COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES
860 NORTH BUSH STREET · UKIAH · CALIFORNIA · 95482
120 WEST FIR STREET · FT. BRAGG · CALIFORNIA · 95437

JULIA KROG, DIRECTOR
TELEPHONE: 707-234-6650
FAX: 707-463-5709
FB PHONE: 707-964-5379
FB FAX: 707-961-2427
pbs@mendocinocounty.org
www.mendocinocounty.org/pbs

April 14, 2023

Department of Transportation
Environmental Health - Fort Bragg
California Native Plant Society
Department of Forestry/ CalFire
-Land Use
Department of Fish and Wildlife
California Coastal Commission
Mendocino City Community Services District

CASE#: CDP_2018-0012
DATE FILED: 4/23/2018
OWNER: NOAH & ZOE SHEPPARD
APPLICANT: SPADE NATURAL RESOURCES CONSULTING
AGENT: WYNN COASTAL PLANNING & BIOLOGY
REQUEST: Standard Coastal Development Permit, after the fact, request to construct a single-family residence, associated and ancillary structures less than 100 ft. from sensitive habitat areas.
ENVIRONMENTAL DETERMINATION: Mitigated Negative Declaration
LOCATION: In the Town of Mendocino, on the south side of Calypso Lane (Private), 800± ft. from of its intersection with Little Lake Road (CR 408), located at 10760 Calypso Ln, Mendocino (APN: 119-090-46).
SUPERVISORIAL DISTRICT: 5
STAFF PLANNER: JULIANA CHERRY
RESPONSE DUE DATE: April 28, 2023

PROJECT INFORMATION CAN BE FOUND AT:
www.mendocinocounty.org
Select "Government" from the drop-down; then locate Planning and Building Services/Public Agency Referrals.

Mendocino County Planning & Building Services is soliciting your input, which will be used in staff analysis and forwarded to the appropriate public hearing. You are invited to comment on any aspect of the proposed project(s). Please convey any requirements or conditions your agency requires for project compliance to the project coordinator at the above address, or submit your comments by email to pbs@mendocinocounty.org. Please note the case number and name of the project coordinator with all correspondence to this department.

We have reviewed the above application and recommend the following (please check one):

☐ No comment at this time.

☐ Recommend conditional approval (attached).

☐ Applicant to submit additional information (attach items needed, or contact the applicant directly, copying Planning and Building Services in any correspondence you may have with the applicant)

☐ Recommend denial (Attach reasons for recommending denial).

☐ Recommend preparation of an Environmental Impact Report (attach reasons why an EIR should be required).

☐ Other comments (attach as necessary).

REVIEWED BY:

Signature _____ Department _____ Date _____

CASE: CDP_2018-0012

OWNER/APPLICANT:	ZOE & NOAH SHEPPARD
AGENT:	NOAH SHEPPARD
REQUEST:	Standard Coastal Development Permit, after the fact, to construct a single-family residence, associated and ancillary structures less than 100 ft. from sensitive habitat areas.
LOCATION:	In the Town of Mendocino, on the southeast side of Calypso Lane (Private), 800± ft. north of its intersection with Little Lake Road (CR 408), located at 10760 Calypso Ln, Mendocino (APN: 119-090-46).
APN/S:	119-090-46-00
PARCEL SIZE:	2.02 Acres
GENERAL PLAN:	Rural Residential (RR2:U), Coastal Element Chapter 4.13 Mendocino Town Plan
ZONING:	Mendocino Rural Residential (MRR:2), Mendocino Town Zoning Code
EXISTING USES:	Vacant Land
DISTRICT:	5 (Williams)

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	Rural Residential RR-2	MRR-2	2.4 Acres	Vacant Land
EAST:	Rural Residential RR-2	MRR-2	2.3 Acres	Residential
SOUTH:	Rural Residential RR-2	MRR-2	2.0 Acres	Residential
WEST:	Rural Residential RR-2	MRR-2	5.4 Acres	Residential

REFERRAL AGENCIES

☒ Department of Transportation (DOT)
☒ Environmental Health (EH)
☒ CALFIRE (Land Use)
☒ California Coastal Commission
☒ California Dept. of Fish & Wildlife
☒ California Native Plant Society
☒ Mendocino City Community Services District

ADDITIONAL INFORMATION: On 8-26-2021, the Coastal Permit administrator continued the matter to an unspecified date. In response to the CPA comments, the applicant filed **Revised Improvement Plans (Sheets C-1, C-2, and C-3)** depicting the location of a realigned driveway within the easement. On 7-29-2021 and for the CPA's consideration, SNRC submitted a request to further revise recommended conditions and change the type of surveyed vegetation.***

The 3-1-2023 Improvement Plans propose grading (380 CY cut, 371 CY fill and 751 CY total) 0.4 acres of the 2-acre site. The 3-1-2023 Improvement Plans relocates the septic tank, cleanout, and connection to MCCSD Sewer. To construct a new road along the northerly portion of the easement, the 3-1-2023 Improvement Plans propose disturbing vegetation and removing trees.

Filed botanical survey reports and updates did not survey lands north of the easement, but it SNRC does recommend avoidance and mitigation measures.

Please provide comments on the 3-1-2023 Improvement Plans and the request to revise the type/extent of ESHA on-site, including the proposed mitigation measures and other recommended conditions.**

Maps/exhibits are attached to the staff report. Previous referral packets available upon request. Links to hearing documents:
* August 12, 2021 **Staff Report** and initial study with maps and exhibits.
** August 12, 2021 **Staff Memorandum** with revised and clarified recommendations to approve CDP 2018-0012.
*** July 29, 2021 Spade Natural Resources Consulting submitted additional information about the ESHA and a **request to amend the conditions & mitigation measures** published in the 8-12-2021 staff report.

