

Coastal Biological Resource Evaluation

Prepared for:
Anthony Pisarski
141 Cove Point East,
Shelter Cove, CA 95589
APN 111-221-012, 111-161-068 & 111-161-069

February 19, 2025
Amended on June 4, 2025

Prepared by:
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1.0 Introduction

The report presents the results of a Biological Resource Evaluation [BRE] performed on APNs 111-221-012, 111-161-068 & 111-161-069 in Shelter Cove, California. The purpose of the BRE is to evaluate the presence of biological resources that may merit protections from potential impacts associated with proposed project actions. These resources may include special status plants or wildlife and their associated potential habitats. The Project Parcels do not include any natural plant communities and do not contain any special status plants. The proposed project will not impact special status wildlife.

Project Location

The proposed project occurs within APNs 111-221-012, 111-161-068 & 111-161-069 [Project Parcels] and is located at 141 Cove Point East, Shelter Cove, CA 95589 and two other parcels that do not have an address. The Project Parcel is located on the Shelter Cove 7.5' USGS quadrangle within Section 15, T5S, R1E, HB&M. A General Location Map has been included with this report as Attachment-1.

Project Description

The Project Parcel is located within the Shelter Cove Subdivision. This subdivision began proceedings to split and develop ranch lands into residential parcels in 1966. The subdivision was designed to host approximately 4,200 parcels to be developed. The Project Parcels are currently vacant with no existing improvements.

The project proposes constructing a new three-bedroom residence plus an attached studio on the Project Parcels. The footprint of the residence will occupy 2,295-square feet. Two off-street parking spaces will be located under the carport and are included in the 2,295-square foot footprint that the residence will occupy. In total 2,295-square feet of the parcels will be developed. The proposed construction will grade and develop approximately 5.9% of the Project Parcels.

Statement of Qualifications

This report has been prepared by Environmental Scientist and Biologist Evan Henricksen. Mr. Henricksen possesses a Bachelor of Science from California Polytechnic University Humboldt in Biology with a Marine emphasis. Mr. Henricksen has nine years of experience performing surveys and assessments for threatened and endangered marine, aquatic, and terrestrial species as well as their associated habitat. He has been implementing tree and plant assessments and surveys for six years as well as nesting bird surveys. He has been conducting watershed assessments as well as drafting and implementing associated permits for mitigation/remediation for three and a half years

2.0 Regulatory Background

California Coastal Commission – California Coastal Act

Section 30600(a) of the California Coastal Act [CCA] requires any person proposing development in the coastal zone to obtain a Coastal Development Permit [CDP] from the California Coastal Commission [CCC]. Development is defined under CCA Section 30106 to include “construction, reconstruction, demolition, or alteration of the size of any structure...” Humboldt County has a certified Local Coastal Plan [LCP], allowing the county to act as the lead agency in issuing CDPs. The CCC has retained sole jurisdiction over a portion of the coastal zone in Humboldt County. The Project Parcel overlaps with the boundary between CCC and Humboldt County jurisdiction. The CDP framework is, by statute, equivalent to environmental review associated with the California Environmental Quality Act [CEQA].

This report focuses solely on ecological resources protected in Chapter 3 and 4 of the CCA. Chapter 3 specifies the protection of marine resources, biological productivity, water quality, and wetlands. Chapter 4 is directed at terrestrial ecological resources such as agricultural land and timberland management.

Environmentally Sensitive Habitat Areas

The CCA provides protections for Environmentally Sensitive Habitat Areas [ESHA] as defined in Section 30107.5. This term refers to any area in which plant or animal life or their habitats are either rare or

especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. Identified ESHAs in the Humboldt Bay LCP include but are not limited to:

- Wetlands and estuaries including Humboldt Bay
- Vegetated dunes along the North Spit to the Mad River and along South Spit
- Rivers, creeks, gulches, sloughs, and associated riparian habitats
- Critical habitats for rare and endangered species

Sensitive Natural Communities have been defined by CDFW and the California Native Plant Society [CNPS] as vegetation types with a state rank of S1-S3 per standards outlined in the NatureServe Heritage Methodology. This list of sensitive natural communities is equivalent to those identified as ESHA and will be treated as such. This system uses the best and most recent scientific information to assess rarity per a community's range, distribution, and proportion of occurrences that are of good ecological integrity. Threats and trends are also considered in the overall ranking of a community's rarity. The use of marsh and/or wetlands in the names of vegetation alliances does not imply or assert regulatory jurisdiction. Although there are no specific protocols for avoiding and/or mitigating impacts to these communities they are afforded consideration during environmental review per CEQA Guidelines checklist IVb.

Special Status Species

Sensitive and protected species include those taxa that have been formally listed or are candidates for either listing under the Federal Endangered Species Act [ESA] or California Endangered Species Act [CESA]. These acts afford legal protection to both listed species and species that are candidates for listing. Additionally, CEQA affords special consideration to species ranked as sensitive (S1-3 are considered sensitive), as a CDFW Species of Special Concern, or CDFW Fully Protected. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act [MBTA] of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.

Wildlife and plant taxa are ranked per standards outlined in the NatureServe Heritage Methodology. All species are given two ranks that consist of a letter and a number. The letter represents whether the rank is a global rank [G] or a state rank [S]. The number corresponds to the subject's rarity. This report only assesses the state rank of taxa.

1 Critically Imperiled. At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors

2 Imperiled. At risk because of rarity due to the very restricted range, very few populations, (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province

3 Vulnerable. At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent widespread declines, or other factors

4 Apparently Secure. Uncommon but not rare; some cause for long-term concern due to declines or other factors

5 Secure – Common; widespread and abundant

Subspecies receive a T-rank attached to the G-rank and an additional S-rank for state ranking. With subspecies, the initial rank reflects the entire species' risk while the second rank represents just the subspecies' status.

