog**

California red-legged frog (*Rana draytonii*) is listed as Federally Threatened. Their known range extends from central Mendocino County southward to Riverside County. California red legged frogs can be found in many habitat types during wet weather but require ponds or pools within slow moving streams in which to lay their eggs. Suitable breeding habitat must include vegetation on which to anchor their egg masses and must hold water long enough for tadpoles to develop. The drainages to the north and south of the project area may be potential breeding habitat however these are located more than 100 feet from the project. California red-legged frogs are known to travel over land up to a mile between breeding locations. For this reason, northern red-legged frog may be present in upland areas during dispersal periods.

There is no breeding habitat in the study area, however there is a possibility that California red-legged frogs may be present in the study area during seasonal migration.

**Pacific Tailed Frog**

Pacific tailed frog (*Ascaphus truei*) is not a Federal or State protected species but is a California State Species of Concern. Their known range is coastal from Anchor Bay, Mendocino County, north to the Oregon border. They inhabit cold, clear, rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for cover for adults, eggs, and larvae. After heavy rains, adults may be

found in the woods away from the stream. There are no watercourses on or within 100 feet of the subject project. No habitat is present for this species.

### **Foothill Yellow-Legged Frog**

Foothill yellow-legged frog (*Rana boylei*) is listed as an Endangered Species under the California Endangered Species Act. This frog species is present year-round along most of the coast of California, in northwestern California, and in the western Sierra Foothills. This frog species is found in or near rocky streams in many habitat types, including but not limited to mixed coniferous forest, coastal scrub, and wet meadows. Foothill yellow-legged frog is rarely found away from permanent water. There are no watercourses on or within 100 feet of the subject project. No habitat is present for this species.

### **California Giant Salamander**

California giant salamander (*Dicamptodon ensatus*) is present in cool, damp redwood forests, near streams, on the south coast. There is a low potential for presence in the project area since the project area is not near a stream.

### **Red-bellied newt**

Red-bellied newts (*Taricha rivularis*) are a California Department of Fish and Wildlife Species of Special Concern that are found in cool, damp redwood forests. The study area is habitat for red-bellied newt.

## **4.3.4 Birds**

### **Nesting Birds and Special Status Birds**

Special status and nesting birds protected under the Migratory Bird Treaty Act may be present on or near the property. Nesting habitats can include trees, brush, grassy areas, and sometimes man-made structures, burrows, or on the ground. While no nests or nesting activity were observed during the survey effort, there is a potential for presence for nesting birds in the study area during the nesting season.

### **Tufted puffin**

The tufted puffin (*Fratercula cirrhata*) is sparsely found along the Mendocino coast year-round. They nest on islands and occasionally on coastal cliffs, in burrows on island cliffs, grassy island slopes, or in loose rock. Most breeding occurs in Del Norte and Humboldt County. Tufted puffins feed on medium sized fish such as smelt, herring, and perch, and also eat some crustaceans and squid. The property is east of the highway and does not provide habitat for this species.



### Rhinoceros auklet

The rhinoceros auklet (*Cerorhinca monocerata*) is found off the Mendocino coast in winter. They can be found in subtidal waters of the ocean, and feed mainly on small fish, sometimes on crustaceans and cephalopods. Nesting occurs in a burrow on undisturbed forests or forested islands. This species is not known to nest in Mendocino County.

### Northern spotted owl



**Figure 7. Northern spotted owl**  
(Photo credit: US Fish and Wildlife Service file photograph.)

The northern spotted owl (*Strix occidentalis caurina*) (Fig. 8) is listed as Federally Threatened under the Endangered Species Act, since June 26, 1990. The range for this subspecies is from southwestern British Columbia to Marin County. The eastern boundary is the Pit River area of Shasta County.

A couple limited sightings of northern spotted owl have been documented within a couple miles of the property. The closest documented sighting according to the California Department of Fish and Wildlife BIOS Spotted Owl observations map (v5.94.01), is in the gulch located about 1000 feet east of the property.

Northern spotted owls nest in forests with a multi-layered, multi-species canopy with moderate to high canopy closure. Features generally found within appropriate habitat include large cavities and other types of deformities, large snags, an abundance of dead wood on the forest floor, and open areas within and below the upper canopy of sufficient size for flying.

The forest on the property in the project area is not old growth. The redwood forest in the project area has a moderately multi-layered canopy. There is not an abundance of large cavities, large snags or dead wood on the forest floor. The property does not contain adequate nesting habitat for northern spotted owl. According to the California Department of Fish and Wildlife BIOS viewer (version 5.94.01), there are spotted owl sightings near the project area along Bill Owens Road, which appear to correspond to a nesting site roughly a mile south of the property near Schooner Gulch.

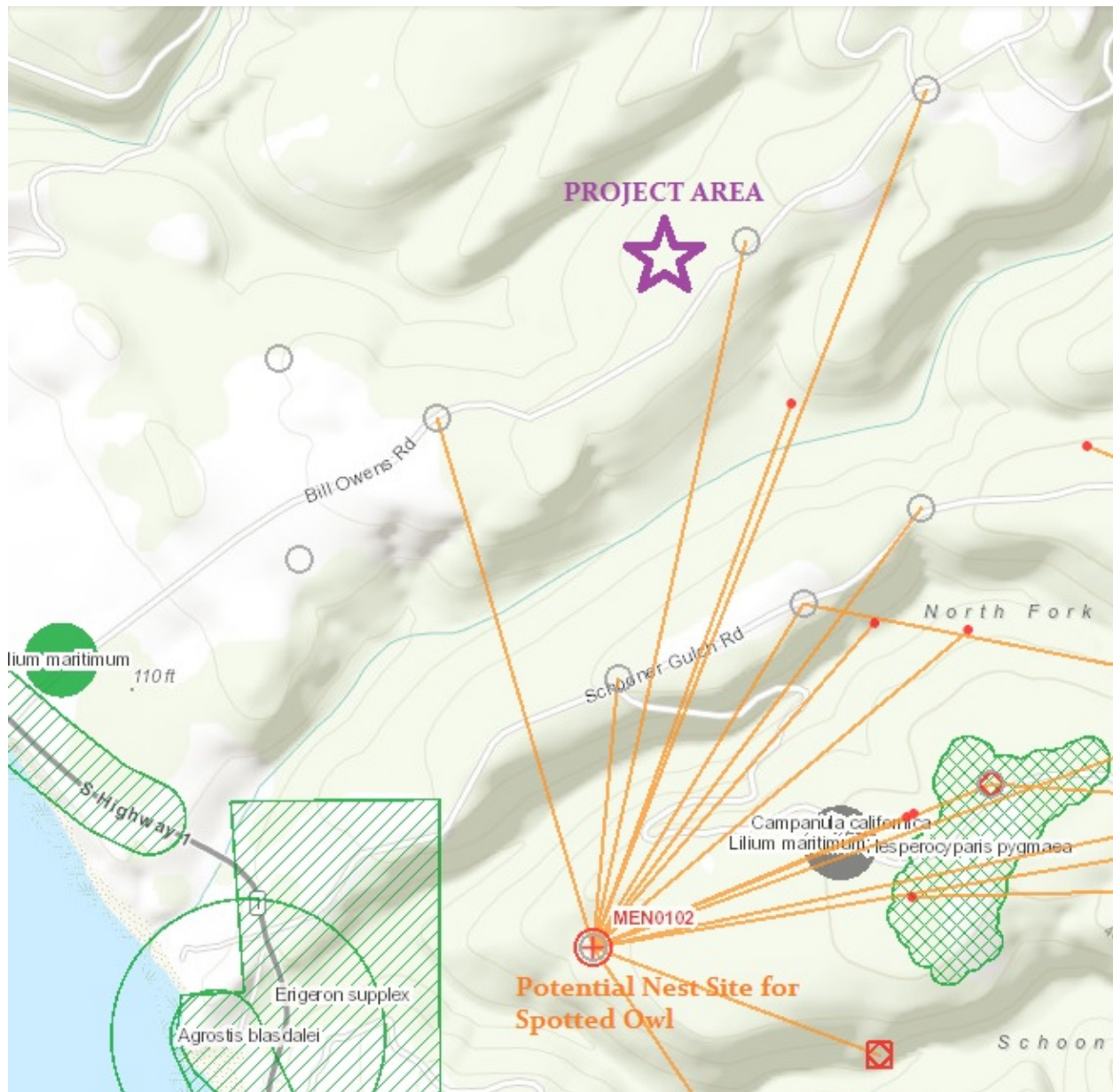


Figure 8. Map of Northern spotted owl sightings near project area.

### 4.3.5 Mammals

#### Special Status Bats

##### Special Status Bats in General

Many species of bats roost in hollowed areas, crevices, or under bark of trees in forested areas near water, and, several special status species require a nearby fresh water source for feeding over and for drinking, because they do not have a good urine concentrating ability. There is a potential for presence of special status bats within the wooded areas of the property.

### Townsend's Big Eared Bat

Townsend's big-eared bat (*Corynorhinus townsendii*) is a California Department of Fish and Wildlife Species of Special Concern. Mesic habitats are preferred. This species requires caves, mines, tunnels, buildings or other human-made structures for roosting. No such structures are found at the site.

Hibernation occurs individually or in small clusters in a variety of locations including buildings, rocky crevices, caves, tunnels, hollow trees, and spaces under loose bark. Habitat for hibernating Townsend's big eared bat may be found in redwoods on the property. Hibernation occurs from October to April.

### North American Porcupine

North American porcupine (*Erethizon dorsatum*) is found year round throughout Mendocino County, according to the [California Department of Fish and Wildlife Habitat Relationship System range map](#). In spring and summer it is found in meadows, riparian areas and brushy areas as well as forests. In winter it is restricted to forests, and prefers conifers. Habitat quality at the site is low, as firs, pines, oaks, maples, cottonwoods, willow, and elderberry are preferred and the site is dominated by redwoods.

### Point Arena Mountain Beaver

Point Arena mountain beaver (*Aplodontia rufa nigra*) is a Federally Endangered species, protected by the federal Endangered Species Act of 1973. The US Fish and Wildlife is the agency responsible reviewing projects to assure protection of PAMB under the Endangered Species Act. The subject habitat assessment was conducted by a US Fish and Wildlife Service approved surveyor and follows the protocols outlined in the October 25, 2017 US Fish and Wildlife Draft Guidelines for Project-Related Habitat Assessments and Presence-Absence Surveys for the Point Arena Mountain Beaver.

Roughly two hours was spent on November 6, 2020 conducting the habitat assessment in the project area as mapped on the site plan (Figure 11). The UTM of the project area is 10S 444388 4304063.

There is no mapped known PAMB habitat in the project area according to the CNDDDB map. The closest location is roughly 3.75 miles north of the property.

The vegetation in the project area consists of redwood forest. Coast redwood (*Sequoia sempervirens*) dominates the overstory, with tanoak (*Notholithocarpus densiflorus*) prominent in the understory, and Douglas fir (*Pseudotsuga menziesii*) also present. In general, the forest floor is littered



with redwood needles, with little vegetation under the thick canopy of redwood, tanoak and Douglas fir. Other overstory trees present include bishop pine (*Pinus muricata*) and madrone (*Arbutus menziesii*). Understory species that are typically associated with this alliance that are present include bracken (*Pteridium aquilinum* var. *pubescens*) and huckleberry (*Vaccinium ovatum*) most prominent, with manzanita (*Arctostaphylos columbiana*), wax myrtle (*Morella californica*), salal (*Gaultheria shallon*), redwood violet (*Viola sempervirens*), sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), wood strawberry (*Fragaria vesca*), and Douglas iris (*Iris douglasiana*).

Streams are present near the northwest and southeast property corners, and the associated riparian areas may be habitat for Point Arena mountain beaver. The areas in the vicinity of the streams are more than 500 feet from the project area, and are down steep slopes. These areas were not surveyed and were not included in the habitat assessment.

Areas included in the habitat assessment include the mapped project area and areas within 100 feet. No Point Arena mountain beaver habitat was observed in the habitat assessment area, and no potential habitat was identified, based on aerial photo remote sensing and topographic map analysis, within 500 feet of the project area. The project is not expected to result in detrimental impacts to Point Arena mountain beaver.

### **Sonoma Tree Vole**

Sonoma tree vole (*Arborimus pomo*) is listed as a G3 S3 Species of Special Concern. The state listing indicates the species is considered vulnerable in its range due to a restricted range, relatively few populations, recent and widespread declines or other factors.

The Sonoma tree vole range is located along the coast from Sonoma County through Mendocino, Humboldt, and Trinity County. The total population is unknown but is estimated at over 10,000. Preferred habitat is considered mesic old growth Douglas Fir Forest; however Sonoma tree voles are known to live in other coniferous forests. They are known to eat primarily Douglas fir (*Pseudotsuga menziesii*) needles but eat other conifer needles as well. They may also eat the inner bark of twigs. Sonoma tree voles live in the tree canopy and are thought to have limited dispersal capabilities, and so are threatened by canopy removal and fragmentation (Blois and Natureserve 2008).

Although some conifers are present in the project area, it is dominated by redwoods in the overstory. No nests or other sign of tree vole was observed. It is unlikely that Sonoma tree vole is present on the site.

## 4.4 WETLANDS AND WATERCOURSES

A tributary to Galloway Creek is present just southeast of the property, and a tributary to Ross Creek is present in the northwest corner of the property. The project area portion of the property is relatively flat. A potential wetland was observed in the project area as indicated by the presence of common rush (*Juncus patens*), which is a facultative wet plant, meaning that it can live in both upland and wet conditions but is more often found in wetlands. A wetland delineation was performed, and the area was determined to be upland, as outlined in Section 4.4.1 below.

### 4.4.1 Wetlands

A wetland delineation was performed on November 20, 2020. Wetland data point locations are shown in Figure 10 and discussed in this section. Wetland data sheets are attached as Appendix D.