STAFF PLANNER: J CHERRY **DATE:** 4-11-2023

ENVIRONMENTAL DATA

1. MAC:

2. FIRE HAZARD SEVERITY ZONE:
High Fire Hazard. See exhibit Fire Hazard Zones & Responsibility Areas

3. FIRE RESPONSIBILITY AREA:
Mendocino Fire Protection District

4. FARMLAND CLASSIFICATION:

5. FLOOD ZONE CLASSIFICATION:
NO

6. COASTAL GROUNDWATER RESOURCE AREA:
Critical Water Resource Area. See exhibit Ground Water Resources

7. SOIL CLASSIFICATION:
Western Soils 199. See exhibit Local Soils

8. PYGMY VEGETATION OR PYGMY CAPABLE SOIL:

9. WILLIAMSON ACT CONTRACT:
NO

10. TIMBER PRODUCTION ZONE:
NO

11. WETLANDS CLASSIFICATION:
Freshwater emergent wetland or riverine. See exhibit Wetlands

12. EARTHQUAKE FAULT ZONE:
NO

13. AIRPORT LAND USE PLANNING AREA:
NO

14. SUPERFUND/BROWNFIELD/HAZMAT SITE:
NO

15. NATURAL DIVERSITY DATABASE:
YES

16. STATE FOREST/PARK/RECREATION AREA ADJACENT:
NO

17. LANDSLIDE HAZARD:

18. WATER EFFICIENT LANDSCAPE REQUIRED:

19. WILD AND SCENIC RIVER:

20. SPECIFIC PLAN/SPECIAL PLAN AREA:
Coastal Element Ch. 4.13 Mendocino Town Plan

21. STATE CLEARINGHOUSE REQUIRED:
Coastal Commission, CalFire, CDFW

22. OAK WOODLAND AREA:

23. HARBOR DISTRICT:

FOR PROJECTS WITHIN THE COASTAL ZONE ONLY

24. LCP LAND USE CLASSIFICATION:
Rural Residential (RR-2)

25. LCP LAND CAPABILITIES & NATURAL HAZARDS:
Beach deposits and Timberlands. See exhibit LCP Land Capabilities & Natural Hazards

26. LCP HABITATS & RESOURCES:
Marine& Freshwater habitats. See exhibit LCP Habitats & Resources

27. COASTAL COMMISSION APPEALABLE AREA:
Portions of lot within Appeal Jurisdiction. See exhibit Appealable Areas.

28. CDP EXCLUSION ZONE:
NO

29. HIGHLY SCENIC AREA:
NO

30. BIOLOGICAL RESOURCES & NATURAL AREAS:
See Botanical Surveys and Reduced Buffer Analysis

31. BLUFFTOP GEOLOGY:

COUNTY OF MENDOCINO
DEPT OF PLANNING AND BUILDING SERVICES
120 WEST FIR STREET
FORT BRAGG, CA 95437
Telephone: 707-964-5379
FAX: 707-961-2427
pbs@co.mendocino.ca.us
www.co.mendocino.ca.us/planning

Office Use Only	
Case No(s)	CDP_2018-0012
CDF No(s)	
Date Filed	4-23-2018
Fee	$7,427.00
Receipt No.	PRJ-020521
Received by	(illegible)

COASTAL ZONE APPLICATION FORM

APPLICANT

Name: NOAH SHEPPARD
Mailing Address: PO Box 112
City: Albion State: CA Zip Code: 95410 Phone: (707) 813-8138

PROPERTY OWNER

Name: NOAH SHEPPARD
Mailing Address: PO Box 112
City: Albion State: CA Zip Code: 95410 Phone: (707) 813-8138

AGENT

Name: SAME
Mailing Address:
City: State: Zip Code: Phone:

PARCEL SIZE

2.02 ☐ Square feet ☑ Acres

STREET ADDRESS OF PROJECT

10780 Calypso LN, Mendocino

ASSESSOR'S PARCEL NUMBER(S)

119-090-46-00

I certify that the information submitted with this application is true and accurate.

Signature of Applicant/Agent — Date: 4/11/18
Signature of Owner — Date: 4/11/18

RECEIVED
APR 23 2018
PLANNING & BUILDING SERV
FORT BRAGG CA

COASTAL ZONE - SITE AND PROJECT DESCRIPTION QUESTIONNAIRE

The purpose of this questionnaire is to relate information concerning your application to the Planning and Building Services Department and other agencies who will be reviewing your project proposal. Please remember that the clearer picture that your give us of your project and the site, the easier it will be to promptly process your application. Please answer all questions. Those questions which do not pertain to your project, please indicate "Not Applicable" or "N/A".

THE PROJECT

1. Describe your project and include secondary improvements such as wells, septic systems, grading, vegetation removal, roads, etc.

Build two bedRoom two and a halF bath. 1850 s.F. Single Family Residence With a 525 s.F. Attached garage. Build Detached questhouse 640sF Move Existing Road Within existing easment. Develop Existing Well. Install approved Sewage System. INStall PG&E Power DRop.

2. If the project is residential, please complete the following:

TYPE OF UNIT	NUMBER OF STRUCTURES	SQUARE FEET PER DWELLING UNIT
☑ Single Family		
☐ Mobile Home		
☐ Duplex		
☐ Multifamily		

If Multifamily, number of dwelling units per building: _____

3. If the project is commercial, industrial, or institutional, complete the following:

Total square footage of structures: N/A
Estimated employees per shift:
Estimated shifts per day:
Type of loading facilities proposed:

4. Will the proposed project be phased? ☐ Yes ☑ No
If Yes, explain your plans for phasing.

5. Are there existing structures on the property? ☑ Yes ☑ No
If yes, describe below and identify the use of each structure on the plot plan.

~~Pool Shed~~

6. Will any existing structures be demolished? ☐ Yes ☑ No
Will any existing structures be removed? ☐ Yes ☑ No

If yes to either question, describe the type of development to be demolished or removed, including the relocation site, if applicable.

N/A

7. Project Height. Maximum height of structure 25 feet.

8. Lot area (within property lines): 2.02 ☐ square feet ☑ acres

9. Lot Coverage:

	EXISTING	NEW PROPOSED	TOTAL
Building coverage	0 square feet	2,900 square feet	2,900 square feet
Paved area	0 square feet	0 square feet	0 square feet
Landscaped area	0 square feet	2,500 square feet	2,500 square feet
Unimproved area	0 square feet	82,591 square feet	82,591 square feet

GRAND TOTAL: _____ square feet
(Should equal gross area of parcel)

10. Gross floor area: 2,900 square feet (including covered parking and accessory buildings).

11. Parking will be provided as follows:

Number of Spaces Existing 0 Proposed 6 Total 6

Number of covered spaces	2	Size 525 S.F.
Number of uncovered spaces	4	Size 1000 SF
Number of standard spaces	N/A	Size
Number of handicapped spaces		Size N/A

12. Utilities will be supplied to the site as follows:

A. Electricity
- [x] Utility Company (service exists to the parcel).
- [ ] Utility Company (requires extension of services to site: _____ feet _____ miles
- [ ] On Site generation, Specify: _____
- [ ] None

B. Gas
- [x] Utility Company/Tank
- [ ] On Site generation, Specify: _____
- [ ] None

C. Telephone: [x] Yes [ ] No

13. Will there by any exterior lighting? [x] Yes [ ] No
If yes, describe below and identify the location of all exterior lighting on the plot plan and building plans.