Plant species have an additional ranking system designed by the CNPS. The following alphanumeric codes are the CNPS List, California Rare Plant Ranks [CRPR]:

1A – Presumed extirpated in California and either rare or extinct elsewhere

- 1B – Rare or Endangered in California and elsewhere
- 2A – Presumed extirpated in California, but more common elsewhere
- 2B – Rare or endangered in California, but more common elsewhere
- 3 – Plants for which more information is needed – Review List
- 4 – Plants of limited distribution – Watch List

The CRPR use a decimal-style threat rank. The threat rank is an extension added onto the CRPR and designates the level of threats by a 1 to 3 ranking, with 1 being the most threatened and 3 being the least threatened. Most CRPRs read as 1B.1, 1B.2, 1B.3, etc. Note that some Rank 3 plants do not have a threat code extension due to difficulty in ascertaining threats. Rank 1A and 2A plants also do not have threat code extensions since there are no known extant populations in California. Threat Code extensions and their meanings are as follows:

- 1) Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 2) Moderately threatened in California (20-80% of occurrences threatened / moderate degree and of threat)
- 3) Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.0 Methods

Field Observations

All field data was collected by Environmental Scientist and Biologist Evan Henricksen using direct observations, measurements, and ocular estimations during a site review conducted on January 22, 2025. A 200' Lufkin FE200 HI-VIZ measuring tape and Forestry Pro (Nikon Laser Range Finder) were used for recording distances to the nearest tenth of a foot. Slope percent was measured using a Suunto PM-5/360 PC Clinometer to the nearest degree. The reach of the field observations covered the Project Parcels and parcels directly adjacent.

Review of Scientific Literature

Scientific literature and data have been sourced from multiple locations. The majority of reference material has been sourced from online journal archives and databases. Some species data is sourced from agency factsheets such as the U.S. Department of Agriculture [USDA], U.S. Geological Survey [USGS], U.S. Fish and Wildlife Service [USFWS], and the California Department of Fish and Wildlife [CDFW].

4.0 Results

Environmentally Sensitive Habitat Areas

The Project Parcels consist of grassland and Douglas-fir habitat within the parcel boundaries. Nonnative annual grasses dominate the area of the Project Parcels that will be occupied by the proposed residence. The grassland habitat is located along the southwestern property boundary and covers approximately 40% of the Project Parcels. Douglas-fir habitat covers the remaining 60% of the parcel. The parcel is best characterized as Annual Grassland and Douglas Fir habitat per the California Wildlife Habitat Relationship System [CWHRS]. The grassland habitat type is dominated by sweet vernal grass (*Anthoxanthum odoratum*), quaking grass (*Briza spp.*), and wild oats (*Avena spp.*). No standing water or signs of a watercourse channel were observed within 100 feet of the subject property. A swale feature begins approximately 400-feet southeast of the southeasternmost property line of the subject parcel and extends northwest an unknown distance past the northwesternmost property line. The swale feature contains Big-leaf maple, Pacific willow, and other obligate vegetation. The swale feature is collecting, conveying, filtrating, and infiltrating stormwater, which is improving water quality by the removal of pollutants, silt and debris. The swale feature is a potential Wet Area and will require a wetland delineation to determine if a wetland is present, as no wetland delineation was completed during this evaluation. The

Potential Wet Area has been mapped as shown on the attached Site Map (Attachment 2). The nearest watercourse is approximately 1,420-feet east of the nearest parcel boundary.

Special Status Plants

Please see the attached Floristic Survey Report.

Special Status Wildlife

The proposed project occurs in an existing subdivision that provides marginal potential habitat for wildlife, given the amount of anthropogenic activity that occurs in the vicinity. See Attachment 4 for the list of wildlife assessed in the 9-quad search. The Project Parcel does not contain any key habitat for any special status vertebrate species. The Project Parcel does provide potential habitat for special status bumble bees due to the dominance of herbaceous vegetation, although the quality of this potential habitat is significantly degraded due to the dominance of nonnative grasses and disturbance associated with vehicles driving on the graded road section that occurs on the parcel. No bumble bee nests were observed during the site visit. The development of the Project Parcels will not remove significant amounts of potential habitat from this species range. The surrounding vegetated parcels provide potential habitat for special status bumble bees. Additionally, the planting of native flowering plants as landscaping may enhance potential habitat relative to current conditions. Given these conditions, the project will not impact potentially present special status bumble bees.

The Project Parcel also provides marginal potential nesting habitat for migratory birds that may not meet special status per species rankings. Trees present within the Project Parcel provide potential nesting habitat, although no nests were found during the site visit. It is recommended that if vegetation removal occurs during nesting season (March 1 – August 31) then nesting bird surveys shall be conducted no more than 7 days prior to initiation of activities. If this mitigation is enacted the project will not impact nesting migratory birds.