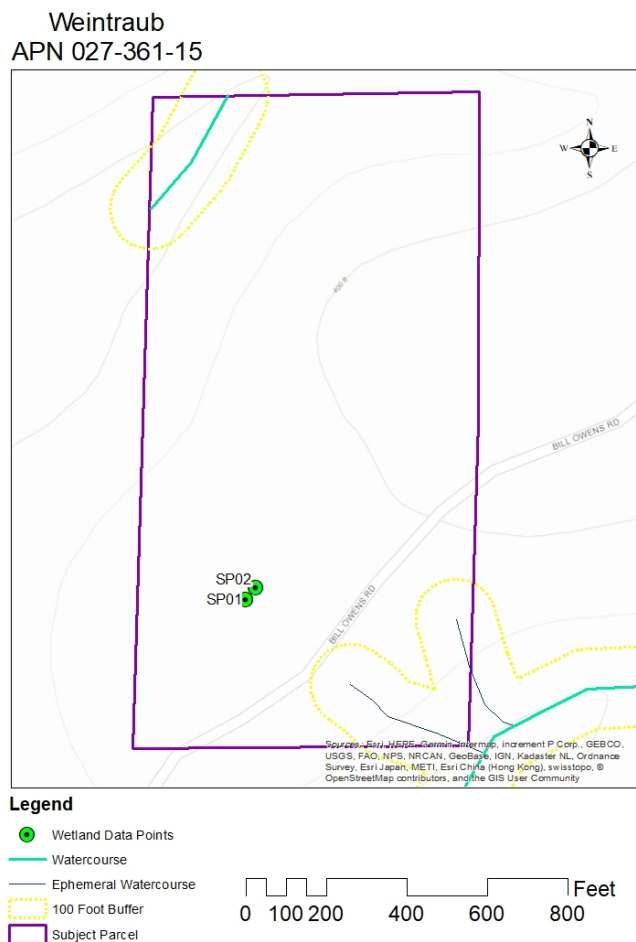


Figure 9. Stream and wetland data point locations.

**Wetland Data Point SP 01**

Rush was observed, which may be an indication of a wetland, so a soil pit was dug in this location.

Vegetation observed in the tree stratum included Douglas fir (*Pseudotsuga menziesii*) with an estimated 20% cover within the 30' radius. In the shrub stratum, black huckleberry (*Vaccinium ovatum*) was observed with a 10% cover, coyote brush (*Baccharis pilularis*) with a 2% cover, and sapling Douglas fir with a 7% cover in the 20' radius. In the herbaceous stratum, common rush (*Juncus patens*) was observed with an estimated cover of 10%, pink honeysuckle (*Lonicera hispidula*) with a 5% cover, purple velvet grass with a 5% cover, modesty (*Whipplea modesta*) with a 4% cover, wood strawberry (*Fragaria vesca*) with a 2% cover, and bracken (*Pteridium aquilinum*) with an estimated cover of 3% in the 10' radius. California blackberry (*Rubus ursinus*) was present at 7% cover in the woody vine stratum. Dominant vegetation in the area was determined to be upland.

A soil pit was dug to 17 inches. The soil did not show any indicators of hydric soils. Although the soil was damp throughout due to recent rains, there was no surface water, water table, or saturation present. This test location was determined to be in an upland area.

**Wetland Data Point SP 02**

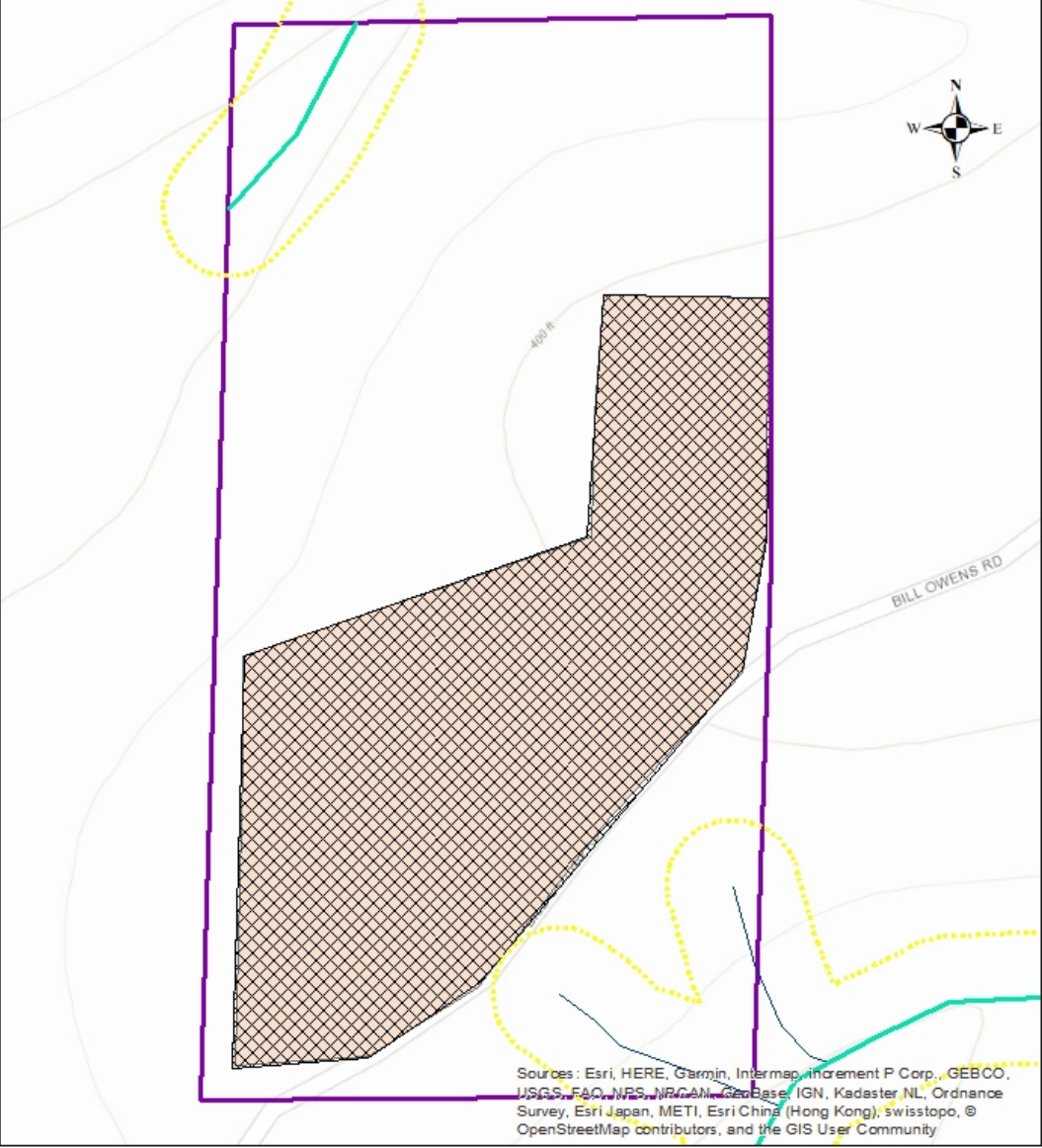
Data Point SP 02 was taken northeast of the first data point, at the other side of the area where rush was observed. This data point was taken in order to see if this side of the rush area showed any wetland presence data.

Vegetation observed in the tree stratum included Douglas fir (*Pseudotsuga menziesii*) with an estimated 20% cover, and tanoak (*Notholithocarpus densiflorus*) with an estimated 5% cover within the 30' radius. In the shrub stratum, Douglas fir saplings were observed with an estimated cover of 15%. In the herbaceous stratum, common rush (*Juncus patens*) pink honeysuckle (*Lonicera hispidula*) with an estimated cover of 15%, purple velvet grass (*Holcus lanatus*) at 2% cover, and hairy wood rush (*Luzula comosa*) with a 4% cover in the 10' radius. California blackberry was present in the woody vine layer with a cover of 17%. Dominant vegetation in the area was determined to be upland.

A soil pit was dug to 15 inches and no wetland soil or hydrology features were observed. Although the soil was moist from recent rains, no saturation or water table was observed. The data point was determined to be in an upland area.



Weintraub  
APN 027-361-15



**Legend**

-  Watercourse
-  Ephemeral Watercourse
-  100 Foot Buffer
-  Subject Parcel
-  Rough Building Area
-  Redwood Forest

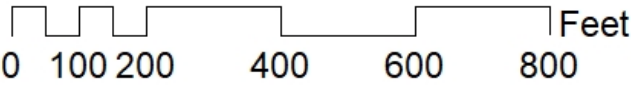


Figure 10. Vegetation alliance map with streams.

## 5.0 Discussion

**Follow up botanical site visits need to occur in May and June in order to meet bloom windows for special status plants with a potential for presence, and bloom windows for larval food plants for special status butterflies.**

The property contains upland migrating habitat for California red-legged frog, habitat for red-bellied newt, and marginal habitat for California giant salamander. Nesting birds, and roosting and hibernating bats may also be present. Avoidance measures and next steps are listed below.

### 5.1 AVOIDANCE MEASURES AND NEXT STEPS

#### 5.1.1 Follow-Up Botanical Visits

Follow-up botanical visits should occur in May and June of 2021. A summary of the results of those visits, and a full plant list, should be included as an addendum to this report. The follow up information will address the potential presence of special status butterflies as well as special status plants.

#### 5.1.2 Special Status Birds and Bats

The bird breeding season typically extends from February to August. Ideally, the clearing of vegetation and the initiation of construction or demolition can be done in the non-breeding season between September and January. If these activities cannot be done in the non-breeding season, a qualified biologist shall perform preconstruction breeding bird surveys within 14 days of the onset of construction or clearing of vegetation. If active breeding bird nests are observed, no ground disturbance activities shall occur within a minimum 100-foot exclusion zone. These exclusion zones may vary depending on species, habitat and level of disturbance. The exclusion zone shall remain in place around the active nest until all young are no longer dependent upon the nest. A biologist should monitor the nest site weekly during the breeding season to ensure the buffer is sufficient to protect the nest site from potential disturbances.

As with birds, bat roost and hibernation sites can change from year to year, so pre-construction or demolition surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work or vegetation removal is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be conducted. Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to removal or demolition for evidence of bat use (guano

accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists shall conduct acoustic surveys under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are found, a minimum 50-foot buffer should be implemented around the roost tree. Removal of roost trees should occur in September and October, or after the bats have left the roost. In summary, no impacts would be expected and therefore no preconstruction surveys would be required for the species above if vegetation removal (including standing dead trees) is scheduled for the months of September or October. The months of November through August would require a bird and/or bat survey dependent on the time of year.

### **5.1.2 Special Status Amphibian Avoidance**

Within two weeks prior to construction or demolition, project contractors will be trained by a qualified biologist in the identification of the California red-legged frog, red-bellied newt, and California giant salamander (special status amphibians). Construction crews will begin each day with a visual search around all stacked or stored materials, as well as along any silt fences to detect the presence of special status amphibians. If a special status amphibian is detected, construction or demolition crews will contact the US Fish and Wildlife (for California red-legged frog) and/or California Department of Fish and Wildlife or a qualified biologist (red-bellied newt or California giant salamander), and gain clearance prior to re-initiating work.

If a rain event occurs during the construction period, all construction-related activities will cease for a period of 48 hours after the rain stops. Prior to resuming construction or demolition activities, trained construction crew member(s) will examine the site for the presence of special status amphibians. If no special status amphibians are found, construction activities may resume.



## Appendix A. Scoping Tables

### Table 1. CNPS Nine Quad Search

CNPS Inventory Results

<http://www.rareplants.cnps.org/result.html?adv=t&cnps=1A:1B:2A:2B:...>

# CNPS

California Native Plant Society

\*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

## Plant List

**19** matches found. [Click on scientific name for details](#)

**Search Criteria**

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3912316, 3912315, 3812386, 3812385, 3812376 and 3812375; Community = North Coast coniferous forest

[Modify Search Criteria](#)
[Export to Excel](#)
[Modify Columns](#)
[Modify Sort](#)
[Display Photos](#)

| Scientific Name                                    | Common Name                 | Family         | Lifeform                               | Blooming Period       | CA Rare Plant Rank | State Rank | Global Rank |
|--|-----------------------------|----------------|--|-----------------------|--------------------|------------|-------------|
| <a href="#">Astragalus agnicidus</a>               | Humboldt County milk-vetch  | Fabaceae       | perennial herb                         | Apr-Sep               | 1B.1               | S2         | G2          |
| <a href="#">Bryoria pseudocapillaris</a>           | false gray horsehair lichen | Parmeliaceae   | fruticose lichen (epiphytic)           |                       | 3.2                | S2         | G3          |
| <a href="#">Calamagrostis bolanderi</a>            | Bolander's reed grass       | Poaceae        | perennial rhizomatous herb             | May-Aug               | 4.2                | S4         | G4          |
| <a href="#">Calystegia purpurata ssp. saxicola</a> | coastal bluff morning-glory | Convolvulaceae | perennial herb                         | (Mar)Apr-Sep          | 1B.2               | S2S3       | G4T2T3      |
| <a href="#">Campanula californica</a>              | swamp harebell              | Campanulaceae  | perennial rhizomatous herb             | Jun-Oct               | 1B.2               | S3         | G3          |
| <a href="#">Coptis laciniata</a>                   | Oregon goldthread           | Ranunculaceae  | perennial rhizomatous herb             | (Feb)Mar-May(Sep-Nov) | 4.2                | S3?        | G4?         |
| <a href="#">Erigeron biolettii</a>                 | streamside daisy            | Asteraceae     | perennial herb                         | Jun-Oct               | 3                  | S3?        | G3?         |
| <a href="#">Erythronium revolutum</a>              | coast fawn lily             | Liliaceae      | perennial bulbiferous herb             | Mar-Jul(Aug)          | 2B.2               | S3         | G4G5        |
| <a href="#">Hosackia gracilis</a>                  | harlequin lotus             | Fabaceae       | perennial rhizomatous herb             | Mar-Jul               | 4.2                | S3         | G3G4        |
| <a href="#">Kopsiopsis hookeri</a>                 | small groundcone            | Orobanchaceae  | perennial rhizomatous herb (parasitic) | Apr-Aug               | 2B.3               | S1S2       | G4?         |
| <a href="#">Lathyrus palustris</a>                 | marsh pea                   | Fabaceae       | perennial herb                         | Mar-Aug               | 2B.2               | S2         | G5          |
| <a href="#">Lilium maritimum</a>                   | coast lily                  | Liliaceae      | perennial bulbiferous herb             | May-Aug               | 1B.1               | S2         | G2          |
| <a href="#">Lycopodium clavatum</a>                | running-pine                | Lycopodiaceae  | perennial rhizomatous herb             | Jun-Aug(Sep)          | 4.1                | S3         | G5          |
| <a href="#">Mitellastrum caulescens</a>            | leafy-stemmed mitrewort     | Saxifragaceae  | perennial rhizomatous herb             | (Mar)Apr-Oct          | 4.2                | S4         | G5          |

|  |                               |               |                                 |              |      |    |    |
|--|-------------------------------|---------------|---------------------------------|--------------|------|----|----|
| <a href="#"><u>Piperia candida</u></a>           | white-flowered<br>rein orchid | Orchidaceae   | perennial herb                  | (Mar)May-Sep | 1B.2 | S3 | G3 |
| <a href="#"><u>Pleuropogon refractus</u></a>     | nodding<br>semaphore grass    | Poaceae       | perennial<br>rhizomatous herb   | (Mar)Apr-Aug | 4.2  | S4 | G4 |
| <a href="#"><u>Sidalcea<br/>malachroides</u></a> | maple-leaved<br>checkerbloom  | Malvaceae     | perennial herb                  | (Mar)Apr-Aug | 4.2  | S3 | G3 |
| <a href="#"><u>Usnea longissima</u></a>          | Methuselah's<br>beard lichen  | Parmeliaceae  | fruticose lichen<br>(epiphytic) |              | 4.2  | S4 | G4 |
| <a href="#"><u>Veratrum fimbriatum</u></a>       | fringed false-<br>hellebore   | Melanthiaceae | perennial herb                  | Jul-Sep      | 4.3  | S3 | G3 |