Lighting is ON the Building Planes

14. What will be the method of sewage disposal?

- [x] Community sewage system, specify supplier Approved permit with MCSD
- [ ] Septic Tank
- [ ] Other, specify _____

15. What will be the domestic water source?

- [ ] Community water system, specify supplier _____
- [x] Well
- [ ] Spring
- [ ] Other, specify _____

16. Is any grading or road construction planned? [x] Yes [ ] No
If yes, grading and drainage plans may be required. Also, describe the terrain to be traversed (e.g., steep, moderate slope, flat, etc.).

The Site is Flat. Some grading to Prepare For Fondation. Move Road to the North side of Existing eAsement.

For grading and road construction, complete the following:

A. Amount of cut: 10 cubic yards
B. Amount of fill: 0 cubic yards
C. Maximum height of fill slope: N/A feet
D. Maximum height of cut slope: N/A feet
E. Amount of import or export: _____ cubic yards
F. Location of borrow or disposal site: N/A

17. Will vegetation be removed on areas other than the building sites and roads? ☐ Yes ☑ No
If yes, explain:

18. Does the project involve sand removal, mining or gravel extraction? ☐ Yes ☑ No
If yes, detailed extraction, reclamation and monitoring may be required.

19. Will the proposed development convert land currently or previously used for agriculture to another use? ☐ Yes ☑ No
If yes, how many acres will be converted? _____ acres (An agricultural economic feasibility study may be required.)

20. Will the development provide public or private recreational opportunities? ☐ Yes ☑ No
If yes, explain:

21. Is the proposed development visible from:

A. State Highway 1 or other scenic route? ☐ Yes ☑ No
B. Park, beach or recreation area? ☐ Yes ☑ No

22. Will the project involve the use or disposal of potentially hazardous materials such as toxic substances, flammables, or explosives? ☐ Yes ☑ No
If yes, explain:

23. Does the development involve diking, filling, dredging or placing structures in open coastal waters, wetlands, estuaries or lakes?

A. Diking ☐ Yes ☑ No
B. Filling ☐ Yes ☑ No
C. Dredging ☐ Yes ☑ No
D. Placement of structures in open coastal waters, wetlands, estuaries or lakes ☐ Yes ☑ No

Amount of material to be dredged or filled? N/A cubic yards.

Location of dredged material disposal site: N/A

Has a U.S. Army Corps of Engineers permit been applied for? ☐ Yes ☑ No

If you need additional room to answer any question, attach additional sheets.

SUBMIT ONLY ONE COPY

CERTIFICATION AND SITE VIEW AUTHORIZATION

1. I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any requested information or any misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the County.

2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.

Owner/Authorized Agent — Date: 4/23/18

NOTE: IF SIGNED BY AGENT, OWNER MUST SIGN BELOW.

AUTHORIZATION OF AGENT

I hereby authorize N/A to act as my representative and to bind me in all matters concerning this application.

Owner — Date: 4/25/18

MAIL DIRECTION

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed if different from those identified on Page One of the application form.

Name	Name	Name
NOAH SHEPPARD		
Mailing Address	**Mailing Address**	**Mailing Address**
PO BOX 112 ALBION CA 95410		

SUBMIT ONLY ONE COPY

INDEMNIFICATION AND HOLD HARMLESS

ORDINANCE NO. 3780, adopted by the Board of Supervisors on June 4, 1991, requires applicants for discretionary land use approvals, to sign the following Indemnification Agreement. Failure to sign this agreement will result in the application being considered incomplete and withheld from further processing.

INDEMNIFICATION AGREEMENT

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the County of Mendocino, its agents, officers, attorneys, employees, boards and commissions, as more particularly set forth in Mendocino County Code Section 1.04.120, from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or adoption of the environmental document which accompanies it. The indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent, passive or active negligence on the part of the County, its agents, officers, attorneys, employees, boards and commissions.

Date: 4/22/18

Applicant

COMPLETE FOR PROJECTS LOCATED WITHIN THE COASTAL ZONE ONLY

NOTICE OF PENDING PERMIT

A COASTAL PERMIT APPLICATION FOR DEVELOPMENT ON THIS SITE IS PENDING BEFORE THE COUNTY OF MENDOCINO:

PROPOSED DEVELOPMENT : Build two bedRoom two and a half bath 1850 sF Single Family Residence With a 525 sF Attached garage. Build Detached guesthouse . Move Existing Road within existing easement Develop existing well. INStall approved Sewage System. INStall PG&E Power DROP

LOCATION: 10760 Calypso Ln. Mendocino CA 95460

APPLICANT : NOAH SHEPPARD

ASSESSOR'S PARCEL NUMBER(S): 119-090-46-00

DATE NOTICE POSTED: _____

FOR FURTHER INFORMATION, PLEASE TELEPHONE OR WRITE TO:

COUNTY OF MENDOCINO
PLANNING & BUILDING SERVICES
860 NORTH BUSH STREET
UKIAH, CA 95482
707-234-6650

COMPLETE FOR PROJECTS LOCATED WITHIN THE COASTAL ZONE ONLY

DECLARATION OF POSTING

At the time the application is submitted for filing, the applicant must **Post**, at a conspicuous place, easily read by the public and as close as possible to the site of the proposed development, notice that an application for the proposed development has been submitted. Such notice shall contain a general description of the nature of the proposed development and shall be on the standard form provided in the application packet. If the applicant fails to post the completed notice form and sign the **Declaration of Posting**, the Department of Planning and Building Services cannot process the application.

As **Proof of Posting**, please sign and date this Declaration of Posting form when the site is posted; it serves as proof of posting. It should be returned to the Department of Planning and Building Services with the application.

Pursuant to the requirements of Section 20.532.025(H) of the Mendocino County Code, I hereby certify that on 4/23/18 (date of posting), I or my authorized representative posted the "NOTICE OF PENDING PERMIT" for application to obtain a Coastal Development Permit for the development of:

See Attached Copy of Notice of Pending Permit

(Description of development)

Located at: 10760 Calypso LN Mendocino CA 95460

(Address of development and Assessor's Parcel Number)

The public notice was posted at:

10760 Calypso LN Mendocino CA 95460

(A conspicuous place, easily seen by the public and as close as possible to the site of proposed development)

Owner/Authorized Representative

4/23/19

Date

(A copy of the notice which was posted shall be attached to this form).

NOTE: YOUR APPLICATION CANNOT BE PROCESSED UNTIL THIS "DECLARATION OF POSTING" IS SIGNED AND RETURNED TO PLANNING AND BUILDING SERVICES.