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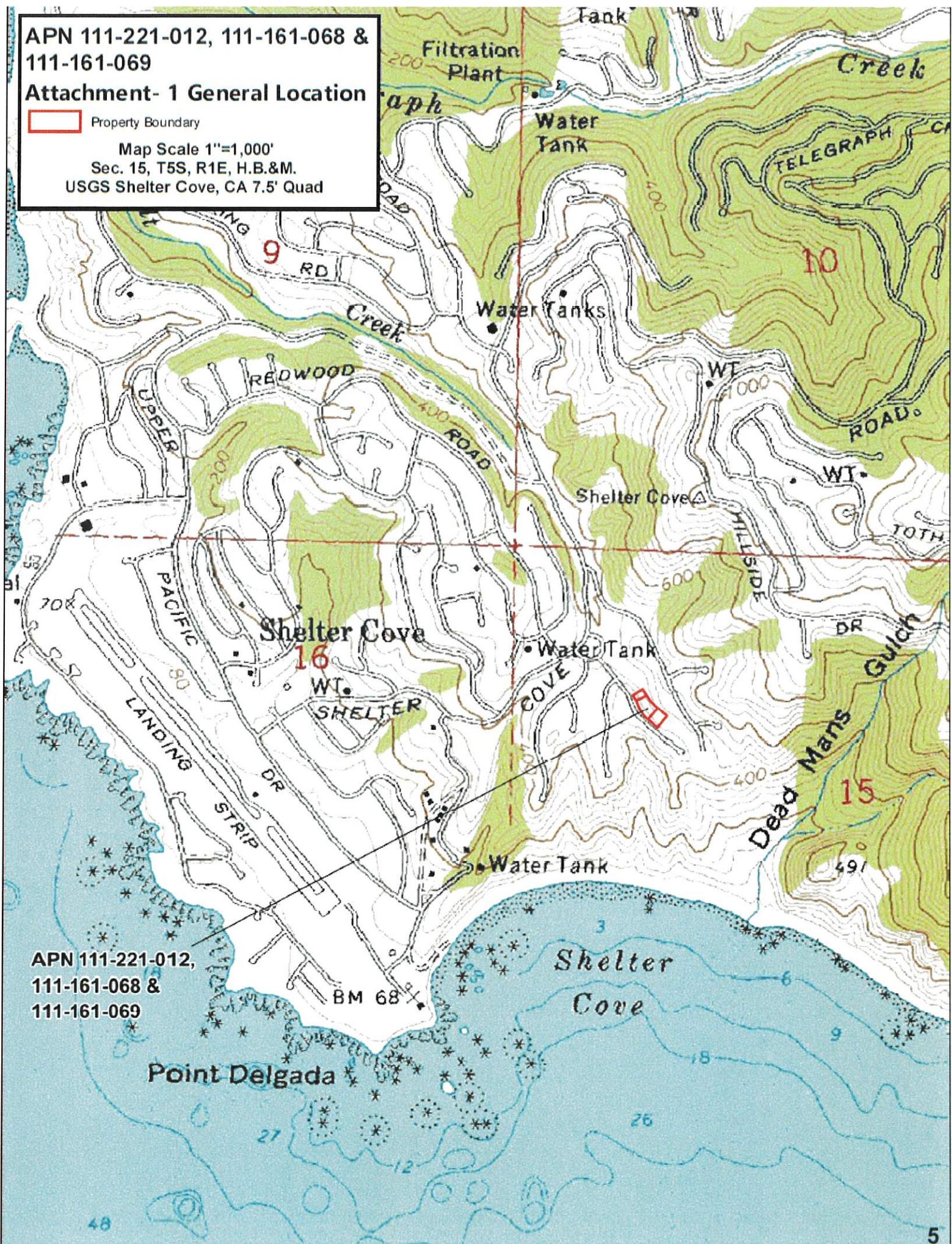
Attachment- 1 General Location

 Property Boundary

Map Scale 1"=1,000'

Sec. 15, T5S, R1E, H.B.&M.

USGS Shelter Cove, CA 7.5' Quad



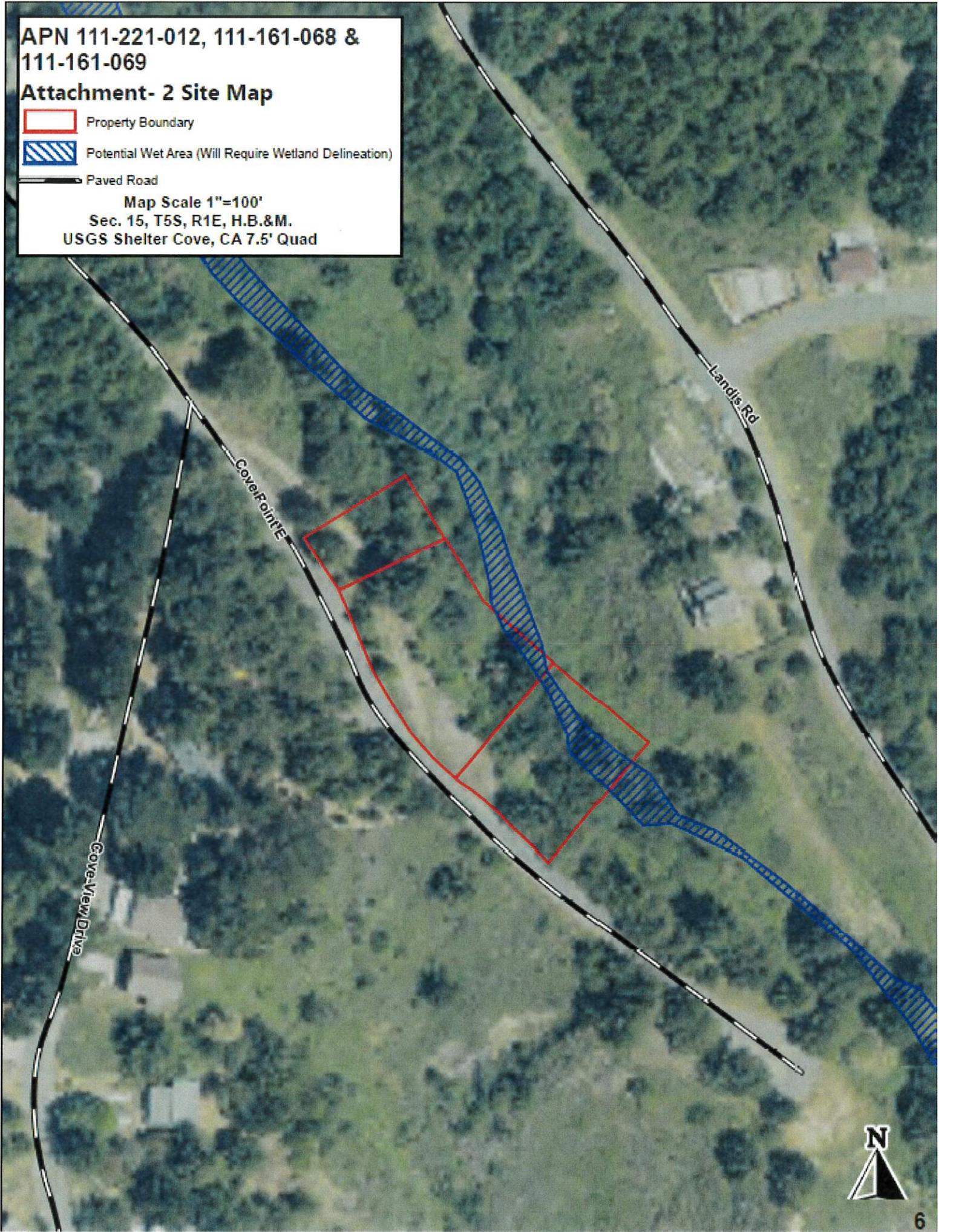
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Attachment- 2 Site Map