**Suggested Citation**

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## Appendix A – Scoping Tables

### Table 2. CNDDDB Search Point Arena Quad



#### Selected Elements by Common Name

##### California Department of Fish and Wildlife

##### California Natural Diversity Database



Query Criteria: Quad<span style='color:Red'> IS </span>(Point Arena (3812386))

| Species  | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|--|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <b>American manna grass</b><br><i>Glyceria grandis</i>                                   | PMPOA2Y080   | None           | None         | G5          | S3         | 2B.3                           |
| <b>Baker's goldfields</b><br><i>Lasthenia californica</i> ssp. <i>bakeri</i>             | PDAST5L0C4   | None           | None         | G3T1        | S1         | 1B.2                           |
| <b>Behren's silverspot butterfly</b><br><i>Speyeria zerene behrensii</i>                 | IILEPJ6088   | Endangered     | None         | G5T1        | S1         |                                |
| <b>Blasdale's bent grass</b><br><i>Agrostis blasdalei</i>                                | PMPOA04060   | None           | None         | G2          | S2         | 1B.2                           |
| <b>California red-legged frog</b><br><i>Rana draytonii</i>                               | AAABH01022   | Threatened     | None         | G2G3        | S2S3       | SSC                            |
| <b>California sedge</b><br><i>Carex californica</i>                                      | PMCYP032D0   | None           | None         | G5          | S2         | 2B.2                           |
| <b>coast lily</b><br><i>Lilium maritimum</i>   | PMLIL1A0C0   | None           | None         | G2          | S2         | 1B.1                           |
| <b>Coastal and Valley Freshwater Marsh</b><br><i>Coastal and Valley Freshwater Marsh</i> | CTT52410CA   | None           | None         | G3          | S2.1       |                                |
| <b>coastal bluff morning-glory</b><br><i>Calystegia purpurata</i> ssp. <i>saxicola</i>   | PDCON040D2   | None           | None         | G4T2T3      | S2S3       | 1B.2                           |
| <b>Coastal Brackish Marsh</b><br><i>Coastal Brackish Marsh</i>                           | CTT52200CA   | None           | None         | G2          | S2.1       |                                |
| <b>Coastal Terrace Prairie</b><br><i>Coastal Terrace Prairie</i>                         | CTT41100CA   | None           | None         | G2          | S2.1       |                                |
| <b>Contra Costa goldfields</b><br><i>Lasthenia conjugens</i>                             | PDAST5L040   | Endangered     | None         | G1          | S1         | 1B.1                           |
| <b>deceiving sedge</b><br><i>Carex saliniformis</i>                                      | PMCYP03BY0   | None           | None         | G2          | S2         | 1B.2                           |
| <b>foothill yellow-legged frog</b><br><i>Rana boylei</i>                                 | AAABH01050   | None           | Endangered   | G3          | S3         | SSC                            |
| <b>Humboldt Bay owl's-clover</b><br><i>Castilleja ambigua</i> var. <i>humboldtensis</i>  | PDSCR0D402   | None           | None         | G4T2        | S2         | 1B.2                           |
| <b>island tube lichen</b><br><i>Hypogymnia schizidiata</i>                               | NLT0032640   | None           | None         | G2G3        | S2         | 1B.3                           |
| <b>Lyngbye's sedge</b><br><i>Carex lyngbyei</i>  | PMCYP037Y0   | None           | None         | G5          | S3         | 2B.2                           |
| <b>maple-leaved checkerbloom</b><br><i>Sidalcea malachroides</i>                         | PDMAL110E0   | None           | None         | G3          | S3         | 4.2                            |
| <b>marsh microseris</b><br><i>Microseris paludosa</i>                                    | PDAST6E0D0   | None           | None         | G2          | S2         | 1B.2                           |
| <b>Mendocino Coast paintbrush</b><br><i>Castilleja mendocinensis</i>                     | PDSCR0D3N0   | None           | None         | G2          | S2         | 1B.2                           |

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Report Printed on Monday, October 19, 2020

Page 1 of 3  
Information Expires 4/2/2021





Selected Elements by Common Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



| Species  | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|--|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <b>Mendocino dodder</b><br><i>Cuscuta pacifica</i> var. <i>papillata</i>                 | PDCUS011A2   | None           | None         | G5T1        | S1         | 1B.2                           |
| <b>Monterey clover</b><br><i>Trifolium trichocalyx</i>                                   | PDFAB402J0   | Endangered     | Endangered   | G1          | S1         | 1B.1                           |
| <b>Northern Coastal Bluff Scrub</b><br><i>Northern Coastal Bluff Scrub</i>               | CTT31100CA   | None           | None         | G2          | S2.2       |                                |
| <b>Northern Coastal Salt Marsh</b><br><i>Northern Coastal Salt Marsh</i>                 | CTT52110CA   | None           | None         | G3          | S3.2       |                                |
| <b>Nuttall's ribbon-leaved pondweed</b><br><i>Potamogeton ephedrus</i>                   | PMPOT03080   | None           | None         | G5          | S2S3       | 2B.2                           |
| <b>obscure bumble bee</b><br><i>Bombus caliginosus</i>                                   | IIHYM24380   | None           | None         | G4?         | S1S2       |                                |
| <b>Oregon goldthread</b><br><i>Coptis laciniata</i>                                      | PDRAN0A020   | None           | None         | G4?         | S3?        | 4.2                            |
| <b>Pacific gillia</b><br><i>Gillia capitata</i> ssp. <i>pacifica</i>                     | PDPLM040B6   | None           | None         | G5T3        | S2         | 1B.2                           |
| <b>Pacific tailed frog</b><br><i>Ascaphus truei</i>                                      | AAABA01010   | None           | None         | G4          | S3S4       | SSC                            |
| <b>perennial goldfields</b><br><i>Lasthenia californica</i> ssp. <i>macrantha</i>        | PDAST5L0C5   | None           | None         | G3T2        | S2         | 1B.2                           |
| <b>pink salmon</b><br><i>Oncorhynchus gorbuscha</i>                                      | AFCHA02010   | None           | None         | G5          | S1         |                                |
| <b>pink sand-verbena</b><br><i>Abronia umbellata</i> var. <i>breviflora</i>              | PDNYC010N4   | None           | None         | G4G5T2      | S2         | 1B.1                           |
| <b>Point Arena mountain beaver</b><br><i>Aplodontia rufa</i> <i>nigra</i>                | AMAF01011    | Endangered     | None         | G5T1        | S1         | SSC                            |
| <b>purple-stemmed checkerbloom</b><br><i>Sidalcea malviflora</i> ssp. <i>purpurea</i>    | PDMAL110FL   | None           | None         | G5T1        | S1         | 1B.2                           |
| <b>pygmy cypress</b><br><i>Hesperocyparis pygmaea</i>                                    | PGCUP04032   | None           | None         | G1          | S1         | 1B.2                           |
| <b>Roderick's fritillary</b><br><i>Fritillaria roderickii</i>                            | PMLIL0V0M0   | None           | Endangered   | G1Q         | S1         | 1B.1                           |
| <b>short-leaved evax</b><br><i>Hesperis evax</i> ssp. <i>brevifolia</i>                  | PDASTE5011   | None           | None         | G4T3        | S3         | 1B.2                           |
| <b>Sonoma tree vole</b><br><i>Arborimus pomo</i>   | AMAFF23030   | None           | None         | G3          | S3         | SSC                            |
| <b>southern torrent salamander</b><br><i>Rhyacotriton variegatus</i>                     | AAAAJ01020   | None           | None         | G3G4        | S2S3       | SSC                            |
| <b>steelhead - northern California DPS</b><br><i>Oncorhynchus mykiss irideus</i> pop. 16 | AFCHA0209Q   | Threatened     | None         | G5T2T3Q     | S2S3       |                                |
| <b>Steller (=northern) sea-lion</b><br><i>Eumetopias jubatus</i>                         | AMAJC03010   | Delisted       | None         | G3          | S2         |                                |

## Appendix A. – Scoping Tables

**Table 3. California Sensitive Natural Communities** A partial list of vegetation alliances occurring in coastal Mendocino County, is derived from the California Department of Fish and Wildlife’s “Sensitive Natural Communities,” (2019) (<https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>).

| Scientific Name   | Common Name  | Global & State Rank |
|---|--|---------------------|
| <b>Woodland and Forest Alliances and Stands</b>   |  |                     |
| <i>Abies grandis</i> Alliance   | Grand fir forest   | G4 S2               |
| <i>Abies grandis</i> – <i>Picea sitchensis</i> / <i>Gaultheria shallon</i> / <i>Polystichum munitum</i> Association | Grand fir forest   | G1 S1               |
| <i>Abies grandis</i> – <i>Tsuga heterophylla</i> / <i>Polystichum munitum</i> Association                           | Grand fir forest   | G2 S1               |
| <i>Acer macrophyllum</i> Alliance   | Bigleaf maple forest   | G4 S3               |
| <i>Alnus rubra</i> Alliance   | Red alder forest   | G5 S4               |
| <i>Arbutus menziesii</i> Alliance   | Madrone forest   | G4 S3               |
| <i>Arbutus menziesii</i> – <i>Umbellularia californica</i> – ( <i>Notholithocarpus densiflorus</i> ) Association    | Madrone forest   | G3 S3?              |
| <i>Eucalyptus</i> spp – <i>Ailanthus altissima</i> – <i>Robinia pseudoacacia</i> Association                        | Eucalyptus – tree of heaven – black locust groves semi natural | GNA SNA             |
| <i>Hesperocyparis macrocarpa</i> Provisional Alliance   | Monterey cypress semi-natural assn.                            | GNA SNA             |
| <i>Hesperocyparis pigmaea</i> Alliance  | Mendocino pygmy cypress woodland                               | G1 S1               |
| <i>Hesperocyparis sargentii</i> Alliance  | Sargent cypress woodland                                       | G3 S3               |
| <i>Notholithocarpus densiflorus</i> Alliance  | Tanoak forest  | G4 S3               |
| <i>Picea sitchensis</i> Alliance  | Sitka spruce forest  | G5 S2               |
| <i>Pinus attenuata</i> Alliance   | Knobcone pine forest   | G4 S4               |
| <i>Pinus contorta</i> ssp. <i>contorta</i> Alliance   | Beach pine forest  | G5 S3               |
| <i>Pinus muricata</i> Alliance  | Bishop pine – Monterey pine forest                             | G3? S3?             |
| <i>Pinus muricata</i> – ( <i>Arbutus menziesii</i> ) / <i>Vaccinium ovatum</i> Association                          | Bishop pine – Monterey pine forest                             | G2 S2               |
| <i>Pinus muricata</i> – <i>Chrysolepis chrysophylla</i> / <i>Arctostaphylos nummularia</i> Association              | Bishop pine – Monterey pine forest                             | G2 S2               |
| <i>Pinus muricata</i> – <i>Notholithocarpus densiflorus</i> Association   | Bishop pine – Monterey pine forest                             | G3 S3               |
| <i>Pinus muricata</i> / <i>Arctostaphylos glandulosa</i> Association  | Bishop pine – Monterey pine forest                             | G2 S2               |
| <i>Pinus radiata</i> plantations  | Bishop pine – Monterey pine forest                             | GNR SNR             |
| <i>Pseudotsuga menziesii</i> Alliance   | Douglas fir forest   | G5 S4               |
| <i>Pseudotsuga menziesii</i> – <i>Chrysolepis chrysophylla</i> – <i>Notholithocarpus densiflorus</i> Association    | Douglas fir forest   | G3 S3               |
| <i>Pseudotsuga menziesii</i> / <i>Baccharis pilularis</i> Association   | Douglas fir forest   | G4 S4?              |
| <i>Pseudotsuga menziesii</i> - <i>Notholithocarpus densiflorus</i> Association                                      | Douglas fir - tanoak forest                                    | G3 S3               |
| <i>Pseudotsuga menziesii</i> – <i>Notholithocarpus densiflorus</i> / <i>Rhododendron macrophyllum</i> Association   | Douglas fir - tanoak forest                                    | G2 S2               |
| <i>Salix laevigata</i> Alliance   | Red willow thickets  | G3 S3               |
| <i>Salix lucida</i> Alliance  | Shining willow groves  | G4 S3               |
| <i>Sequoia sempervirens</i> Alliance  | Redwood forest   | G3 S3               |
| <i>Sequoia sempervirens</i> – <i>Chrysolepis chrysophylla</i> / <i>Arctostaphylos glandulosa</i>                    | Redwood forest   | G2 S2?              |
| <i>Sequoia sempervirens</i> – <i>Hesperocyparis pigmaea</i>   | Redwood forest   | G1 S1               |
| <i>Tsuga heterophylla</i> Alliance  | Western hemlock forest   | G5 S2               |
| <i>Umbellularia californica</i> Alliance  | California bay forest  | G3 S3               |
| <b>Shrubland Alliances and Stands</b>   |  |                     |
| <i>Arctostaphylos (canescens, manzanita, stanfordiana)</i> Alliance   | Hoary, common and Stanford manzanita chaparral                 | G3 S3               |
| <i>Arctostaphylos nummularia</i> Alliance   | Glossy leaf manzanita chaparral                                | G2G3 S2S3           |
| <i>Arctostaphylos (sensitive, glandulosa)</i> Alliance  | Glossy leaf manzanita chaparral                                | G2G3 S2S3           |
| <i>Arctostaphylos glandulosa</i> Alliance   | Eastwood manzanita chaparral                                   | G4 S4               |
| <i>Baccharis pilularis</i> Alliance   | Coyote brush scrub   | G5 S5               |
| <i>Baccharis pilularis</i> – <i>Ceanothus thyrsiflorus</i>  | Coyote brush scrub   | G3 S3?              |
| <i>Baccharis pilularis</i> – <i>Frangula californica</i> – <i>Rubus</i> spp.  | Coyote brush scrub   | G2 S2               |
| <i>Baccharis pilularis</i> – <i>Holodiscus discolor</i>   | Coyote brush scrub   | G3 S3?              |