A ☐ C ☑

8. **MAILING LIST - 1 COPY** A list of the names, addresses and Assessor's Parcel Numbers of owners/occupants/parties of interest as required above shall be typed or printed legibly on the form provided in the application packet.

A ☐ C ☐

9. **A PRELIMINARY CLEARANCE** from the California Department of Forestry & Fire Prevention (CDF) and submitted with the application.

A ☐ C ☑

10. **FILING FEE** (check with a planner for fee amount). Checks should be made payable to the County of Mendocino.

A ☐ C ☐

11. **A $75.00 CHECK PAYABLE TO SONOMA STATE UNIVERSITY** for an archaeological/historic records search must be submitted with the application if the site meets any of the following criteria:

- Is near a stream or spring or is located within easy access to creeks
- Has southern exposure
- Has easy access to the ocean
- Is on a large, flat coastal area
- Is on the top of a ridge
- Is on a hillside with a good view

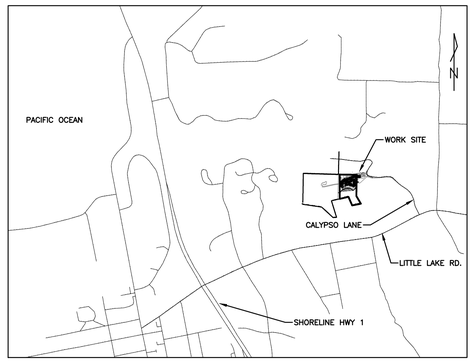
ADDITIONAL INFORMATION MAY BE REQUIRED AS FOLLOWS, CONTACT THE PLANNING DIVISION FOR DETAILS.

- **A BOTANICAL/WILDLIFE SURVEY** may be required if an endangered species, Environmentally Sensitive Habitat Area (ESHA), stream, creek, wetland, or sand dune occupies any portion of the site.
- A**A TOPOGRAPHIC MAP/SITE PLAN** may be required if the project is commercial, involves grading, or is located on sloped land.
- **A WATER/SEWER SERVICE LETTER** must be included with the application if water or sewer services are proposed to be provided by a Service District, public agency, or community system.
- **A GEOTECHNICAL REPORT** may be required if the project is on a bluff top property or within a Seismic Safety Combining District. That report must address the issues required by the Coastal Zoning Code Chapter 20.500, including but not limited to site geology, soils, soil stability, landsliding, erosion, drainage, bluff top setback, seismicity and faulting, tsunami issues, appropriateness of the proposed development on the site and construction techniques to adequately provide stability for your development.
- **A DRAINAGE PLAN** may be required where the project has a potential to adversely affect water quality within any waterway and where the project has the potential to affect slope stability along bluffs and steep slopes.
- **A LANDSCAPE PLAN** may be required where the project is located within a designated highly scenic area and landscaping is needed to offset the visual impacts of the project.
- **AN ARCHAEOLOGICAL SURVEY** is required for all projects where the Mendocino County Archaeological Commission has determined that a survey is required.
- **STORY POLE PLACEMENT** may be required for projects within designated highly scenic areas that are visible from public areas.

APN 119-090-46

IMPROVEMENT PLANS

ROAD REALIGNMENT AND GRADING PLAN
FOR LANDS OF SHEPPARD
10760 CALYPSO LANE
MENDOCINO CALIFORNIA



LOCATION MAP
1"= 1000'