-  Property Boundary
-  Potential Wet Area (Will Require Wetland Delineation)
-  Paved Road

Map Scale 1"=100'
Sec. 15, T5S, R1E, H.B.&M.
USGS Shelter Cove, CA 7.5' Quad



Attachment 3 – Special Status Plants List (Shelter Cove 9-Quad Search)

Scientific Name	Common Name	ESA	CESA	State Rank	CRPR	Bloom Period	Habitat	Potential Habitat Present?
<i>Antennaria suffrutescens</i>	evergreen everlasting	None	None	S3	4.3	Jan-Jul	Lower montane coniferous forest	No
<i>Calamagrostis foliosa</i>	leafy reed grass	None	Rare	S3	4.2	May-Sep	Coastal bluff scrub, North Coast coniferous forest	Yes
<i>Castilleja litoralis</i>	Oregon coast paintbrush	None	None	S3	2B.2	Jun	Coastal bluff scrub, Coastal dunes, Coastal scrub	No
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	None	None	S2	1B.2	Apr-Aug	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub	Yes
<i>Clarkia amoena ssp. whitneyi</i>	Whitney's farewell-to-spring	None	None	S1	1B.1	Jun-Aug	Coastal bluff scrub, Coastal scrub	Yes
<i>Coptis laciniata</i>	Oregon goldthread	None	None	S3?	4.2	(Feb)Mar-May(Sep-Nov)	Meadows and seeps, North Coast coniferous forest	Yes
<i>Erythronium oregonum</i>	giant fawn lily	None	None	S2	2B.2	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps	No
<i>Erythronium revolutum</i>	coast fawn lily	None	None	S3	2B.2	Mar-Jul(Aug)	Bogs and fens, Broadleafed upland forest, North Coast coniferous forest	No
<i>Gilia capitata ssp. pacifica</i>	Pacific gilia	None	None	S3	1B.2	Apr-Aug	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	Yes
<i>Hosackia gracilis</i>	harlequin lotus	None	None	S3	4.2	Mar-Jul	Broadleafed upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland	Yes
<i>Lasthenia californica ssp. macrantha</i>	perennial goldfields	None	None	S2	1B.2	Jan-Nov	Coastal bluff scrub, Coastal dunes, Coastal scrub	Yes
<i>Lathyrus palustris</i>	marsh pea	None	None	S2	2B.2	Mar-Aug	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest	Yes

Scientific Name	Common Name	ESA	CESA	State Rank	CRPR	Bloom Period	Habitat	Potential Habitat Present?
<i>Lilium rubescens</i>	redwood lily	None	None	S3	4.2	Apr-Aug(Sep)	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest	No
<i>Montia howellii</i>	Howell's montia	None	None	S2	2B.2	(Feb)Mar-May	Meadows and seeps, North Coast coniferous forest, Vernal pools	yes
<i>Piperia candida</i>	white-flowered rein orchid	None	None	S3	1B.2	(Mar)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	yes
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	None	None	S3	4.2	(Mar)Apr-Aug	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland	yes
<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	None	None	S2	1B.2	(Mar)May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest	Yes
<i>Tiarella trifoliata</i> L. var. <i>trifoliata</i>	trifoliate laceflower	None	None	S2S3	3.2	(May)Jun-Aug	Lower montane coniferous forest, North Coast coniferous forest	yes

Attachment 4 – Special Status Wildlife List (Shelter Cove 9-Quad Search)

Scientific Name	Common Name	ESA	CESA	State Rank	Habitat	Potential to Occur
<i>Arboreomys pomo</i>	Sonoma tree vole	None	None	S3	North coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood and montane hardwood-conifer forests.	No
<i>Ascaphus truei</i>	Pacific tailed frog	None	None	S3S4	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats.	No
<i>Bombus caliginosus</i>	obscure bumble bee	None	None	S1S2	Coastal areas from Santa Barbara County to north to Washington state.	Yes
<i>Bombus occidentalis</i>	western bumble bee	None	None	S1	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Yes
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None	S2	Throughout California in a wide variety of habitats. Most common in mesic sites.	No
<i>Actinemys marmorata</i>	western pond turtle	None	None	S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	No
<i>Erethizon dorsatum</i>	North American porcupine	None	None	S3	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	No
<i>Eumetopias jubatus</i>	Steller sea lion	Delisted	None	S2	Breeds on Ano Nuevo, San Miguel and Farallon islands, Point St. George, and Sugarloaf. Hauls-out on islands and rocks.	No
<i>Helminthoglypta arrosa monticola</i>	mountain shoulderband	None	None	S1	Known only from the King Range in Humboldt County.	No
Scientific Name	Common Name	ESA	CESA	State Rank	Habitat	Potential to Occur