|   |  |                                |
|---|--|--------------------------------|
| <i>Baccharis pilularis</i> – <i>Lupinus arboreus</i>  | Coyote brush scrub   | G3 S3?                         |
| <b>Scientific Name</b>  | <b>Common Name</b>   | <b>Global &amp; State Rank</b> |
| <i>Baccharis pilularis</i> / <i>Carex obnupta</i> – <i>Juncus patens</i>                              | Coyote brush scrub   | G3 S3?                         |
| <i>Baccharis pilularis</i> / <i>Danthonia californica</i>   | Coyote brush scrub   | G2 S2                          |
| <i>Baccharis pilularis</i> / <i>Deschampsia cespitosa</i>   | Coyote brush scrub   | G2 S1                          |
| <i>Baccharis pilularis</i> / <i>Dudleya farinosa</i>  | Coyote brush scrub   | G3 S3?                         |
| <i>Baccharis pilularis</i> / <i>Eriophyllum staechadifolium</i>                                       | Coyote brush scrub   | G3 S3                          |
| <i>Baccharis pilularis</i> / <i>Polystichum munitum</i>   | Coyote brush scrub   | G3 S3?                         |
| Broom ( <i>Cytisus scoparius</i> and Others)  | Broom patches  | GNA SNA                        |
| <i>Ceanothus cuneatus</i> Alliance  | Wedge leaf ceanothus chaparral; Buck brush chaparral         | G4 S4                          |
| <i>Ceanothus thyrsiflorus</i> Alliance  | Blue blossom chaparral                                       | G4 S4                          |
| <i>Ceanothus thyrsiflorus</i> – <i>Rubus ursinus</i>  | Blue blossom chaparral                                       | G3 S3?                         |
| <i>Ceanothus thyrsiflorus</i> – <i>Vaccinium ovatum</i> – <i>Rubus parviflorus</i>                    | Blue blossom chaparral                                       | G3 S3?                         |
| <i>Chrysolepis chrysophylla</i>   | Golden chinquapin thickets                                   | G2 S2                          |
| <i>Corylus cornuta</i> var. <i>californica</i> Alliance   | Hazelnut scrub   | G3 S2?                         |
| <i>Frangula californica</i> Alliance  | California coffee berry scrub                                | G4 S4                          |
| <i>Garrya elliptica</i> Provisional Alliance  | Coastal silk tassel scrub                                    | G3? S3?                        |
| <i>Diplacis aurantiacus</i> Alliance  | Bush monkeyflower scrub                                      | G3 S3?                         |
| <i>Holodiscus discolor</i> Alliance   | Ocean spray brush  | G4 S3                          |
| <i>Lupinus arboreus</i> scrub   | Yellow bush lupine scrub                                     | G4 S4                          |
| <i>Morella californica</i> Alliance   | Wax myrtle scrub   | G3 S3                          |
| <i>Rhododendron columbianum</i> Alliance  | Western Labrador-tea thickets                                | G4 S2?                         |
| <i>Rhododendron occidentale</i> Provisional Alliance  | Western azalea patches                                       | G3 S2?                         |
| <i>Rosa californica</i> Alliance  | California rose briar patches                                | G3 S3                          |
| <i>Rubus</i> ( <i>parviflorus</i> , <i>spectabilis</i> , <i>ursinus</i> ) Alliance                    | Coastal brambles   | G4 S3                          |
| <i>Gaultheria shallon</i> , <i>Rubus parviflorus</i> , <i>Rubus spectabilis</i> Alliance              | Coastal brambles   | G4 S3                          |
| <i>Rubus armeniacus</i>   | Himalayan blackberry – rattlebox – edible fig riparian scrub | GNR SNR                        |
| <i>Rubus armeniacus</i> - <i>Rubus ursinus</i>  | Himalayan blackberry – rattlebox – edible fig riparian scrub | GNR SNR                        |
| <i>Salix hookeriana</i> Alliance  | Coastal dune willow thickets                                 | G4 S3                          |
| <i>Salix lasiolepis</i> Alliance  | Arroyo willow thickets                                       | G4 S4                          |
| <i>Salix lasiolepis</i> – <i>Baccharis pilularis</i> – <i>Rubus ursinus</i>                           | Arroyo willow thickets                                       | G3 S3                          |
| <i>Salix lasiolepis</i> – <i>Salix lucida</i>   | Arroyo willow thickets                                       | G3 S3?                         |
| <i>Salix lucida</i> ssp. <i>lasiandra</i> / <i>Equisetum arvense</i>                                  | Booth's Willow – Geyer's Willow – Yellow Willow thickets     | GNR S2                         |
| <i>Salix sitchensis</i> Alliance  | Sitka willow thickets  | G4 S3?                         |
| <i>Toxicodendron diversilobum</i> Alliance  | Poison oak scrub   | G4 S4                          |
| <i>Toxicodendron diversilobum</i> – <i>Baccharis pilularis</i> – <i>Rubus parviflorus</i>             | Poison oak scrub   | G3 S3?                         |
| <i>Toxicodendron diversilobum</i> – <i>Diplacis aurantiacus</i>                                       | Poison oak scrub   | G3 S3?                         |
| <b>Herbaceous Alliances and Stands</b>  |  |                                |
| <i>Abronia latifolia</i> – <i>Erigeron glaucus</i> Alliance   | Dune mat   | G3 S3                          |
| <i>Abronia latifolia</i> – <i>Leymus mollis</i>   | Dune mat   | G3 S3                          |
| <i>Agrostis stolonifera</i> Alliance  | Bent grass – tall fescue meadows                             | GNA SNA                        |
| <i>Agrostis stolonifera</i> – <i>Festuca arundinacea</i>  | Bent grass – tall fescue meadows                             | GNA SNA                        |
| <i>Agrostis stolonifera</i> – <i>Festuca arundinacea</i>  | Bent grass – tall fescue meadows                             | GNA SNA                        |
| <i>Ammophila Arenaria</i> Alliance  | European beach grass swards                                  | GNA SNA                        |
| <i>Argentina egedii</i>   | Pacific silverweed marshes                                   | G4 S2                          |
| <i>Avena barbata</i>  | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Avena fatua</i>  | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Briza maxima</i>   | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Bromus diandrus</i>  | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Bromus diandrus</i> – <i>Avena</i> spp.  | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Bromus diandrus</i> – Mixed herbs  | Wild oats and annual brome grasslands                        | GNA SNA                        |
| <i>Bromus hordeaceus</i> – ( <i>Vicia villosa</i> – <i>Lolium perenne</i> ) – <i>Trifolium hirtum</i> | Wild oats and annual brome grasslands                        | GNA SNA                        |

|   |   |                                |
|---|---|--------------------------------|
| <i>Bromus hordeaceus</i> – <i>Aira caryophyllea</i>                                 | Wild oats and annual brome grasslands   | GNA SNA                        |
| <b>Scientific Name</b>  | <b>Common Name</b>                      | <b>Global &amp; State Rank</b> |
| <i>Bromus hordeaceus</i> – <i>Amsinckia menziesii</i> – <i>Hordeum murinum</i>      | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Bromus tectorum</i>                                   | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Dichelostemma multiflorum</i>                         | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Erodium botrys</i>                                    | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Erodium botrys</i> – <i>Plagiobothrys fulvus</i>      | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Hordeum</i> spp. – <i>Medicago polymorpha</i>         | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Leontodon saxatilis</i>                               | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Limnanthes douglasii</i>                              | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Taeniatherum caput-medusae</i>                        | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bromus hordeaceus</i> – <i>Vulpia myuros</i> var. <i>hirsuta</i>                 | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Hypochaeris glabra</i> – <i>Vulpia bromoides</i>                                 | Wild oats and annual brome grasslands   | GNA SNA                        |
| <i>Bolboschoenus maritimus</i> Alliance   | Salt marsh bulrush marshes              | G4 S3                          |
| <i>Brassica nigra</i>   | Upland mustards and other ruderal forbs | GNA SNA                        |
| <i>Brassica nigra</i> – <i>Bromus diandrus</i>                                      | Upland mustards and other ruderal forbs | GNA SNA                        |
| <i>Raphanus sativus</i>   | Upland mustards and other ruderal forbs | GNA SNA                        |
| <i>Bromus carinatus</i> Alliance  | California brome – blue wildrye prairie | G3 S3                          |
| <i>Elymus glaucus</i> Alliance  | California brome – blue wildrye prairie | G3 S3                          |
| <i>Pteridium aquilinum</i> – Grass  | California brome – blue wildrye prairie | G3 S3                          |
| <i>Calamagrostis nutkaensis</i> Alliance  | Pacific reed grass meadows              | G4 S2                          |
| <i>Calamagrostis nutkaensis</i> – <i>Carex (obnupta)</i> – <i>Juncus (patens)</i>   | Pacific reed grass meadows              | G2 S1S2                        |
| <i>Calamagrostis nutkaensis</i> / <i>Baccharis pilularis</i>                        | Pacific reed grass meadows              | G2 S1S2                        |
| <i>Camassia quamash</i> Alliance  | Small camas meadows                     | G4? S3?                        |
| <i>Carex obnupta</i> Alliance   | Slough sedge swards                     | G4 S3                          |
| <i>Carex obnupta</i> – <i>Juncus patens</i> Alliance                                | Slough sedge swards                     | G3 S3?                         |
| <i>Carex pansa</i> Alliance   | Sand dune sedge swaths                  | G4? S3?                        |
| <i>Conium maculatum</i> Alliance  | Poison hemlock or fennel patches        | GNA SNA                        |
| <i>Foeniculum vulgare</i> Alliance  | Poison hemlock or fennel patches        | GNA SNA                        |
| <i>Cortaderia (jubata, selloana)</i> Alliance                                       | Pampas grass patches                    | GNA SNA                        |
| <i>Cynosurus echinatus</i> – <i>Bromus hordeaceus</i> – <i>Avena fatua</i> Alliance | Annual dogtail grasslands               | GNA SNA                        |
| <i>Danthonia californica</i> Alliance   | California oat grass prairie            | G4 S3                          |
| <i>Danthonia californica</i> – ( <i>Briza maxima</i> – <i>Vulpia bromoides</i> )    | California oat grass prairie            | G4 S3                          |
| <i>Danthonia californica</i> – <i>Aira caryophyllea</i>                             | California oat grass prairie            | G4 S2?                         |
| <i>Darlingtonia californica</i>   | California pitcher plant fens           | G4 S3?                         |
| <i>Deschampsia caespitosa</i> Alliance  | Tufted hair grass meadows               | G5 S4?                         |
| <i>Deschampsia caespitosa</i> – <i>Anthoxanthum odoratum</i>                        | Tufted hair grass meadows               | G5 S4?                         |
| <i>Deschampsia caespitosa</i> – <i>Danthonia californica</i>                        | Tufted hair grass meadows               | G2 S2                          |
| <i>Deschampsia caespitosa</i> – <i>Horkelia marinensis</i>                          | Tufted hair grass meadows               | G3 S1                          |
| <i>Distichlis spicata</i>   | Salt grass flats                        | GNR S4                         |
| <i>Eleocharis macrostachya</i> Alliance   | Pale spike rush marshes                 | G4 S4                          |
| <i>Elymus glaucus</i> Alliance  | Blue wild rye meadows                   | G3? S3?                        |
| <i>Festuca rubra</i> Alliance   | Red fescue grassland                    | G4 S3?                         |
| <i>Festuca idahoensis</i> Alliance  | Idaho fescue grassland                  | G4 S3?                         |
| <i>Glyceria occidentalis</i>  | Northwest manna grass marshes           | G3? S3?                        |
| <i>Grindelia (stricta)</i> Provisional Alliance                                     | Gum plant patches                       | G2G3 S2S3                      |
| <i>Heterotheca (sessiflora)</i> Alliance  | Goldenaster patches                     | G3 S3                          |
| <i>Hordeum brachyantherum</i> Alliance  | Meadow barley patches                   | G4 S3?                         |
| <i>Juncus articus</i> (var. <i>balticus</i> , <i>mexicanus</i> )                    | Baltic and Mexican rush marshes         | G5 S4                          |
| <i>Juncus effusus</i> Alliance  | Soft rush marshes                       | G4 S4?                         |
| <i>Juncus (oxymeris, xiphioides)</i> Provisional Alliance                           | Iris-leaf rush seeps                    | G2? S2?                        |
| <i>Juncus lescurii</i> Alliance   | Salt rush swales                        | G3 S2?                         |
| <i>Juncus patens</i> Provisional Alliance   | Western rush marshes                    | G4? S4?                        |