GENERAL NOTES

1. ALL MATERIAL, WORKMANSHIP AND CONSTRUCTION SHALL CONFORM TO THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS, STANDARD PLANS AND THE MENDOCINO COUNTY STANDARD PLANS. (LATEST REVISION)
2. FOR ANY WORK TO BE PERFORMED ON THE COUNTY RIGHT-OF-WAY, THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE COUNTY OF MENDOCINO PLANNING AND BUILDING DEPARTMENT, 707-463-4281
3. THE CONTRACTOR SHALL NOTIFY THE PLANNING AND BUILDING DEPARTMENT'S CONSTRUCTION INSPECTOR 48 HOURS BEFORE STARTING WORK. CALL 707-463-4281. SEE (INSPECTIONS) BELOW FOR REQUIRED NOTIFICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UNDERGROUND SERVICE ALERT (U.S.A.), TOLL FREE AT 1-800-642-2444, AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL UNCOVER RELEVANT UTILITIES TO VERIFY THEIR LOCATION AND ELEVATION. IF UNEXPECTED OR CONFLICTING UTILITIES ARE ENCOUNTERED DURING EXCAVATION, NOTIFY U.S.A, THE UTILITY OWNER AND/OR THE PROJECT ENGINEER IMMEDIATELY. UTILITIES INCLUDE BUT ARE NOT LIMITED TO WATER, SEWER, ELECTRICAL, GAS, TELEPHONE AND CABLE/TV.
5. THE CONTRACTOR SHALL OBTAIN A TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE EXCAVATION OF ANY TRENCH OVER FIVE FEET IN DEPTH.
6. ALL UNDERGROUND IMPROVEMENTS SHALL BE INSTALLED AND APPROVED PRIOR TO ROAD SURFACING.
7. THE CONSTRUCTION OF BRIDGES, RETAINING WALLS, AND REINFORCED BUTTRESSES REQUIRE A BUILDING PERMIT FROM THE PLANNING AND BUILDING DEPARTMENT.
8. RESTORATION OF EXISTING SURFACING DUE TO CONSTRUCTION OF TRENCHES SHALL BE GOVERNED BY THE CONDITIONS IN THE ROAD ENCROACHMENT PERMIT.
9. THE COUNTY MAY REQUIRE ADDITIONAL WORK OR FACILITIES IN THE COURSE OF THE CONSTRUCTION OF PROJECT IN ORDER FOR THE IMPROVEMENTS TO REASONABLY PROVIDE FOR THE INTENDED FUNCTION OR FOR PUBLIC SAFETY.
10. ALL PROPERTY CORNERS AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE BEFORE THE FINAL ACCEPTANCE OF THE ROAD BY THE DESIGN ENGINEER.
11. BENCH MARK: POINT NUMBER 121, NAIL, ELEVATION 997.86 ASSUMED DATUM TOPOGRAPHIC AND BOUNDARY INFORMATION PROVIDED BY POPE ENGINEERING
12. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE TYPES, LOCATIONS, SIZES AND DEPTHS OF EXISTING UNDERGROUND FACILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND FACILITIES. HOWEVER, THE ENGINEER, CITY AND COUNTY ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND FACILITIES NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR FACILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THOSE FACILITIES SHOWN AND ANY WHICH MAY EXIST AND ARE NOT SHOWN PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL EXPOSE ALL UNDERGROUND FACILITIES THAT ARE TO BE CONNECTED TO OR THAT ARE IN THE PATH OF THE PROPOSED IMPROVEMENTS FOR VERIFICATION OF ELEVATION AND LOCATION BY DESIGN ENGINEER AND SHALL DETERMINE THAT THERE IS NO CONFLICT PRIOR TO COMMENCING CONSTRUCTION OF THAT PORTION OF THE WORK AND/OR ANY UPSTREAM WORK THAT WOULD BE AFFECTED BY A CONFLICT WITH THE EXISTING FACILITIES. IF THERE IS INTERFERENCE WITH PLAN UTILITY LOCATION THEN ADJUSTMENT OF NEW UTILITY GRADES ARE REQUIRED. THE ADJUSTED GRADE SHALL BE RECOMMENDED BY THE PROJECT/DESIGN ENGINEER IN WRITING AND SHALL BE APPROVED IN WRITING BY THE CITY OR COUNTY PRIOR TO INSTALLATION.
13. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, THE ENGINEER AND THE COUNTY OF MENDOCINO HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
14. UNAUTHORIZED CHANGES OR USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
15. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER UPON DISCOVERING SIGNIFICANT DISCREPANCIES, ERRORS OR OMISSIONS IN THE PLANS. PRIOR TO PROCEEDING, THE OWNER SHALL HAVE THE PLANS REVISED TO CLARIFY IDENTIFIED DISCREPANCIES, ERRORS OR OMISSIONS. THE REVISED PLANS SHALL BE SUBJECT TO REVIEW BY THE CHIEF BUILDING OFFICIAL.
16. RETAINING WALLS ARE NOT APPROVED UNDER THIS GRADING PERMIT. RETAINING WALLS REQUIRE A SEPARATE BUILDING PERMIT, UNLESS EXEMPTED.
17. CUT SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1. SLOPES MAY BE STEEPENED. WITH WRITTEN PERMISSION FROM A GEOTECHNICAL ENGINEER. FILL SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1.
18. ALL EXCESS SOIL MATERIAL, STUMPS AND BOULDERS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ANY ENVIRONMENTAL REGULATIONS AND PLANNING AND BUILDING DEPARTMENT GRADING ORDINANCE AS THEY MAY APPLY.
19. IF CONSTRUCTION IS PERFORMED EARLIER THAN MAY 1 OR LATER THAN OCTOBER 15 IN ANY GIVEN YEAR, AN APPROVED SILTATION CONTROL PLAN, DESIGNED BY A CIVIL ENGINEER OR APPROVED, COMPETENT INDIVIDUAL IS REQUIRED.
20. SHOULD GRADING OPERATIONS ENCOUNTER HAZARDOUS MATERIALS, OR WHAT APPEAR TO BE HAZARDOUS MATERIALS, STOP WORK IN THE AFFECTED AREA IMMEDIATELY AND CONTACT 911 OR THE APPROPRIATE AGENCY FOR FURTHER INSTRUCTION
21. PLACEMENT OF MAILBOXES MUST BE COORDINATED WITH AND APPROVED BY THE LOCAL BRANCH OF THE UNITED STATES POST OFFICE.
22. TRENCH AND BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CALTRANS' STANDARD PLAN A62-D FOR CONCRETE CULVERTS AND A62-F FOR METAL AND PLASTIC CULVERTS, EXCEPT THAT THE TRENCH WIDTH NEED ONLY BE ONE FOOT ON EACH SIDE OF THE PIPE.
23. THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF POPE ENGINEERING. UNAUTHORIZED USE, COPYING, DISCLOSURE OR PUBLICATION BY ANY METHOD IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF POPE ENGINEERING. POPE ENGINEERING TAKES NO RESPONSIBILITY FOR ANY UNAUTHORIZED DUPLICATION OF INFORMATION THAT MAY APPEAR ON ANOTHER PLAN OR MAP.
24. COMPACTION OF FILL TO BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER PER THE MENDOCINO COUNTY SPECIAL INSPECTION REQUIREMENT.
25. PERFORM GRADING IN ACCORDANCE WITH THE LATEST EDITION OF APPENDIX CHAPTER 33 OF THE CALIFORNIA BUILDING CODE, APPLICABLE MENDOCINO COUNTY REGULATIONS.
26. EXISTING DRAINAGE COURSES RECEIVING WATERS FROM THIS SITE AND LOCATED THROUGHOUT THIS SITE SHALL REMAIN OPEN AND CLEAR OF DEBRIS TO PROPERLY CONVEY STORM WATER. IF EXISTING DRAINAGE COURSES RECEIVING WATERS FROM THIS SITE ARE LOCATED IN THE COUNTY RIGHT-OF-WAY AND NEED MAINTENANCE, CONTACT THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS AT (707) 463-4363 FOR FURTHER ASSISTANCE. IN ANY EVENT, THE OWNER AND/OR CONTRACTOR SHALL BE HELD LIABLE FOR ANY DAMAGE DUE TO OBSTRUCTING NATURAL DRAINAGE PATTERNS.

GRADING

1. THE CONTRACTOR SHALL ENLIST THE SERVICES OF A REGISTERED GEOTECHNICAL ENGINEER TO MONITOR THE PLACEMENT OF EMBANKMENTS. THE GEOTECHNICAL ENGINEER SHALL SUBMIT A FINAL SOILS REPORT WHICH CERTIFIES THAT THE EMBANKMENTS WERE PLACED IN ACCORDANCE WITH THE PROJECT PLANS (AND AMENDMENTS THERETO, IF ANY), SPECIFICATIONS, AND SOUND GEOTECHNICAL PRACTICE. THE REPORT SHALL ADDRESS IN PARTICULAR THE SUITABILITY OF THE NATIVE SOIL ENCOUNTERED AT THE TOE AND BASE OF ALL FILLS. FURTHER, THE REPORT SHALL CONTAIN ANALYSIS OF THE SOILS ENCOUNTERED AND A COMPILATION OF COMPACTION TESTS PERFORMED.
2. CUT SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1 WITH A GEOTECHNICAL ENGINEER'S WRITTEN PERMISSION, WEATHERED ROCK CUTS MAY BE STEEPENED. FILL SLOPES SHALL BE EQUAL TO OR LESS THAN 2:1.
3. ALL EXCESS SOIL MATERIAL, STUMPS AND BOULDERS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ANY ENVIRONMENTAL REGULATIONS AND PERMIT AND RESOURCE MANAGEMENT DEPARTMENT GRADING ORDINANCE AS THEY MAY APPLY.
4. IF CONSTRUCTION IS PERFORMED EARLIER THAN MAY 1 OR LATER THAN OCTOBER 1 IN ANY GIVEN YEAR, AN APPROVED SILTATION CONTROL PLAN, DESIGNED BY A CIVIL ENGINEER OR APPROVED, COMPETENT INDIVIDUAL IS REQUIRED.
5. ANY GRADED AREAS 10% OR STEEPER WITHIN THE ROADWAY, ROAD RIGHT-OF-WAY, OR PUBLIC UTILITY EASEMENT SHALL BE SEEDED FOR EROSION CONTROL. EROSION CONTROL MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH SECTION 20 OF THE CALTRANS STANDARD SPECIFICATIONS AND SHALL CONSIST OF APPLYING SEED AND FERTILIZER AT THE RATES SPECIFIED ON THIS SHEET.
6. ALL ENGINEERED FILL SHOULD BE PLACED IN THIN LIFTS NOT EXCEEDING 6 TO 8 INCHES IN UNCOMPACTED THICKNESS, BROUGHT TO A MOISTURE CONTENT THAT WILL PERMIT PROPER COMPACTION, AND EACH LIFT SHOULD BE COMPACTED UNTIL A MINIMUM DEGREE OF COMPACTION OF 95% IS ACHIEVED, BASED ON ASTM TEST METHOD D1557.