<i>Oncorhynchus kisutch</i> pop 2.	Coho salmon	Threatened	Threatened	S2	Southern Oregon-Northern California.	No
<i>Oncorhynchus mykiss irideus</i> pop. 48	Steelhead-northern California DPS summer-run	Threatened	Endangered	S2	Northern California	No
<i>Oncorhynchus mykiss irideus</i> pop. 49	Steelhead-northern California DPS winter-run	Threatened	None	S3	Northern California	No
<i>Pekania pennanti</i>	Fisher	None	None	S2S3	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure.	No
<i>Rhyacotriton variegatus</i>	southern torrent salamander	None	None	S2S3	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	No
<i>Strix occidentalis caurina</i>	Northern Spotted Owl	Threatened	Threatened	S2	Requires mature forest patches with permanent water and suitable nesting trees and snags.	No
<i>Taricha rivularis</i>	red-bellied newt	None	None	S2	Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County.	No
<i>Taxidea taxus</i>	American badger	None	None	S3	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	No

Attachment 5 – Photo facing southeast, looking down the small road from the northernmost subject parcel



Attachment 6 – Photo facing northwest from the southernmost subject parcel



Floristic Survey Report

Prepared for:
Anthony Pisarski
141 Cove Point East,
Shelter Cove, CA 95589
APN 111-221-012, 111-161-068 & 111-161-069

June 4, 2025

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1.0 Introduction

The report presents the results of a floristic survey performed on APNs 111-221-012, 111-161-068 & 111-161-069 in Shelter Cove, California. The purpose of the survey was to identify special status plants and sensitive natural communities within the survey area that could be impacted by development associated with the proposed construction. No special status plants or sensitive natural communities were encountered.

2.0 Project Location

The proposed project occurs within APNs 111-221-012, 111-161-068 & 111-161-069 [Project Parcels] and is located at 141 Cove Point East, Shelter Cove, CA 95589 and two other parcels that do not have addresses. The Project Parcels are located on the Shelter Cove 7.5' USGS quadrangle within Section 15, T5S, R1E, HB&M. A General Location Map has been included with this report as Appendix 1.

3.0 Definitions

Special Status Plants

Special status plants are those taxa that are listed or are candidates for listing under the Endangered Species Act (ESA) or California Endangered Species Act (CESA). As well as listed species, this group also includes plant taxa that meet the definition of rare or endangered under CEQA Guidelines section 15380. This consists of plants ranked by the California Native Plant Society (CNPS) as 1 or 2 and plants ranked by the State as S1-3.

Sensitive Natural Communities

Sensitive natural communities are natural plant communities that are limited in distribution and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitats. Natural communities are identified as sensitive within CDFW's Sensitive Natural Communities List (CDFW 2019b). The list is based on the vegetation classification in A Manual of California Vegetation, online Edition (CNPS 2023a). Natural communities with a G or S rank of 3 or lower are considered sensitive.

4.0 Methods

Survey

The botanical survey conducted was floristic in nature and followed methods described in Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018). The survey was conducted during the blooming period so that a comprehensive plant list of the survey area could be determined. The parcels where the construction is to take place were surveyed. Surveys occurred on January 22 and May 28 of 2025. Surveys on average took two and a half hours per survey. A survey coverage map is provided in Appendix 2. Plant taxonomy follows descriptions presented in The Jepson Manual Vascular Plants of California, Second Edition (Baldwin et al 2012). Plant communities were classified according to A Manual of California Vegetation, online Edition (CNPS 2023a).

5.0 Site Description

The Project Parcels are located within the Shelter Cove Subdivision. This subdivision began proceedings to split and develop ranch lands into residential parcels in 1966. The subdivision was designed to host approximately 4,200 parcels to be developed. The Project Parcels are currently vacant with no existing improvements.

The project proposes constructing a new three-bedroom residence plus an attached studio on the Project Parcels. The footprint of the residence will occupy 2,375-square feet. Two off-street parking spaces will be located under the carport and are included in the 2,375-square foot

footprint that the residence will occupy. In total, 2,375-square feet of the parcels will be developed.

The survey area consists of an approximately 0.9-acre area that encompasses the three parcels. A NRCS Web Soil Survey Report can be found in Appendix 4. The survey area is located at approximately 435-470 feet above mean sea level.

Statement of Qualifications

This report has been prepared by Environmental Scientist and Biologist Evan Henricksen. Mr. Henricksen possesses a Bachelor of Science from California Polytechnic University Humboldt in Biology with a Marine emphasis. Mr. Henricksen has nine years of experience performing surveys and assessments for threatened and endangered marine, aquatic, and terrestrial species as well as their associated habitat. He has been implementing tree and plant assessments and surveys for six years as well as nesting bird surveys. He has been conducting watershed assessments as well as drafting and implementing associated permits for mitigation/remediation for three and a half years

6.0 Results

Special Status Plants

No special status plants were documented during the surveys. A comprehensive list of all plants identified within the survey area is provided in Appendix 3.

Sensitive Natural Communities

No special status natural communities occur on the parcel. The vegetation is consistent with Douglas-fir forest, and the closest Natural community classification is Douglas-fir tanoak forest – madrone forest and woodland (*Pseudotsuga menziesii* - (*Notholithocarpus densiflorus* - *Arbutus menziesii*) Forest & Woodland Alliance), a common natural community with a rarity rank of G4 S4. A clearing exists where grading is proposed, which consists of a small area of grassland habitat.