|   |   |                                |
|---|---|--------------------------------|
| <i>Lasthenia californica</i> – <i>Plantage erecta</i> – <i>Vulpia microstachys</i> Alliance | California goldfields – dwarf plantain – small fescue flower fields | G4 S4                          |
| <i>Leymus mollis</i> Alliance   | Sea lyme grass patches  | G4 S2                          |
| <i>Leymus triticoides</i> Alliance  | Creeping rye grass turfs  | G5 S3                          |
| <b>Scientific Name</b>  | <b>Common Name</b>  | <b>Global &amp; State Rank</b> |
| <i>Mimulus (guttatus)</i> Alliance  | Common monkey flower seeps  | G4? S3?                        |
| <i>Nassella pulchra</i> Alliance  | Purple needle grass grassland                                       | G4 S3?                         |
| <i>Poa secunda</i> Alliance   | Curley bluegrass grassland  | G4 S3?                         |
| <i>Schoenoplectus acutus</i> Alliance   | Hardstem bulrush marsh  | G5 S4                          |
| <i>Schoenoplectus californicus</i> Alliance   | California bulrush marsh  | G5 S4?                         |
| <i>Scirpus microcarpus</i> Alliance   | Small-fruited bulrush marsh   | G4 S2                          |
| <i>Solidago canadensis</i> Provisional Alliance   | Canada goldenrod patches  | G4? S4?                        |
| <i>Woodwardia fimbriata</i>   | Woodwardia thicket  | G3 S3.2                        |
| <b>Aquatic Vegetation</b>   |   |                                |
| <i>Azolla (filiculoides, mexicana)</i> Provisional Alliance                                 | Mosquito fern mats  | G4 S4                          |
| <i>Hydrocotyle (ranunculoides, umbellata)</i> Alliance                                      | Mats of floating pennywort  | G4 S3?                         |
| <i>Lemna (minor)</i> and Relatives Provisional Alliance                                     | Duckweed blooms   | G5 S4?                         |
| <i>Nuphar lutea</i> Provisional Alliance  | Yellow pond-lily mats   | G5 S3?                         |
| <i>Oenanthe sarmentosa</i> Alliance   | Water-parsley marsh   | G4 S2?                         |
| <i>Sarcocornia pacifica (Salicornia depressa)</i> Alliance                                  | Pickleweed mats   | G4 S3                          |
| <i>Scirpus microcarpus</i>  | Small fruited bulrush marsh   | G4 S2                          |
| <i>Sparganium (angustifolium)</i> Alliance  | Mats of bur-reed leaves   | G4 S3?                         |
| <i>Typha (angustifolia, domingensis, latifolia)</i> Alliance                                | Cattail marshes   | G5 S5                          |

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## Appendix C. Soil Report



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

### Custom Soil Resource Report for **Mendocino County, Western Part, California**

#### Weintraub NRCS Soils Map



December 3, 2020

## Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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## How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



#### Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.








## Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



### MAP INFORMATION

| Area of Interest (AOI)  |                        |   |                       |
|---|------------------------|---|-----------------------|
|  | Area of Interest (AOI) |  | Spoil Area            |
|  | Soil Map Unit Polygons |  | Story Spot            |
|  | Soil Map Unit Lines    |  | Very Story Spot       |
|  | Soil Map Unit Points   |  | Wet Spot              |
| <b>Special Point Features</b>   |                        |  | Other                 |
|  | Blowout                |  | Special Line Features |
|  | Borrow Pit             | <b>Water Features</b>   |                       |
|  | Clay Spot              |  | Streams and Canals    |
|  | Closed Depression      | <b>Transportation</b>   |                       |
|  | Gravel Pit             |  | Rails                 |
|  | Gravelly Spot          |  | Interstate Highways   |
|  | Landfill               |  | US Routes             |
|  | Lava Flow              |  | Major Roads           |
|  | Marsh or swamp         |  | Local Roads           |
|  | Mine or Quarry         | <b>Background</b>   |                       |
|  | Miscellaneous Water    |  | Aerial Photography    |
|  | Perennial Water        |   |                       |
|  | Rock Outcrop           |   |                       |
|  | Saline Spot            |   |                       |
|  | Sandy Spot             |   |                       |
|  | Severely Eroded Spot   |   |                       |
|  | Sinkhole               |   |                       |
|  | Slide or Slip          |   |                       |
|  | Sodic Spot             |   |                       |

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mendocino County, Western Part, California  
Survey Area Data: Version 15, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 3, 2019—Jul 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

| Map Unit Symbol                    | Map Unit Name  | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------------|----------------|
| 124                                | Caspar-Quinliven-Ferncreek complex, 9 to 30 percent slopes | 0.4          | 0.7%           |
| 141                                | Ferncreek sandy loam, 2 to 9 percent slopes                | 1.5          | 2.6%           |
| 174                                | Imulco-Tramway complex, 50 to 75 percent slopes            | 21.2         | 37.4%          |
| 196                                | Quinliven-Ferncreek complex, 2 to 15 percent slopes        | 16.5         | 29.1%          |
| 199                                | Shinglemill-Gibney complex, 2 to 9 percent slopes          | 17.2         | 30.3%          |
| <b>Totals for Area of Interest</b> |  | <b>56.7</b>  | <b>100.0%</b>  |

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

## Custom Soil Resource Report

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Mendocino County, Western Part, California

### 124—Caspar-Quinliven-Ferncreek complex, 9 to 30 percent slopes

#### Map Unit Setting

*National map unit symbol:* hmky  
*Elevation:* 100 to 1,000 feet  
*Mean annual precipitation:* 40 to 65 inches  
*Mean annual air temperature:* 52 to 55 degrees F  
*Frost-free period:* 290 to 365 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Caspar and similar soils:* 37 percent  
*Quinliven and similar soils:* 33 percent  
*Ferncreek and similar soils:* 15 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Caspar

##### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Marine deposits derived from sandstone

##### Typical profile

*H1 - 0 to 16 inches:* sandy loam  
*H2 - 16 to 37 inches:* sandy loam  
*H3 - 37 to 48 inches:* sandy clay loam  
*H4 - 48 to 62 inches:* sandy loam

##### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 8.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

## Custom Soil Resource Report

### Description of Quinliven

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Parent material:* Marine deposits derived from sandstone

#### Typical profile

*H1 - 0 to 4 inches:* sandy loam  
*H2 - 4 to 11 inches:* sandy loam  
*H3 - 11 to 18 inches:* loam  
*H4 - 18 to 51 inches:* clay  
*H5 - 51 to 60 inches:* sandy clay loam  
*H6 - 60 to 64 inches:* loamy sand

#### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Description of Ferncreek

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone and siltstone

#### Typical profile

*H1 - 0 to 7 inches:* sandy loam  
*H2 - 7 to 33 inches:* clay loam  
*H3 - 33 to 43 inches:* sandy clay loam  
*H4 - 43 to 61 inches:* sandy loam

#### Properties and qualities

*Slope:* 9 to 30 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Very high



#### Custom Soil Resource Report

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* About 24 to 48 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* High (about 9.1 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

#### Minor Components

##### Unnamed, gentler or steeper slopes

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

##### Unnamed

*Percent of map unit:* 5 percent

*Landform:* Marine terraces

*Hydric soil rating:* Yes

##### Harecreek

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### 141—Femcreek sandy loam, 2 to 9 percent slopes

##### Map Unit Setting

*National map unit symbol:* hmln

*Elevation:* 100 to 1,000 feet

*Mean annual precipitation:* 40 to 65 inches

*Mean annual air temperature:* 52 to 54 degrees F

*Frost-free period:* 290 to 365 days

*Farmland classification:* Not prime farmland

##### Map Unit Composition

*Femcreek and similar soils:* 80 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

##### Description of Femcreek

###### Setting

*Landform:* Marine terraces

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Tread

## Custom Soil Resource Report

*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone and siltstone

### Typical profile

*E - 0 to 7 inches:* sandy loam  
*Bt - 7 to 33 inches:* clay loam  
*Btv - 33 to 43 inches:* sandy clay loam  
*BCtv - 43 to 61 inches:* sandy loam

### Properties and qualities

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 24 to 48 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Minor Components

#### Quinliven

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

#### Caspar

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

#### Unnamed, gentler or steeper slopes

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## 174—Irmulco-Tramway complex, 50 to 75 percent slopes

### Map Unit Setting

*National map unit symbol:* hmn2  
*Elevation:* 10 to 800 feet

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*Mean annual precipitation:* 40 to 70 inches  
*Mean annual air temperature:* 50 to 55 degrees F  
*Frost-free period:* 290 to 365 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Irmulco and similar soils:* 45 percent  
*Tramway and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Irmulco

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Colluvium derived from sandstone and/or residuum weathered from sandstone

#### Typical profile

*H1 - 0 to 6 inches:* loam  
*H2 - 6 to 61 inches:* loam  
*H3 - 61 to 65 inches:* weathered bedrock

#### Properties and qualities

*Slope:* 50 to 75 percent  
*Depth to restrictive feature:* 60 to 80 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 8.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

### Description of Tramway

#### Setting

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Parent material:* Colluvium derived from sandstone and/or residuum weathered from sandstone

## Custom Soil Resource Report

### Typical profile

H1 - 0 to 7 inches: loam  
H2 - 7 to 12 inches: loam  
H3 - 12 to 28 inches: clay loam  
H4 - 28 to 32 inches: weathered bedrock

### Properties and qualities

Slope: 50 to 75 percent  
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock  
Drainage class: Well drained  
Runoff class: High  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high  
(0.60 to 2.00 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Available water capacity: Low (about 4.5 inches)

### Interpretive groups

Land capability classification (irrigated): None specified  
Land capability classification (nonirrigated): 7e  
Hydrologic Soil Group: C  
Hydric soil rating: No

### Minor Components

#### Unnamed, gentler or steeper slopes

Percent of map unit: 4 percent  
Hydric soil rating: No

#### Hotel

Percent of map unit: 4 percent  
Hydric soil rating: No

#### Vandamme

Percent of map unit: 4 percent  
Hydric soil rating: No

#### Dehaven

Percent of map unit: 4 percent  
Hydric soil rating: No

#### Unnamed, disturbed

Percent of map unit: 4 percent  
Hydric soil rating: No

## 196—Quinliven-Ferncreek complex, 2 to 15 percent slopes

### Map Unit Setting

National map unit symbol: hmnz  
Elevation: 100 to 1,000 feet



## Custom Soil Resource Report

*Mean annual precipitation:* 40 to 65 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 290 to 365 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Quinliven and similar soils:* 60 percent  
*Ferncreek and similar soils:* 25 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Quinliven

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone

#### Typical profile

*O<sub>i</sub> - 0 to 5 inches:* slightly decomposed plant material  
*E - 5 to 9 inches:* sandy loam  
*EB - 9 to 16 inches:* sandy loam  
*BT<sub>1</sub> - 16 to 23 inches:* loam  
*BT<sub>2</sub> - 23 to 56 inches:* clay  
*BT<sub>3</sub> - 56 to 65 inches:* sandy clay loam  
*C - 65 to 75 inches:* loamy sand

#### Properties and qualities

*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 48 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 10.9 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Description of Ferncreek

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Marine deposits derived from sandstone and siltstone

## Custom Soil Resource Report

### Typical profile

*Oi* - 0 to 2 inches: slightly decomposed plant material  
*E* - 2 to 9 inches: sandy loam  
*Bt* - 9 to 35 inches: clay loam  
*Bt<sub>v</sub>* - 35 to 45 inches: sandy clay loam  
*B<sub>C</sub>t<sub>v</sub>* - 45 to 63 inches: sandy loam

### Properties and qualities

*Slope*: 2 to 15 percent  
*Depth to restrictive feature*: More than 80 inches  
*Drainage class*: Somewhat poorly drained  
*Runoff class*: Very high  
*Capacity of the most limiting layer to transmit water (K<sub>sat</sub>)*: Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table*: About 48 to 72 inches  
*Frequency of flooding*: None  
*Frequency of ponding*: None  
*Available water capacity*: Moderate (about 8.6 inches)

### Interpretive groups

*Land capability classification (irrigated)*: None specified  
*Land capability classification (nonirrigated)*: 3e  
*Hydrologic Soil Group*: C  
*Hydric soil rating*: No

### Minor Components

#### Caspar

*Percent of map unit*: 8 percent  
*Landform*: Marine terraces  
*Landform position (two-dimensional)*: Backslope  
*Landform position (three-dimensional)*: Tread  
*Down-slope shape*: Linear  
*Across-slope shape*: Linear  
*Hydric soil rating*: No

#### Harecreek

*Percent of map unit*: 7 percent  
*Landform*: Marine terraces  
*Landform position (two-dimensional)*: Backslope  
*Landform position (three-dimensional)*: Tread  
*Down-slope shape*: Linear  
*Across-slope shape*: Linear  
*Hydric soil rating*: No

## 199—Shinglemill-Gibney complex, 2 to 9 percent slopes

### Map Unit Setting

*National map unit symbol*: hmp2

## Custom Soil Resource Report

*Elevation:* 200 to 750 feet  
*Mean annual precipitation:* 40 to 65 inches  
*Mean annual air temperature:* 52 to 54 degrees F  
*Frost-free period:* 270 to 330 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Shinglemill and similar soils:* 45 percent  
*Gibney and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Shinglemill

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Fluvio-marine deposits derived from sedimentary rock

#### Typical profile

*Oi - 0 to 2 inches:* slightly decomposed plant material  
*E - 2 to 10 inches:* loam  
*Bt1 - 10 to 17 inches:* loam  
*Bt2 - 17 to 27 inches:* clay loam  
*2Btv - 27 to 65 inches:* sandy clay

#### Properties and qualities

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* Very high  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 12 to 30 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C/D  
*Hydric soil rating:* Yes

### Description of Gibney

#### Setting

*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Fluvio-marine deposits derived from sandstone

## Custom Soil Resource Report

### Typical profile

*A - 0 to 9 inches:* loam  
*Bt - 9 to 29 inches:* sandy clay loam  
*Btv1 - 29 to 55 inches:* clay  
*Btv2 - 55 to 63 inches:* sandy clay loam