   REFER TO GEOTECHNICAL REPORT FOR GRADING AND SITE PREPARATION RECOMMENDATIONS.

EROSION CONTROL NOTES

1. PERFORM EROSION PREVENTION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF APPENDIX CHAPTER 33 OF THE CALIFORNIA BUILDING CODE, APPLICABLE MENDOCINO COUNTY REGULATIONS, AND SECTION 20 OF THE CALTRANS STANDARD SPECIFICATIONS.
2. THE APPROVED PLANS SHALL CONFORM WITH THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES CONTAINED IN THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS OR AN EQUIVALENT BEST MANAGEMENT PRACTICE:

   EROSION AND SEDIMENT CONTROL FIELD MANUAL BY THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD.
   MANUAL OF STANDARDS FOR EROSION & SEDIMENT CONTROL MEASURES BYT THE ASSOCIATION OF BAY AREA GOVERNMENTS.
   CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL BY CALTRANS.
   STORMWATER BEST MANAGEMENT PROACTIVE HANDBOOK BY THE CALIFORNIA STORMWATER QUALITY ASSOCIATION.
3. IF DISCREPANCIES OCCUR BETWEEN THESE NOTES, MATERIAL REFERENCED HEREIN OF MANUFACTURE'S RECOMMENDATIONS, THEN THE MOST PROTECTIVE SHALL APPLY.
4. THE OWNER IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. CASO00002 WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY DISTURBING LAND EQUAL TO OR GREATER THAN ONE ACRE. CONSTRUCTION ACTIVITIES INCLUDE BUT ARE NOT LIMITED TO CLEARING, GRADING, EXCAVATION, STOCKPILING, AND RECONSTRUCTION OF EXISTING FACILITIES INVOLVING REMOVAL AND REPLACEMENT.
5. PRESERVATION OF EXISTING VEGETATION SHALL OCCUR TO THE MAXIMUM EXTENT PRACTICABLE.
6. THE OWNER IS RESPONSIBLE FOR PREVENTING STORM WATER POLLUTION GENERATED FROM THE CONSTRUCTION SITE YEAR ROUND. THE OWNER MUST IMPLEMENT AN EFFECTIVE COMBINATION OF EROSION PREVENTION AND SEDIMENT CONTROL ON ALL DISTURBED AREAS DURING THE RAINY SEASON (OCTOBER 15 – APRIL 15).
7. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED BY THE OWNER BEFORE FORECASTED STORM EVENTS AND AFTER ACTUAL STORM EVENTS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY. STORM EVENTS PRODUCE AT LEAST 1 INCH OF PRECIPITATION IN A 24 HOUR PERIOD. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES THAT HAVE FAILED OR ARE NO LONGER EFFECTIVE SHALL BE PROMPTLY REPLACED. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED.
8. CHANGES TO THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN MAY BE MADE TO RESPOND TO FIELD CONDITIONS. CHANGES SHALL BE NOTED ON THE PLAN WHEN MADE.
9. DISCHARGES OF POTENTIAL POLLUTANTS FROM CONSTRUCTION SITES SHALL BE PREVENTED USING SOURCE CONTROLS TO THE MAXIMUM EXTENT PRACTICABLE. POTENTIAL POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO: SEDIMENT, TRASH, NUTRIENTS, PATHOGENS, PETROLEUM HYDROCARBONS, METALS, CONCRETE, CEMENT, ASPHALT, LIME, PAINT, STAINS, GLUES, WOOD PRODUCTS, PESTICIDES, HERBICIDES, CHEMICALS, HAZARDOUS WASTE, SANITARY WASTE, VEHICLE OR EQUIPMENT WASH WATER AND CHLORINATED WATER.
10. ENTRANCE(S) TO THE CONSTRUCTION SITE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF POTENTIAL POLLUTANTS OFFSITE. POTENTIAL POLLUTANTS DEPOSITED ON PAVED AREAS WITHIN THE COUNTY RIGHT-OF-WAY, SUCH AS ROADWAYS AND SIDEWALKS, SHALL BE PROPERLY DISPOSED OF AT THE END OF EACH WORKING DAY OR MORE FREQUENTLY AS NECESSARY.
11. EXPOSED SLOPES SHALL BE PROTECTED BY USING EROSION PREVENTION MEASURES TO THE MAXIMUM EXTENT PRACTICABLE, SUCH AS ESTABLISHING 70% VEGETATION COVERAGE, HYDROSEEDING, STRAW MULCH, GEOTEXTILES PLASTIC COVERS, BLANKETS OR MATS.
12. WHENEVER IS IS NOT POSSIBLE TO UTILIZE EROSION PREVENTION MEASURES, EXPOSED SLOPES SHALL EMPLOY SEDIMENT CONTROL DEVICES, SUCH AS FIBER ROLLS AND SILT FENCES. FIBER ROLLS AND SILT FENCES SHALL BE TRENCHED AND KEYED INTO THE SOIL AND INSTALLED ON CONTOUR. SILT FENCES SHALL BE INSTALLED APPROXIMATELY 2 TO 5 FEET FROM TOE OF SLOPE.
    HYDROSEEDING SHALL BE CONDUCTED IN A THREE STEP PROCESS. FIRST, EVENLY APPLY SEED MIX AND FERTILIZER TO THE EXPOSED SLOPE. SECOND, EVENLY APPLY MULCH OVER THE SEED AND FERTILIZER. THIRD, STABILIZE THE MULCH IN PLACE.
13. APPLICATIONS SHALL BE BROADCASTED MECHANICALLY OR MANUALLY AT THE RATES SPECIFIED BELOW. SEED MIX AND FERTILIZER SHALL BE WORKED INTO THE SOIL BY ROLLING OR TAMPING. IF STRAW IS USED AS MULCH, STRAW SHALL BE DERIVED FROM WHEAT, RIVE OR BARLEY AND BE APPROXIMATELY 6 TO 8 INCHES IN LENGTH. STABILIZATION OF MULCH SHALL BE DONE HYDRAULICALLY BY APPLYING AN EMULSION SOIL. EQUIVALENT METHODS AND MATERIALS MAY BE USED ONLY IF THEY ADEQUATELY PROMOTE VEGETATION GROWTH AND PROTECT EXPOSED SLOPES.