7.0 References

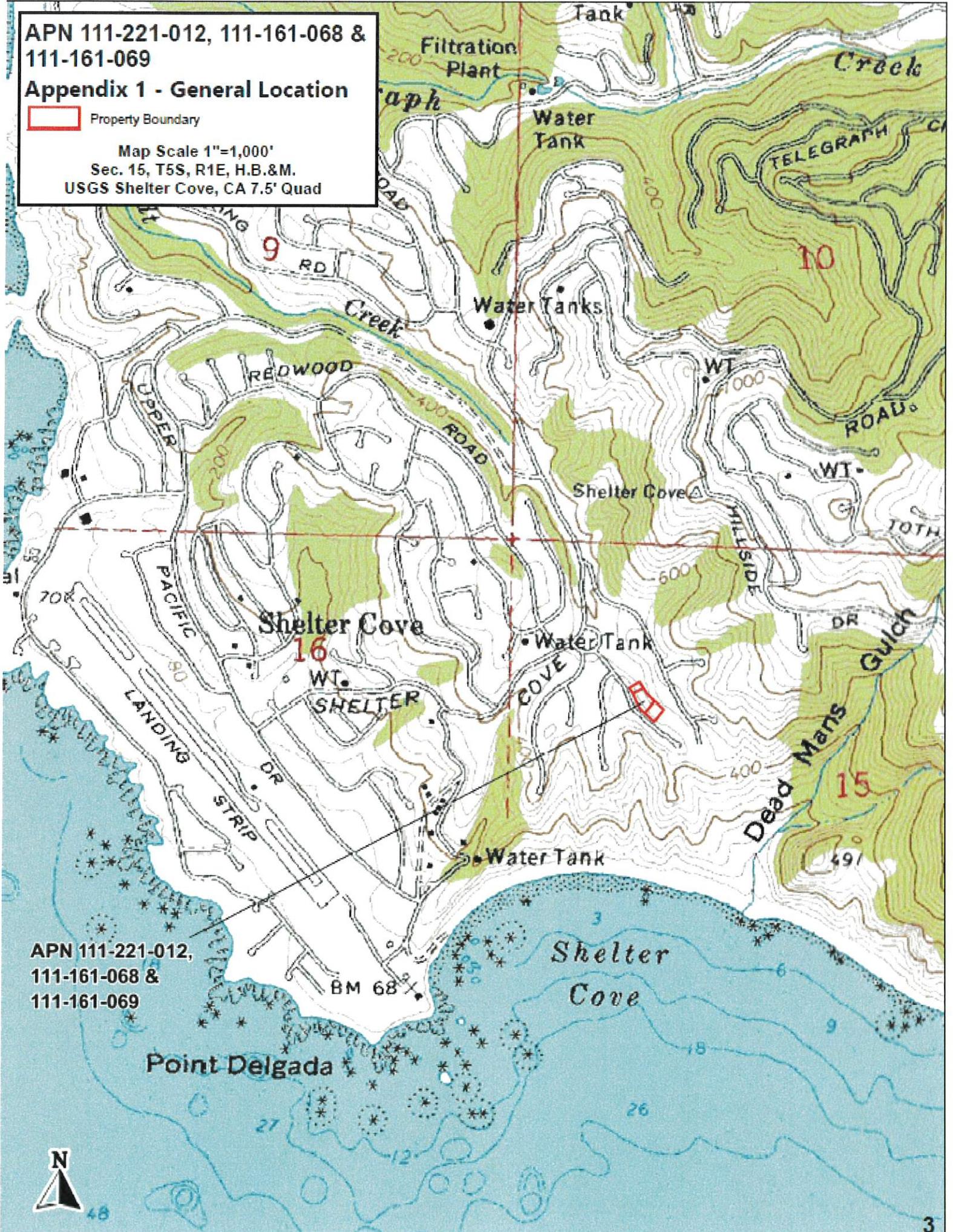
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APN 111-221-012, 111-161-068 & 111-161-069