### Properties and qualities

*Slope:* 2 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 30 to 48 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 9.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

### Minor Components

#### Blacklock

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Gibwell

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Tropaquepts

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* Yes

#### Tregoning

*Percent of map unit:* 5 percent  
*Landform:* Marine terraces  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* Yes

**Custom Soil Resource Report**



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# APPENDIX D Wetland Data Sheets

## WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 45400 Bill Owens Rd City/County: MENDOCINO Sampling Date: 11/20/20  
 Applicant/Owner: Weintraub State: CA Sampling Point: SP01  
 Investigator(s): TERESA R SPADE Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): <1%  
 Subregion (LRR): A Lat: 38°52.982' Long: 123°38.495' Datum: NAD83  
 Soil Map Unit Name: Shingletmill-Gibrey complex, 2-9% slopes NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|                                 |                       |  |
|---------------------------------|-----------------------|--|
| Hydrophytic Vegetation Present? | Yes _____ No <u>X</u> | Is the Sampled Area<br>within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?            | Yes _____ No <u>X</u> |  |
| Wetland Hydrology Present?      | Yes _____ No <u>X</u> |  |
| Remarks:                        |                       |  |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)  |
|--|------------------|-------------------|------------------|---|
| 1. <u>Pseudotsuga menziesii</u>                | <u>20</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 2. _____                                       | _____            | _____             | _____            |   |
| 3. _____                                       | _____            | _____             | _____            |   |
| 4. _____                                       | _____            | _____             | _____            |   |
| <u>20</u> = Total Cover                        |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>20'</u> ) | Absolute % Cover | Dominant Species? | Indicator Status | Prevalence Index worksheet:<br>Total % Cover of: _____ Multiply by: _____<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>10</u> x 2 = <u>20</u><br>FAC species <u>5</u> x 3 = <u>15</u><br>FACU species <u>54</u> x 4 = <u>216</u><br>UPL species <u>6</u> x 5 = <u>30</u><br>Column Totals: <u>75</u> (A) <u>291</u> (B)<br>Prevalence Index = B/A = <u>3.88</u>  |
| 1. <u>Vaccinium ovatum</u>                     | <u>10</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 2. <u>Baccharis pilularis</u>                  | <u>2</u>         | <u>NO</u>         | <u>NI</u>        |   |
| 3. <u>Pseudotsuga menziesii</u>                | <u>7</u>         | <u>YES</u>        | <u>FACU</u>      |   |
| 4. _____                                       | _____            | _____             | _____            |   |
| 5. _____                                       | _____            | _____             | _____            |   |
| <u>19</u> = Total Cover                        |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>10'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Indicators:<br>____ 1 - Rapid Test for Hydrophytic Vegetation<br>____ 2 - Dominance Test is >50%<br>____ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>____ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Juncus patens</u>                        | <u>10</u>        | <u>YES</u>        | <u>FACW</u>      |   |
| 2. <u>Lonicera hispidula</u>                   | <u>5</u>         | <u>NO</u>         | <u>FACU</u>      |   |
| 3. <u>Holcus lanatus</u>                       | <u>5</u>         | <u>NO</u>         | <u>FAC</u>       |   |
| 4. <u>Whipples modesta</u>                     | <u>4</u>         | <u>NO</u>         | <u>NI</u>        |   |
| 6. <u>Fragaria vesca</u>                       | <u>2</u>         | <u>NO</u>         | <u>FACU</u>      |   |
| 6. <u>Pteridium aquilinum</u>                  | <u>3</u>         | <u>NO</u>         | <u>FACU</u>      |   |
| 7. _____                                       | _____            | _____             | _____            |   |
| 8. _____                                       | _____            | _____             | _____            |   |
| 9. _____                                       | _____            | _____             | _____            |   |
| 10. _____                                      | _____            | _____             | _____            |   |
| 11. _____                                      | _____            | _____             | _____            |   |
| <u>29</u> = Total Cover                        |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: _____)          | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Present? Yes _____ No <u>X</u>   |
| 1. <u>Rubus ursinus</u>                        | <u>7</u>         | <u>YES</u>        | <u>FACU</u>      |   |
| 2. _____                                       | _____            | _____             | _____            |   |
| <u>7</u> = Total Cover                         |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>30</u>        |                  |                   |                  |   |
| Remarks:                                       |                  |                   |                  |   |

## SOIL

Sampling Point: SP01

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |     |                |   |                   |         |                                    |
|---|---------------|-----|----------------|---|-------------------|---------|------------------------------------|
| Depth (inches)  | Matrix        |     | Redox Features |   |                   | Texture | Remarks                            |
|   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> |         |                                    |
| -1-0  | Duff          |     |                |   |                   |         | organic duff layer                 |
| 0-5"  | 10YR 3/2      | 100 |                |   |                   |         | sandy clay loam 1-2% organic roots |
| 5"-17"  | 10YR 5/3      | 100 |                |   |                   |         | loamy sand                         |
| 17"+  | 10YR 6/3      | 100 |                |   |                   |         | loamy clayey sand                  |
|   |               |     |                |   |                   |         |                                    |
|   |               |     |                |   |                   |         |                                    |
|   |               |     |                |   |                   |         |                                    |
|   |               |     |                |   |                   |         |                                    |
|   |               |     |                |   |                   |         |                                    |
|   |               |     |                |   |                   |         |                                    |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

| Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) |   | Indicators for Problematic Hydric Soils <sup>3</sup> :  |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)                                    | <input type="checkbox"/> Sandy Redox (S5)                         | <input type="checkbox"/> 2 cm Muck (A10)  |
| <input type="checkbox"/> Histic Epipedon (A2)                             | <input type="checkbox"/> Stripped Matrix (S6)                     | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Black Histic (A3)                                | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12)   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)                 | <input type="checkbox"/> Other (Explain in Remarks)   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)                | <input type="checkbox"/> Depleted Matrix (F3)                     |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                         | <input type="checkbox"/> Redox Dark Surface (F6)                  |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                         | <input type="checkbox"/> Depleted Dark Surface (F7)               | <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)                         | <input type="checkbox"/> Redox Depressions (F8)                   |   |

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks: \_\_\_\_\_

## HYDROLOGY

| Wetland Hydrology Indicators:                                      |   |  |
|--|---|--|
| Primary Indicators (minimum of one required; check all that apply) |   | Secondary Indicators (2 or more required)                                  |
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Salt Crust (B11)   | <input type="checkbox"/> Drainage Patterns (B10)                           |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                              | <input type="checkbox"/> Dry-Season Water Table (C2)                       |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                               | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)         |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)            | <input type="checkbox"/> Geomorphic Position (D2)                          |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Presence of Reduced Iron (C4)                            | <input type="checkbox"/> Shallow Aquitard (D3)                             |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)               | <input type="checkbox"/> FAC-Neutral Test (D5)                             |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)                  | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)                    |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Other (Explain in Remarks)                               | <input type="checkbox"/> Frost-Heave Hummocks (D7)                         |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |   |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |   |  |

| Field Observations:  |                       | Wetland Hydrology Present?                       |
|--|-----------------------|--|
| Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>  | Depth (inches): _____ | Yes _____ No <input checked="" type="checkbox"/> |
| Water Table Present? Yes _____ No <input checked="" type="checkbox"/>  | Depth (inches): _____ |  |
| Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> | Depth (inches): _____ |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: soil is damp throughout from recent rains but not saturated. very well drained soil

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region**

Project/Site: 45400 Bill Owens Rd City/County: MENDOCINO Sampling Date: 11/20/20  
 Applicant/Owner: Weintraub State: CA Sampling Point: SPO2  
 Investigator(s): TERESA R SPADE Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): TERACE Local relief (concave, convex, none): slight Slope (%): 41%  
 Subregion (LRR): A Lat: 38°52.986' Long: 123°38.491' Datum: NAD83  
 Soil Map Unit Name: Shinglermill - Gibney complex, 2 to 9% slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|                                 |                       |  |
|---------------------------------|-----------------------|--|
| Hydrophytic Vegetation Present? | Yes _____ No <u>X</u> | Is the Sampled Area<br>within a Wetland? Yes _____ No <u>X</u> |
| Hydric Soil Present?            | Yes _____ No <u>X</u> |  |
| Wetland Hydrology Present?      | Yes _____ No <u>X</u> |  |
| Remarks:                        |                       |  |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:<br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>6</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16%</u> (A/B)  |
|--|------------------|-------------------|------------------|---|
| 1. <u>Pseudotsuga menziesii</u>                | <u>20</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 2. <u>Notholithocarpus densiflorus</u>         | <u>5</u>         | <u>YES</u>        | <u>NI</u>        |   |
| 3. _____                                       | _____            | _____             | _____            |   |
| 4. _____                                       | _____            | _____             | _____            |   |
| <u>25</u> = Total Cover                        |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>20'</u> ) | Absolute % Cover | Dominant Species? | Indicator Status | Prevalence Index worksheet:<br>Total % Cover of: _____ Multiply by:<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>15</u> x 2 = <u>30</u><br>FAC species <u>6</u> x 3 = <u>18</u><br>FACU species <u>67</u> x 4 = <u>268</u><br>UPL species <u>5</u> x 5 = <u>25</u><br>Column Totals: <u>93</u> (A) <u>341</u> (B)<br><br>Prevalence Index = B/A = <u>3.7</u>   |
| 1. <u>Pseudotsuga menziesii</u>                | <u>15</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 2. _____                                       | _____            | _____             | _____            |   |
| 3. _____                                       | _____            | _____             | _____            |   |
| 4. _____                                       | _____            | _____             | _____            |   |
| 5. _____                                       | _____            | _____             | _____            |   |
| <u>15</u> = Total Cover                        |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>10'</u> )          | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Indicators:<br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ 5 - Wetland Non-Vascular Plants <sup>1</sup><br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Juncus patens</u>                        | <u>15</u>        | <u>YES</u>        | <u>FACW</u>      |   |
| 2. <u>Lonicera hispidula</u>                   | <u>15</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 3. <u>Poleis lanatus</u>                       | <u>2</u>         | <u>NO</u>         | <u>FAC</u>       |   |
| 4. <u>Luzula comosa</u>                        | <u>4</u>         | <u>NO</u>         | <u>FAC</u>       |   |
| 5. _____                                       | _____            | _____             | _____            |   |
| 6. _____                                       | _____            | _____             | _____            |   |
| 7. _____                                       | _____            | _____             | _____            |   |
| 8. _____                                       | _____            | _____             | _____            |   |
| 9. _____                                       | _____            | _____             | _____            |   |
| 10. _____                                      | _____            | _____             | _____            |   |
| 11. _____                                      | _____            | _____             | _____            |   |
| <u>36</u> = Total Cover                        |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: _____)          | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>   |
| 1. <u>Robus ursinus</u>                        | <u>17</u>        | <u>YES</u>        | <u>FACU</u>      |   |
| 2. _____                                       | _____            | _____             | _____            |   |
| <u>17</u> = Total Cover                        |                  |                   |                  |   |
| % Bare Ground in Herb Stratum <u>40</u>        |                  |                   |                  |   |
| Remarks: <u>leaf litter</u>                    |                  |                   |                  |   |



Sampling Point: SPO2

## HYDROLOGY

US Army Corps of Engineers

Teresa R Spade, AICP  
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phone: 707-397-1802  
spadenrc@gmail.com



To: Weintraub

Re: Addendum to Biological  
Scoping Survey Report for  
45400 Bill Owens Road  
Point Arena, CA  
Mendocino County  
(APN 027-361-15)

Date: July 1, 2021

Dear Miranda and Jeremy:

I visited the project site at 45400 Bill Owens Road, Point Arena CA (APN 027-361-15) on May 5, and June 21, 2021, to survey for bloom window plant species of concern with the potential to occur at the site, as included in the scoping for the Botanical Scoping, Wetland Delineation and Biological Scoping Survey Report I provided for this site dated January 25, 2021. No Special Status Plant Species were observed.

A full plant list of species encountered at the site is included in this addendum as Table 1. Additionally, the site map showing the well location is included as Figure 1. The proposed well locations are within the area surveyed that is considered to be part of the building area, and meet minimum 100 foot setbacks to any identified sensitive areas.