MATERIALS	APPLICATION RATE (POUNDS PER ACRE)
SEED MIX	
BROMUS MOLLIS (BLANDO BROME)	40
TRIFOLIUM HIRTUM (HYKON ROSE CLOVER)	20
FERTILIZER	
16-20-0 & 15% SULFER	500
MULCH	
STRAW	4000
HYDRAULIC STABILIZING*	
M-BINDER OR SENTINEL	75-100
EQUIVALENT MATERIAL	PER MANUFACTURER

*NON-ASPHALTIC, DERIVED FROM PLANTS

14. THE OWNER SHALL PROTECT STORM DRAIN INLETS FROM POTENTIAL POLLUTANTS UNTIL DRAINAGE CONVEYANCE SYSTEMS ARE FUNCTIONAL AND CONSTRUCTION HAS BEEN COMPLETED.
15. ENERGY DISSIPATERS SHALL BE INSTALLED AT STORM DRAIN OUTLETS WHICH MAY CONVEY STORM WATER FLOW LEADING TO SOIL EROSION.
16. SOIL AND MATERIAL STOCKPILES SHALL BE PROPERLY PROTECTED TO MINIMIZE SEDIMENTS AND POLLUTANT TRANSPORT FROM THE CONSTRUCTION SITE.
17. SOLID WASTE, SUCH AS TRASH, DISCARDED BUILDING MATERIALS AND DEBRIS, SHALL BE PLACED IN DESIGNATED COLLECTION AREAS OR CONTAINERS. THE CONSTRUCTION SITE SHALL BE CLEARED OF SOLID WASTE DAILY, OR AS NECESSARY, AND REGULAR REMOVAL AND PROPER DISPOSAL SHALL BE ARRANGED.
18. A CONCRETE WASHOUT AREA, SUCH AS A TEMPORARY PIT, SHALL BE DESIGNATED TO CLEAN CONCRETE TRUCKS AND TOOLS. AT NO TIME SHALL CONCRETE PRODUCTS AND WASTE BE ALLOWED TO ENTER COUNTY WATERWAYS SUCH AS CREEKS OR STORM DRAINS.
19. PROPER APPLICATION, CLEANING AND STORAGE OF POTENTIALLY HAZARDOUS MATERIALS, SUCH AS PAINTS AND CHEMICALS, SHALL BE CONDUCTED TO PREVENT THE DISCHARGE OF POLLUTANTS.
20. WHEN UTILIZED, TEMPORARY RESTROOMS AND SANITARY FACILITIES SHALL BE LOCATED AND MAINTAINED TO PREVENT THE DISCHARGE OF POLLUTANTS.
21. APPROPRIATE VEHICLE STORAGE, FUELING, MAINTENANCE AND CLEANING AREAS SHALL BE DESIGNATED AND MAINTAINED TO PREVENT DISCHARGE OF POLLUTANTS.

REQUIRED GRADING INSPECTIONS

A. REQUIRED INSPECTIONS BY THE GRADING INSPECTOR ARE AS FOLLOWS:
B. PRE-CONSTRUCTION MEETING WITH CONTRACTOR, GRADING INSPECTOR AND OTHERS, AS APPLICABLE.
C. OTHER INSPECTIONS, AS AGREED AT THE PRE-CONSTRUCTION MEETING.
D. PREPARATION OF GROUND FOR FILL PLACEMENT, ORGANIC LAYER REMOVED, SURFACE SCARIFIED, ECT. (UBC-3313.2).
E. SURFACE BENCHED WHERE SURFACE RECEIVING FILL IS STEEPER THAN 5:1 (UBC-3312.2).
F. KEY OR CORE (UBC-3313.2).
G. SURFACE DRAINAGE FACILITIES INCLUDING INTERCEPTOR DRAINS, SWALES, DITCHES ON TERRACES, CONCRETE OR SHOTCRETE DITCH LINING, ETC. (UBC-3315.2).
H. FINAL ROUGH GRADING OF BOTH CUT AND FILL SLOPES, INCLUDING TERRACING, ROUNDING OF TOP SOIL LAYER, SETBACKS FROM PERMIT AREA BOUNDARIES, ETC. (UBC-3312, 3313, 3314, 3315).
I. EROSION CONTROL MEASURES, EITHER TEMPORARY OR PERMANENT, INCLUDING SEDIMENT FENCES, INSTALLATION OF FABRICS, SEEDING SLOPES, ETC. (UBC-3316).
J. FINAL INSPECTION FOR CODE COMPLIANCE. IF ENGINEERED GRADING, THE FINAL REPORT IS ALSO REVIEWED BY THE GRADING INSPECTOR BEFORE THE GRADING PERMIT IS FINALED (UBC-3317).

CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO BID.

REFER TO ANY GEOTECHNICAL RECOMMENDATIONS THAT MAY BE A PART OF THIS PROJECT.

QUANTITIES SHOWN ARE ESTIMATES ONLY. SITE CONDITIONS, CONSTRUCTION METHODS, ETC. CAN SUBSTANTIALLY ALTER VALUES.