Appendix 1 - General Location

 Property Boundary

Map Scale 1"=1,000'
Sec. 15, T5S, R1E, H.B.&M.
USGS Shelter Cove, CA 7.5' Quad



APN 111-221-012,
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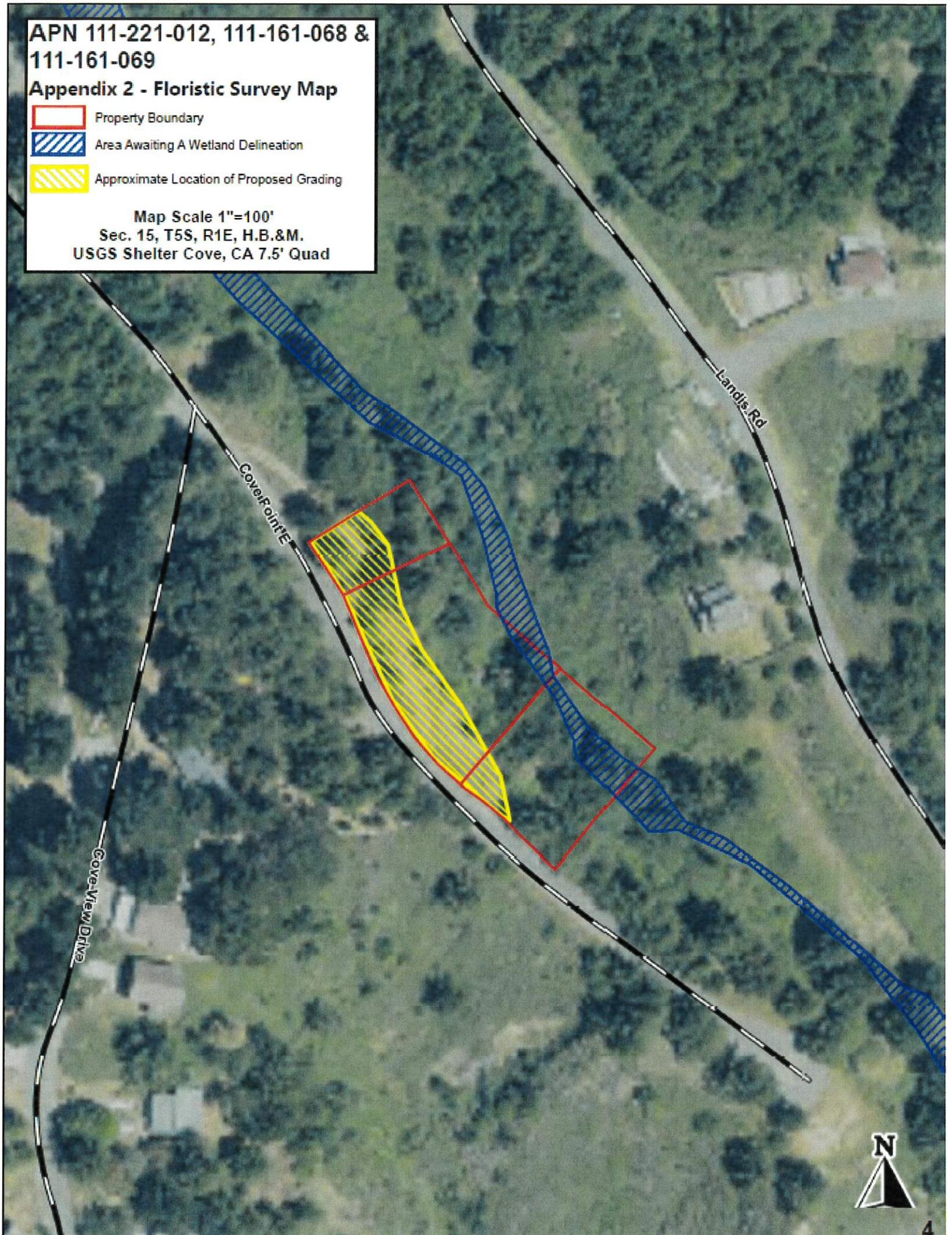


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Appendix 2 - Floristic Survey Map

-  Property Boundary
-  Area Awaiting A Wetland Delineation
-  Approximate Location of Proposed Grading

Map Scale 1"=100'
Sec. 15, T5S, R1E, H.B.&M.
USGS Shelter Cove, CA 7.5' Quad



Appendix 3 – Comprehensive Plant List

Scientific Name	Common Name
Tree Stratum	
<i>Abies grandis</i>	Grand fir (P, S,)
<i>Acer macrophyllum</i>	Bigleaf Maple (S, B)
<i>Alnus rubra</i>	Red alder (P)
<i>Myrica californica</i>	Pacific wax myrtle (P)
<i>Notholithocarpus densiflorus</i>	Tan oak (P, S)
<i>Picea sitchensis</i>	Sitka spruce (S)
<i>Pinus radiata</i>	Monterey pine (P)
<i>Pseudotsuga menziesii</i>	Douglas-fir (P, S, B)
<i>Salix lucida</i>	Pacific willow (B)
<i>Umbellularia californica</i>	California bay tree (P, B)
Shrub Stratum	
<i>Baccharis pilularis</i>	Coyote brush (P)
<i>Corylus cornuta</i>	Beaked hazelnut (P)
<i>Cytisus scoparius</i>	Scotch broom (P)
<i>Frangula californica</i>	Coffeeberry (B)
<i>Holodiscus discolor</i>	Ocean spray (P,S)
<i>Ribes sanguineum</i>	Red flowering currant (B)
<i>Vaccinium ovatum</i>	Evergreen huckleberry (P)
Woody Vine Stratum	
<i>Rubus ursinus</i>	Trailing blackberry (P, S, B)
<i>Toxicodendron pubescens</i>	Poison oak (P, S, B)
Herb Stratum	
<i>Achillea millefolium</i>	Common yarrow (P)
<i>Acmispon parviflorus</i>	Short-flower deervetch (P)
<i>Adelina grandis</i>	Pacific hounds tongue (B)
<i>Adenocaulon bicolor</i>	American trail plant (S)
<i>Anaphalis margaritacea</i>	Pearly everlasting (P)
<i>Angelica hendersonii</i>	Henderson's Angelica (B)
<i>Briza maxima</i>	Greater quaking grass (P)
<i>Briza minor</i>	Little quaking grass (P)
<i>Bromus carinatus</i>	California brome (P)
<i>Bromus carinatus</i>	Columbia brome (B)
<i>Bromus diandrus</i>	Great brome (P)
<i>Calystegia purpurata</i>	Pacific false bindweed (P)