Sincerely,

Teresa R Spade, AICP  
Spade Natural Resources Consulting

Table 1. Plant List 45400 Bill Owens Road, Point Arena, CA (APN 027-361-15) SpadeNRC July 1, 2021

| GROUP            | FAMILY           | LATIN NAME   | COMMON NAME                                  | NATIVE |
|------------------|------------------|--|--|--------|
| FERNS AND ALLIES |                  |  |  |        |
|                  | Blechnaceae      |  |  |        |
|                  |                  | <i>Blechnum spicant</i>                            | deer fern                                    | Y      |
|                  | Dennstaedtiaceae |  |  |        |
|                  |                  | <i>Pteridium aquilinum</i> var. <i>pubescens</i>   | bracken; western bracken; hairy bracken fern | Y      |
|                  |                  | <i>Polystichum munitum</i>                         | western sword fern                           | Y      |
| GYMNOSPERMS      |                  |  |  |        |
|                  | Pinaceae         |  |  |        |
|                  |                  | <i>Abies grandis</i>                               | grand fir; lowland fir                       | Y      |
|                  |                  | <i>Pinus muricata</i>                              | Bishop pine; prickly-cone pine; bull pine    | Y      |
|                  |                  | <i>Pseudotsuga menziesii</i> var. <i>menziesii</i> | Douglas fir                                  | Y      |
|                  | Taxodiaceae      |  |  |        |
|                  |                  | <i>Sequoia sempervirens</i>                        | coast redwood                                | Y      |
| DICOTS           |                  |  |  |        |
|                  | Asteraceae       |  |  |        |
|                  |                  | <i>Anisocarpus madioides</i>                       | woodland madia                               | Y      |
|                  |                  | <i>Hypochaeris radicata</i>                        | rough cat's ear, hairy cat's ear             | N      |
|                  |                  | <i>Pseudognaphalium luteoalbum</i>                 | Jersey cudweed                               |        |
|                  | Berberidaceae    |  |  |        |
|                  |                  | <i>Berberis nervosa</i>                            | Cascades Oregon grape, longleaf berberis     | Y      |
|                  | Boraginaceae     |  |  |        |
|                  |                  | <i>Myosotis discolor</i>                           | forget-me-not, changing forget me not        | N      |
|                  | Caprifoliaceae   |  |  |        |
|                  |                  | <i>Lonicera hispidula</i>                          | hairy honeysuckle                            | Y      |
|                  | Ericaceae        |  |  |        |
|                  |                  | <i>Arbutus menziesii</i>                           | madrone                                      | Y      |
|                  |                  | <i>Arctostaphylos columbiana</i>                   | redwood manzanita, hairy manzanita           | Y      |
|                  |                  | <i>Gaultheria shallon</i>                          | salal  | Y      |
|                  |                  | <i>Rhododendron macrophyllum</i>                   | California rose-bay                          | Y      |
|                  |                  | <i>Vaccinium ovatum</i>                            | California huckleberry                       | Y      |
|                  | Fabaceae         |  |  |        |
|                  |                  | <i>Trifolium campestre</i>                         | hop clover, Field clover, Low hop clover     | N      |
|                  |                  | <i>Trifolium dubium</i>                            | shamrock, Shamrock clover, Suckling clover   | N      |
|                  |                  | <i>Vicia sativa</i> ssp. <i>sativa</i>             | spring vetch                                 | N      |

| GROUP    | FAMILY          | LATIN NAME  | COMMON NAME  | NATIVE |
|----------|-----------------|---|--|--------|
|          | Fagaceae        |   |  |        |
|          |                 | <i>Notholithocarpus densiflorus</i> var. <i>densiflorus</i> | tanoak   | Y      |
|          | Lamiaceae       |   |  |        |
|          |                 | <i>Prunella vulgaris</i> var. <i>vulgaris</i>               | self-heal  | N      |
|          |                 | <i>Stachys rigida</i>                                       | rigid hedge-nettle   | Y      |
|          | Linaceae        |   |  |        |
|          |                 | <i>Linum bienne</i>   | pale flax  | N      |
|          | Myricaceae      |   |  |        |
|          |                 | <i>Morella californica</i>                                  | wax-myrtle   | Y      |
|          | Myrsinaceae     |   |  |        |
|          |                 | <i>Lysimachia latifolia</i>                                 | Pacific starflower   | Y      |
|          | Philadelphaceae |   |  |        |
|          |                 | <i>Whipplea modesta</i>                                     | yerba de selva, modesty  | Y      |
|          | Phrymaceae      |   |  |        |
|          |                 | <i>Mimulus aurantiacus</i>                                  | sticky monkeyflower  | Y      |
|          | Plantaginaceae  |   |  |        |
|          |                 | <i>Plantago lanceolata</i>                                  | English plantain, ribwort,<br>narrow leaved plantain, ribgrass | N      |
|          | Rhamnaceae      |   |  |        |
|          |                 | <i>Ceanothus thyrsiflorus</i>                               | blueblossom  | Y      |
|          | Rosaceae        |   |  |        |
|          |                 | <i>Cotoneaster pannosa</i>                                  | woolly cotoneaster   | N      |
|          |                 | <i>Fragaria vesca</i>                                       | woodland strawberry, wood<br>strawberry                        | Y      |
|          |                 | <i>Rubus ursinus</i>  | California blackberry  | Y      |
|          | Rubiaceae       |   |  |        |
|          |                 | <i>Galium porrigens</i> var. <i>porrigens</i>               | climbing bedstraw  | Y      |
|          | Violaceae       |   |  |        |
|          |                 | <i>Viola sempervirens</i>                                   | evergreen violet, redwood violet                               | Y      |
| MONOCOTS |                 |   |  |        |
|          | Cyperaceae      |   |  |        |
|          |                 | <i>Carex tumulicola</i>                                     | split-awn sedge  | Y      |
|          | Iridaceae       |   |  |        |
|          |                 | <i>Iris douglasiana</i>                                     | Douglas' iris  | Y      |
|          | Juncaceae       |   |  |        |
|          |                 | <i>Juncus patens</i>  | common rush  | Y      |
|          |                 | <i>Trillium ovatum</i>                                      | trillium   | Y      |
|          | Poaceae         |   |  |        |
|          |                 | <i>Aira caryophyllea</i>                                    | silver European hairgrass,<br>hairgrass                        | N      |
|          |                 | <i>Anthoxanthum odoratum</i>                                | sweet vernal grass   | N      |

| GROUP | FAMILY | LATIN NAME                                    | COMMON NAME                          | NATIVE |
|-------|--------|---|--------------------------------------|--------|
|       |        | <i>Bromus carinatus</i> var. <i>carinatus</i> | California brome                     | Y      |
|       |        | <i>Bromus laevipes</i>                        | Chinook brome, narrow flowered brome | Y      |
|       |        | <i>Festuca myuros</i>                         | rattail fescue                       | N      |
|       |        | <i>Holcus lanatus</i>                         | common velvetgrass                   | N      |
|       |        | <i>Polypogon australis</i>                    | Chilean beardgrass, rabbitfoot grass | N      |
|       |        | <i>Polypogon monspeliensis</i>                | annual beard grass                   | N      |



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|                  | Dennstaedtiaceae |  |  |        |
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|                  |                  | <i>Polystichum munitum</i>                         | western sword fern                           | Y      |
| GYMNOSPERMS      |                  |  |  |        |
|                  | Pinaceae         |  |  |        |
|                  |                  | <i>Abies grandis</i>                               | grand fir; lowland fir                       | Y      |
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|                  |                  | <i>Pseudotsuga menziesii</i> var. <i>menziesii</i> | Douglas fir                                  | Y      |
|                  | Taxodiaceae      |  |  |        |
|                  |                  | <i>Sequoia sempervirens</i>                        | coast redwood                                | Y      |
| DICOTS           |                  |  |  |        |
|                  | Asteraceae       |  |  |        |
|                  |                  | <i>Anisocarpus madioides</i>                       | woodland madia                               | Y      |
|                  |                  | <i>Hypochaeris radicata</i>                        | rough cat's ear, hairy cat's ear             | N      |
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|                  |                  | <i>Rhododendron macrophyllum</i>                   | California rose-bay                          | Y      |
|                  |                  | <i>Vaccinium ovatum</i>                            | California huckleberry                       | Y      |
|                  | Fabaceae         |  |  |        |
|                  |                  | <i>Trifolium campestre</i>                         | hop clover, Field clover, Low hop clover     | N      |
|                  |                  | <i>Trifolium dubium</i>                            | shamrock, Shamrock clover, Suckling clover   | N      |
|                  |                  | <i>Vicia sativa</i> ssp. <i>sativa</i>             | spring vetch                                 | N      |

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|          | Phrymaceae      |   |  |        |
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|          | Plantaginaceae  |   |  |        |
|          |                 | <i>Plantago lanceolata</i>                                  | English plantain, ribwort,<br>narrow leaved plantain, ribgrass | N      |
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|          | Violaceae       |   |  |        |
|          |                 | <i>Viola sempervirens</i>                                   | evergreen violet, redwood violet                               | Y      |
| MONOCOTS |                 |   |  |        |
|          | Cyperaceae      |   |  |        |
|          |                 | <i>Carex tumulicola</i>                                     | split-awn sedge  | Y      |
|          | Iridaceae       |   |  |        |
|          |                 | <i>Iris douglasiana</i>                                     | Douglas' iris  | Y      |
|          | Juncaceae       |   |  |        |
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|          |                 | <i>Trillium ovatum</i>                                      | trillium   | Y      |
|          | Poaceae         |   |  |        |
|          |                 | <i>Aira caryophyllea</i>                                    | silver European hairgrass,<br>hairgrass                        | N      |
|          |                 | <i>Anthoxanthum odoratum</i>                                | sweet vernal grass   | N      |

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|-------|--------|--|--------------------------------------|--------|
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|       |        | <i>Festuca myuros</i>                  | rattail fescue                       | N      |
|       |        | <i>Holcus lanatus</i>                  | common velvetgrass                   | N      |
|       |        | <i>Polypogon australis</i>             | Chilean beardgrass, rabbitfoot grass | N      |
|       |        | <i>Polypogon monspeliensis</i>         | annual beard grass                   | N      |

## Tree Removal and Mitigation Report for Coastal Development Permit

This report outlines the tree and plant removal and replacement mitigation strategies to ensure environmental considerations, such as fire safety, invasive species management, and compliance with local regulations.

**Tree Removal Details.** Surveyor’s Miranda and Jeremy Weintraub conducted the tree and plant removal assessment on November 10, 2024. To ensure compliance with fire safety regulations and create a defensible space, trees identified for removal, defined as trees that are more than 6 inches in diameter at 4.5 feet up from the ground, have been selected based on their proximity to the proposed building sites for the single-family residence and guest cottage. The removal plan adheres to guidelines for maintaining a clear area around structures to reduce fire risk (e.g. Zone 1 and Zone 2), with defensible space requirements set by CalFire and the Redwood Coast Fire Protection District.

Each tree marked for removal has been chosen carefully to balance fire safety and environmental considerations. No non-native or invasive species were targeted for removal. No plants were targeted for removal. All trees marked for removal with flagging ribbon are native species that align with local ecology, including Redwood, Tan Oak, and Douglas Fir.

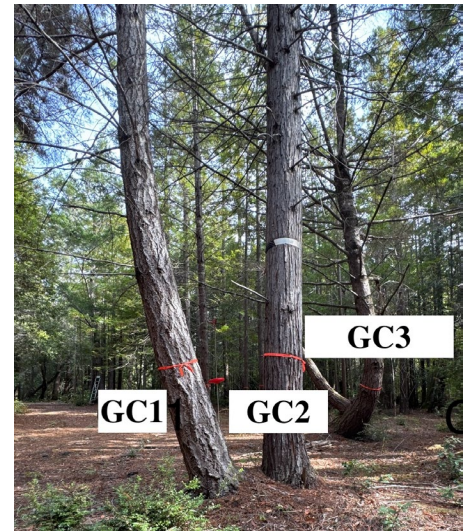
Below is a table summarizing the trees proposed for removal, images of each tree, and the associated site map that includes the building site and the location of the trees (with their respective IDs) proposed for removal.

| Table 1. Tree Removal Characteristics for each tree slated for removal due to proposed buildings — single family residence (SFR) or Guest Cottage (GC) |              |                 |                                   |                         |
|--|--------------|-----------------|-----------------------------------|-------------------------|
| Removal Tree ID (Building Site SFR [BS] and Guest Cottage [GC])  | Species      | DBH (in inches) | Condition (Dead/Diseased, Living) | Rationale for Removal   |
| BS1  | Tan Oak      | 9.23            | Living                            | In building site of SFR |
| BS2  | Redwood      | 19.10           | Living                            | In building site of SFR |
| BS3  | Redwood      | 20.69           | Living                            | In building site of SFR |
| BS4  | Douglas fir  | 30.56           | Living                            | In building site of SFR |
| GC1  | Douglass fir | 18.46           | Living                            | In building site of GC  |
| GC2  | Redwood      | 19.10           | Living                            | In building site of GC  |
| GC3  | Douglass fir | 19.74           | Living                            | In building site of GC  |

### Images of Trees Slated for Removal







**Tree Removal Mitigation Details.** Surveyor’s Miranda and Jeremy Weintraub conducted the sapling identification assessment on November 10, 2024. For each tree removed, a sapling of the same species was identified and marked with flagging ribbon for monitoring to meet the 1-to-1 mitigation requirement. Priority was given to selecting saplings in areas free from invasive species and weeds, to ensure they have minimal competition for resources. As no non-native or invasive species were targeted for removal, all trees requiring replacement for mitigation purposes are native species that align with local ecology, including Redwood, Tan Oak, and Douglas Fir.

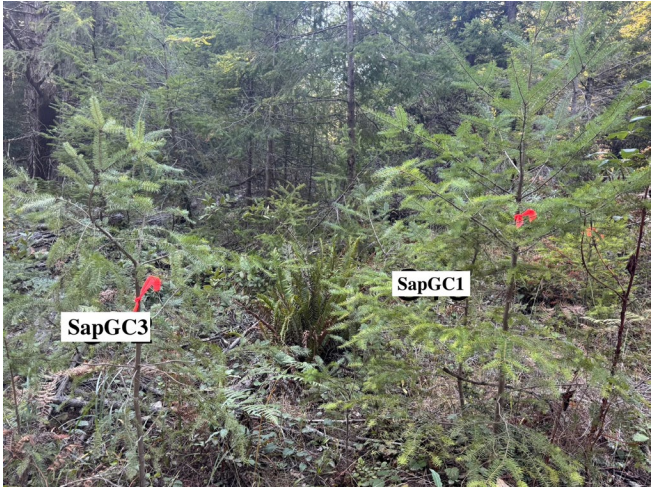
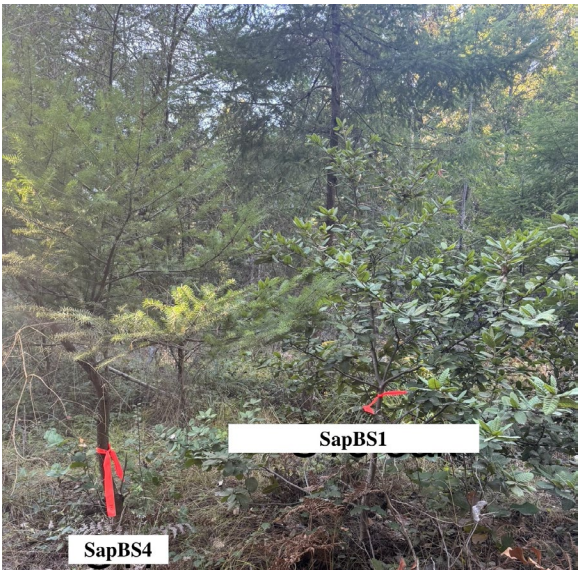
Saplings were marked with tags to allow for easy tracking. Each sapling received an identification number that corresponds to the parent tree that it is “replacing”. For example, proposed removal tree ID #BS1 corresponds to sapling tree ID #SapBS1.

Below is a table summarizing the sapling trees proposed for natural regeneration, images of each sapling, and the associated site map that includes the building site and the location of the saplings (with their respective IDs) proposed for natural regeneration. Sapling trees will be monitored for a three-year period.

| Table 2. Sapling Tree Characteristics for each tree slated for natural regeneration   |                         |  |
|---|-------------------------|--|
| Sapling Tree ID*  | Parent Removal Tree ID* | Sapling Species (Matches Removal Tree Species) |
| SapBS1  | BS1                     | Tan Oak  |
| SapBS2  | BS2                     | Redwood  |
| SapBS3  | BS3                     | Redwood  |
| SapBS4  | BS4                     | Douglas fir                                    |
| SapGC1  | GC1                     | Douglass fir                                   |
| SapGC2  | GC2                     | Redwood  |
| SapGC3  | GC3                     | Douglass fir                                   |
| *Sapling Tree ID corresponds to the ID of the parent tree being removed that it is replacing. For example, removal tree ID #BS1 corresponds to sapling tree ID #SapBS1. |                         |  |

### Images of Saplings Trees for Natural Regeneration



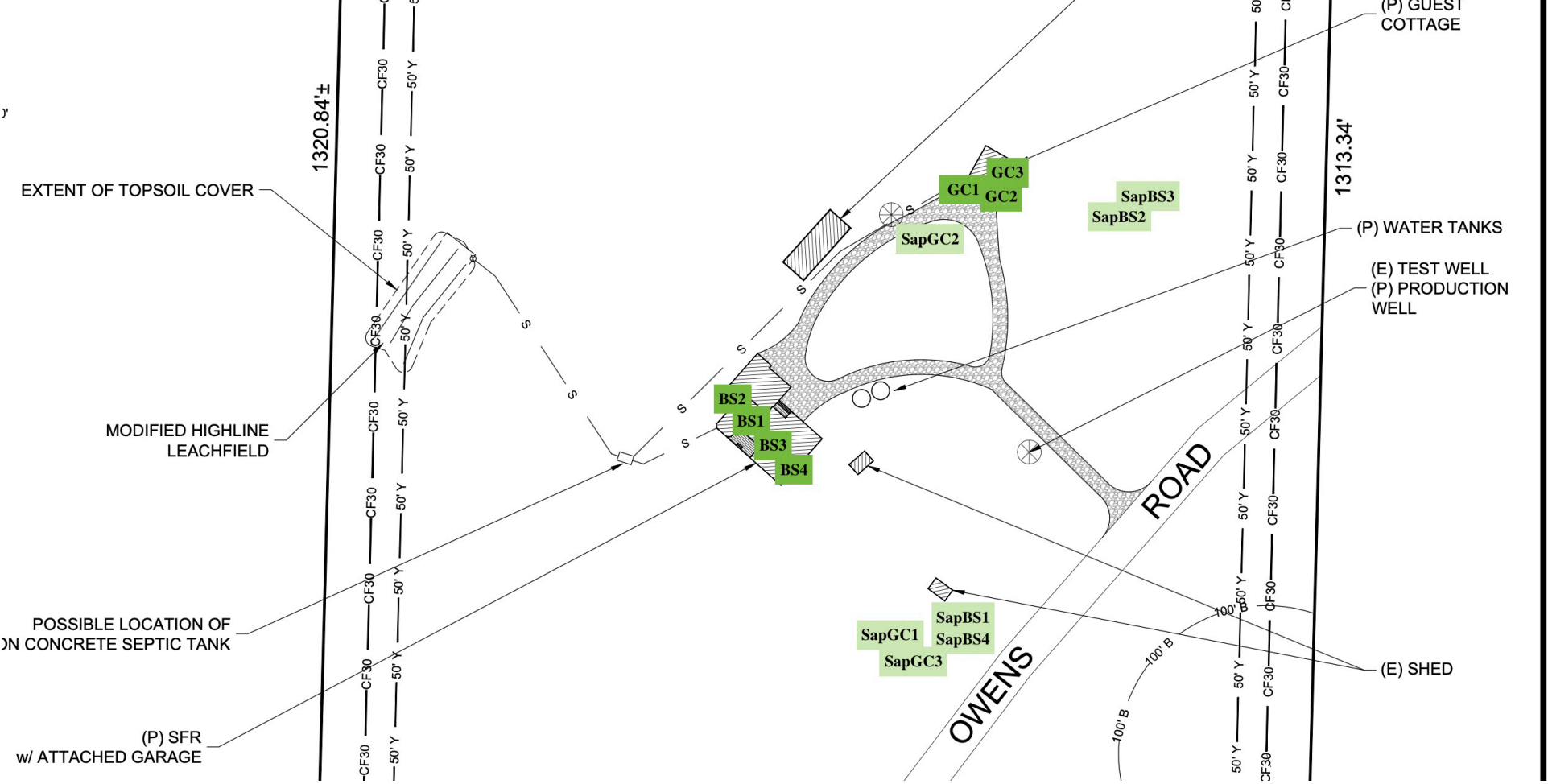


**Three-Year Management Plan of Naturally Regenerating Species.** Over the next three years, the identified saplings will be managed and protected through the following practices:

1. **Monitoring:** Each sapling will undergo biannual inspections to assess its health, growth, and any signs of stress or disease. These inspections will ensure that the saplings are thriving in the designated areas and will guide any necessary management actions.
2. **Protection from Impact:** To protect the saplings from accidental damage, barriers such as protective cages or fencing may be installed around the sapling. These barriers will be checked periodically and adjusted as necessary.
3. **Weed and Invasive Species Control:** Saplings were selected in areas free from invasive species and weeds, to ensure they will have minimal competition for resources. Areas around each sapling will be maintained to keep them free from invasive species and weeds that could otherwise compete for resources. If required, this will involve manual removal of weeds.
4. **Avoiding Trimming and Removal:** Saplings were selected in areas far from the proposed home and home-related development sites. Additionally, each identified sapling has been marked on the site plan and visually flagged to prevent accidental trimming or removal during routine property maintenance and to ensure these areas remain undisturbed.
5. **Adaptive Management:** Management practices will be adjusted based on the saplings' growth and any observed changes in environmental conditions. If a sapling fails to thrive, it will be replaced with a new sapling of the same species, located in a similarly suitable area, to meet the mitigation requirement.

This management plan aims to ensure that each replacement sapling establishes successfully, supporting the long-term health and biodiversity of the property's ecosystem.

Detailed map of the site plan that shows the building sites, proposed trees for removal, and sapling locations







## STATE FIRE SAFE REGULATIONS

### CONDITIONS OF APPROVAL

|                         |                                       |               |                           |                   |              |
|-------------------------|---------------------------------------|---------------|---------------------------|-------------------|--------------|
| <b>Applicant Name:</b>  | <b>Jeremy &amp; Miranda Weintraub</b> |               |                           |                   |              |
| <b>Project Address:</b> | <b>45400 Bill Owens Rd.</b>           |               |                           |                   |              |
| <b>City:</b>            | <b>Point Arena</b>                    | <b>State:</b> | <b>CA</b>                 | <b>Zip Code:</b>  | <b>95468</b> |
| <b>Review Date:</b>     | <b>11/10/2023</b>                     |               | <b>APN:</b>               | <b>027-361-15</b> |              |
| <b>CAL FIRE #:</b>      | <b>129-23</b>                         |               | <b>Building Permit #:</b> |                   |              |

The CAL FIRE Mendocino Unit has reviewed this Building Permit application. Based upon the Unit's review, the following conditions shall be incorporated prior to approval of permit issuance as required by Title 14 of the California Code of Regulations, Division 1.5, Chapter 7, Sub-chapter 2, Article 1, §1270.03

You must comply with the following marked (X) standards below to obtain FINAL CLEARANCE

☐ **ROAD STANDARD §1273.01-§1273.06, §1273.08 - §1273.09**

- All roads shall be constructed to provide two 10' traffic lanes, not including shoulder and striping.
- Roadway shall be designed and maintained to support 75,000lb and provide an aggregate base. Project applicant shall provide engineering specifications to support design if requested.
- The grades for all roads, streets, private lanes, and driveways shall not exceed 16%.
- No roadway shall have an inside radius curvature of less than 50' and additional width of 4' shall be added to curves of 50-100'.
- Turnarounds are required on driveways and dead-end roads. The minimum turning radius shall be 40 feet not including parking. If a hammerhead "T" is used the top of the "T" shall be a minimum of 60' in length.
- Turnouts shall be a minimum of 12' wide by 30' long and 25' tapers on each end.
- All one-way roads shall provide a minimum 12' traffic lane, not including shoulders. All one-way roads shall connect to a two-lane road at both ends. In no case shall it exceed 2640' in length and a turnout shall be placed at the approximate mid-point.





**Maximum lengths for dead end roads:**

- Parcels zoned less than 1 acre- 800'
- Parcels zoned 1-4.99 acres-1320'
- Parcels zoned 5-19.99 acres-2640'
- Parcels zoned 20 acres or larger- 5280'.
- Where parcels are zoned 5 acres or larger turnarounds shall be provided at maximum 1320' intervals.
- Each dead-end road shall have turn around constructed at its a terminus.

☒ **DRIVEWAY STANDARD §1273.01(c), §1273.02(b), §1273.03, §1273.05, §1273.06, §1273.09**

- Minimum 10' wide with 14' unobstructed horizontal clearance and 15' unobstructed vertical clearance.
- Driveway shall have an all-weather surface, with no more than 16% grade, and minimum 50' radius inside curvature on all turns.
- Driveways exceeding 150' but less than 800' require a turnout near the midpoint, driveways exceeding 800' shall provide turnouts no more than 400' apart. Turnout shall be a minimum of 12' wide, 30' long with 25' tapers on each end.
- A turnaround shall be provided to all building sites on driveways more than 300' in length and shall be within 50' of the building, a 40' radius turnaround or 60' hammerhead "T" shall be utilized.
- Gates shall be a minimum 14' wide, all gates providing access shall be located at least 30' from the roadway. Security gates shall have an approved means of emergency operation.

☐ **ROADWAY STRUCTURE/BRIDGE STANDARD §1273.07**

- All roadway structures shall be constructed to carry at least the maximum load and minimum vertical clearance as required by Vehicle Code Sections 35250, 35550, and 35750.
- The bridge shall be constructed and maintained in accordance with the American Association of State and Highway Transportation Officials Standard Specifications for Highway Bridges, 17th Edition. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.
- Vehicle load limits shall be posted at both entrances to bridges.
- A bridge with only one lane shall provide for unobstructed view from one end to the other with turnouts at both ends.



☐ **SIGN STANDARD §1274.01- §1274.02**

- Size of letters, numbers, and symbols for street and road signs shall be a minimum 4" letter height, ½" stroke, reflectorized, and contrasting with background color of sign. Visible from both directions of travel for at least 100'.
- Height of street and road signs shall be uniform county wide, newly constructed, or approved public and private roads must be identified by a name or number through a consistent countywide system. Signs shall be placed at the intersection of those roads, streets, or private lanes.
- A sign identifying traffic access or flow limitations, including but not limited to weight or vertical clearance limitations, dead end road, one way road, or single lane conditions shall be placed at the intersection preceding the access limitation and no more than 100' before such access limitation.

☒ **ADDRESS STANDARD §1274.03- §1274.04**

- Address must be posted at beginning of construction and maintained thereafter.
- Minimum 4" letter height, ½" stroke, reflectorized with contrasting background, visible from both directions of travel.
- Multiple addresses on a single driveway shall be mounted on a single post.
- Address shall be placed at each driveway entrance

☐ **EMERGENCY WATER STANDARD §1275.01- §1275.04**

**Not Required**

- Water systems equaling or exceeding the National Fire Protection Association (NFPA) 1142, 2012 Edition and California Fire Code CCR 24 part 9, shall be accepted as meeting the requirements of this article.
- The hydrant or fire valve shall be 18" above grade, 8' from flammable vegetation, no closer than 4' and no further than 12' from roadway, and in a location, apparatus using it will not block the roadway.
- The hydrant shall be not less than 50' nor more than ½ mile from the building it is to serve, shall be located at a turnout or turnaround along the driveway to that building or along a road that intersects with driveway.
- The hydrant head shall be 2 ½" National Hose male thread with cap for pressure and gravity flow systems, and 4 ½" for draft systems. They shall have suitable crash protection.
- A reflectorized blue marker minimum of 3" diameter shall be mounted on a fire-retardant post within 3' of the hydrant. The marker shall be no less than 3' or more than 5' above grade.



☒ **MAINTAIN DEFENSIBLE SPACE AND FUELS MODIFICATION STANDARD §1276.01- §1276.04, §1299.01- §1299.05**

- All parcels shall provide a minimum 30' setback for all buildings from property lines and/ or the center of the road.
- Fuel modification and disposal of flammable vegetation and fuels caused by site development and construction, shall be completed prior to road construction or final inspection of building permit.
- Maintain defensible space 100' from each side and front and rear of the structure(s), but not beyond the property line. The intensity of fuels management may vary within the 100' perimeter of the structure, the most intense being within 30' of the structure.
- Remove that portion of a tree that extends within 10 feet of a chimney or stovepipe.
- Maintain a tree, shrub, or other plant adjacent to or overhanging a structure.
- Maintain the roof structure free of leaves, needles, or other vegetative materials.

☐ EXCEPTION REQUEST GRANTED

- See attached letter

☐ EXCEPTION REQUEST DENIED

- See attached letter

**Application Reviewed By:**

**Steven Cherry, Fire Captain Mendocini Unit**

Please note that the comments noted above are based on a CAL FIRE State Fire Safe Regulation review only. There may be additional comments or information requested from other County Departments or Divisions reviewing this application submittal package. Should you have any questions, you may contact the CAL FIRE Mendocino Unit at (707) 459-7414 or email at [Mendocino4290@fire.ca.gov](mailto:Mendocino4290@fire.ca.gov).

For current State Fire Regulations, please visit <https://govt.westlaw.com/calregs>.

**California Code of Regulations  
Title 14- Natural Resources  
Division 1.5- Department of Forestry  
Chapter 7- Fire Protection  
Subchapter 2- SRA/VHFHSZ Fire Safe Regulations**