<i>Cardamine oligosperma</i>	Little western bittercress (B)
<i>Carduus pycnocephalus</i>	Italian thistle (P, B)
<i>Cirsium vulgare</i>	Bull thistle (P)
<i>Claytonia perfoliata</i>	Miners Lettuce (S)
<i>Clinopodium douglasii</i>	Yerba Buena (P)
<i>Cortaderia jubata</i>	Jubata Grass (B)
<i>Crassila multicava</i>	Fairy stonecrop (P)
<i>Cynosurus echinatus</i>	Bristly dogtail grass (P)
<i>Dicentra formosa</i>	Pacific bleeding heart (S)
<i>Diplacus aurantiacus</i>	Orange bush monkeyflower (P)
<i>Dryopteris arguta</i>	Coastal woodfern (S)
<i>Erechtites minima</i>	Coastal burnweed (S)
<i>Festuca arundinacea</i>	Tall fescue (P)
<i>Fragaria vesca</i>	Woodland strawberry (P)
<i>Galium aparine</i>	Catchweed bedstraw (B)
<i>Galium triflorum</i>	Fragrant bedstraw (S)
<i>Gamochaeta ustulata</i>	Featherweed (P)
<i>Heracleum maximum</i>	Common cow parsnip (P, S, B)
<i>Holcus lanatus</i>	Yorkshire fog grass (P)
<i>Hypochaeris radicata</i>	Common cats ear (P)
<i>Ilex aquifolium</i>	European holly (P)
<i>Iris douglasiana</i>	Douglas iris (P, S, B)
<i>Juncus balticus</i>	Baltic rush (B)
<i>Kindbergia praelonga</i>	Common feathermoss (B)
<i>Lonicera hispidula</i>	Pink honeysuckle (P)
<i>Lupinus rivularis</i>	Riverbank lupine (P)
<i>Lupinus variicolor</i>	Varied lupine (P)
<i>Maianthemum stellatum</i>	Star-flowered lily-of-the-valley (P)
<i>Marah oreganus</i>	Coastal manroot (P, S, B)
<i>Myosotis latifolia</i>	Broadleaf forget me nots (B)
<i>Nassella pulchra</i>	Purple needlegrass (P)
<i>Osmorhiza berteroi</i>	Mountain sweet cicily (S)
<i>Oxalis oregana</i>	Redwood sorrel (S)
<i>Plantago lanceolata</i>	Ribwort plantain (P)
<i>Polystichum munitum</i>	Western sword fern (P, S)
<i>Prosartes hookeri</i>	Hookers fairybells (P)
<i>Pteridium aquilinum</i>	Common bracken (P, S)
<i>Ribes glandulosum</i>	Skunk currant (P)

<i>Rubus parviflorus</i>	Thimbleberry (P, S, B)
<i>Rumex acetosella</i>	Sheep's sorrel (P)
<i>Sanicula crassicaulis</i>	Pacific sanicle (P)
<i>Solanum furcatum</i>	Forked nightshade (B)
<i>Stachys bullata</i>	California hedge nettle (P, S, B)
<i>Symphoricarpos albus</i>	Common snowberry (S, B)
<i>Trientalis latifolia</i>	Western starflower (P)
<i>Urtica dioica</i>	Great stinging nettle (B)
<i>Vicia gigantea</i>	Giant vetch (B)
<i>Vicia sativa</i>	Common vetch (P)

*Letters that come after the common names on the above table indicate where the species was found.

P= Proposed Grading Area

S= Slope located immediately to the northeast of the proposed grading area

B= Bottom of the sloped area where the ground flattens out. This is also the area that the county is requesting a wetland delineation for.



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 Humboldt County, South Part, California



Preface

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).

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

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

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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

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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

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.

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Soil Map



Soil Map may not be valid at this scale.

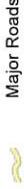
Map Scale: 1:1,010 if printed on A portrait (8.5" x 11") sheet.

0 10 20 40 60 Meters

0 45 90 180 270 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

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

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

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.

Please rely on the bar scale on each map sheet for map measurements.

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: Humboldt County, South Part, California
 Survey Area Data: Version 14, Aug 28, 2024

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

Date(s) aerial images were photographed: Jun 1, 2022—Jun 19, 2022

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
507	Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes	1.9	100.0%
Totals for Area of Interest		1.9	100.0%

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 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,

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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.

Humboldt County, South Part, California

507—Northbear-Caperidge-Capetown complex, 5 to 30 percent slopes

Map Unit Setting

National map unit symbol: 2mhfz
Elevation: 20 to 2,800 feet
Mean annual precipitation: 45 to 90 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 240 to 330 days
Farmland classification: Not prime farmland

Map Unit Composition

Northbear and similar soils: 40 percent
Caperidge and similar soils: 30 percent
Capetown and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Northbear

Setting

Landform: Benches, mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Center third of mountainflank, lower third of mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from sandstone and mudstone

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A₁ - 1 to 10 inches: loam
A₂ - 10 to 21 inches: loam
AB - 21 to 28 inches: loam
B_{w1} - 28 to 39 inches: loam
B_{w2} - 39 to 49 inches: loam
C₁ - 49 to 63 inches: loam
C₂ - 63 to 79 inches: gravelly loam

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): 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
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e

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Hydrologic Soil Group: B

Ecological site: F004BJ102CA - Dry, steep mountain slopes

Hydric soil rating: No

Description of Caperidge

Setting

Landform: Mountain slopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Lower third of mountainflank

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Colluvium and residuum from sandstone, mudstone, and metasedimentary rock

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A1 - 1 to 8 inches: very gravelly loam

A2 - 8 to 15 inches: gravelly loam

AB - 15 to 28 inches: extremely gravelly sandy loam

Bt - 28 to 59 inches: extremely gravelly loam

BCt - 59 to 71 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

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

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: F004BJ102CA - Dry, steep mountain slopes

Hydric soil rating: No

Description of Capetown

Setting

Landform: Benches, mountain slopes

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Center third of mountainflank

Down-slope shape: Concave, convex

Across-slope shape: Linear

Parent material: Colluvium derived from sandstone and mudstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 13 inches: loam

ABt - 13 to 22 inches: clay loam

Bt1 - 22 to 31 inches: clay loam

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Bt2 - 31 to 55 inches: clay loam

BcT - 55 to 79 inches: paragravelly clay loam

Properties and qualities

Slope: 5 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 20 to 39 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Ecological site: F004BJ102CA - Dry, steep mountain slopes

Hydric soil rating: No

Minor Components

Oceanhouse

Percent of map unit: 5 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Peaked

Percent of map unit: 5 percent

Landform: Mountain slopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

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