CUT	380 C.Y.+/-
FILL	371 C.Y.+/-
TOTAL	751 C.Y.+/-

DISTURBED AREA: 0.4 ACRES

LEGEND

PROPOSED	EXISTING	
→	→	DIRECTION OF SURFACE FLOW
25	25	CONTOUR
S.D. C.B. C.I.	S.D. C.B. C.I.	FEATURES
		TOE/TOP OF SLOPE
		STORM DRAIN
		PROPERTY LINE
		FENCE LINE
		SWALE
		CATCH BASIN
		SDMH
		GRAVEL
		RIP-RAP
		CONCRETE
FG 123.50 →	27.25	SPOT ELEVATION
DWS FPW W	DWS FPW W	WATER LINE
		SILT FENCE
		STRAW ROLL

ABBREVIATIONS

SDMH	STORM DRAIN MANHOLE	PSDE	PRIVATE STORM DRAIN EASEMENT
SSMH	SANITARY SEWER MANHOLE	BSL	BUILDING SETBACK LINE
SS	SANITARY SEWER	POS	PRIVATE OPENSPACE EASEMENT
W	WATER	DI	DROP INLET
TC	TOP OF CURB	FM	FORCE MAIN
FF	FINISH FLOOR	VC	VERTICAL CURVE
WM	WATER METER	MP	MIDPOINT
FS	FINISH SURFACE	PT	POINT OF TANGENCY
SD	STORM DRAIN	PC	POINT OF CURVATURE
WS	WATER SERVICE	BVC	BEGIN VERTICAL CURVE
FG	FINISH GRADE	EVC	END VERTICAL CURVE
TG	TOP OF GRATE	(E)	EXISTING
IG	INVERT GRADE	EG	EXISTING GRADE
PL	PROPERTY LINE	FL	FLOW LINE
TW	TOP OF WALL	SW	SIDE WALK
BW	BOTTOM OF WALL	DW	DRIVEWAY
		ROW	RIGHT OF WAY
		NTS	NOT TO SCALE

SHEET INDEX

C-1 COVER SHEET
C-2 NEW ROAD PLAN
C-3 PROFILES, SECTIONS AND DETAILS

U.S.A. NOTIFICATION SERVICE

CALL U.S.A. BEFORE EXCAVATION 48 HOURS IN ADVANCE

BY	REVISIONS	DATE

APPROVED BY
SAMUEL G. POPE DATE

REGISTERED PROFESSIONAL ENGINEER SAMUEL G. POPE No. 65228 CIVIL STATE OF CALIFORNIA

POPE ENGINEERING
CIVIL ENGINEERING - SURVEYING
SAMUEL G. POPE R.C.E. 65228
1540 HARRAH DRIVE WILLITS, CA 95490
OFFICE 707-459-3868 FAX 707-459-3875
CELL 707-367-4949

COVER SHEET

LANDS OF SHEPPARD
10760 CALYPSO LANE
MENDOCINO CALIFORNIA

SCALE:	AS SHOWN
DESIGN:	POPE
JOB:	SHEPPARD
PLOT DATE:	3-1-2023

SHEET C-1 OF 3 SHEETS

KEY NOTES

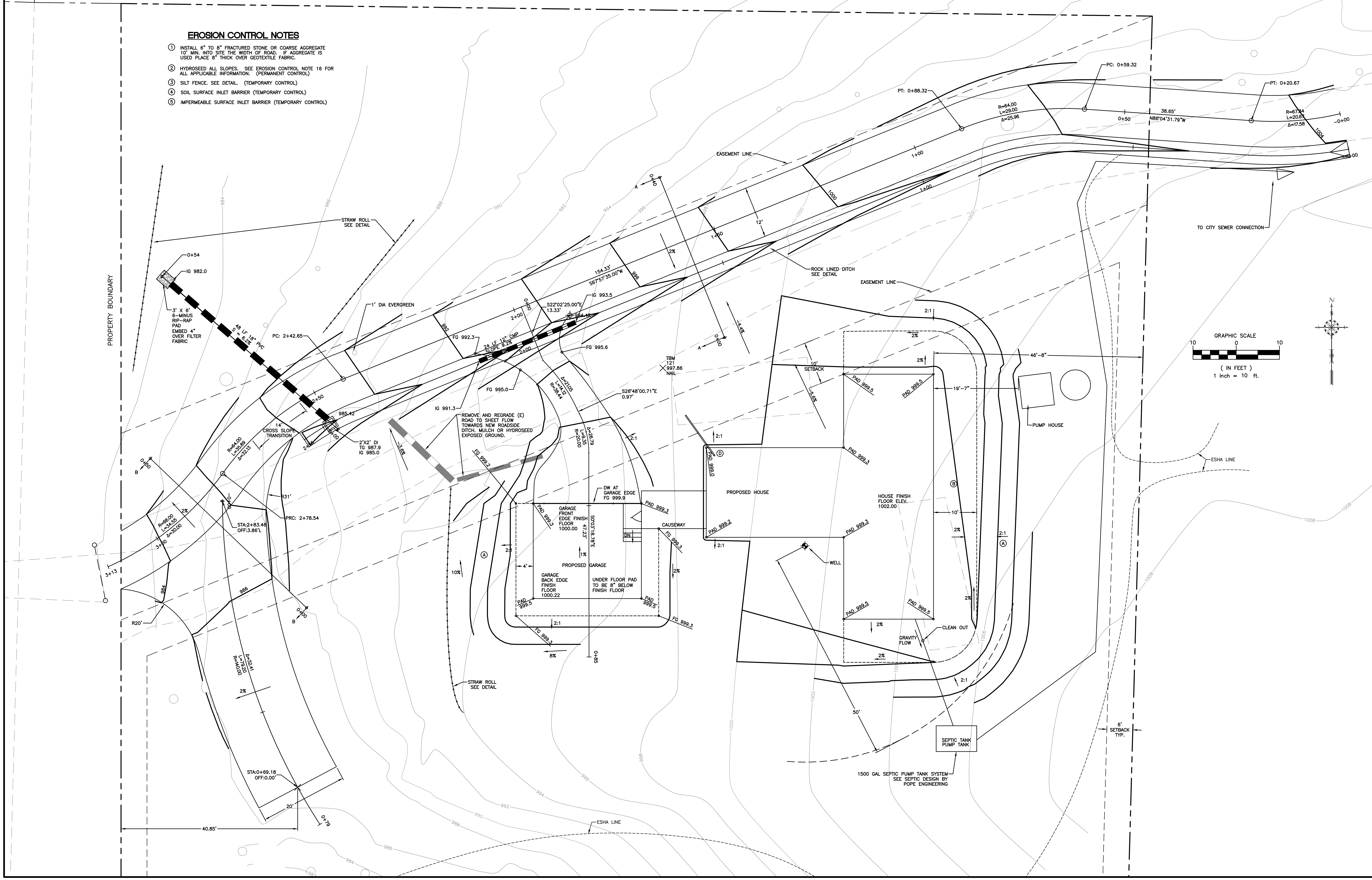
- (A) 2:1 SLOPE MAX
- (B) SLOPE GRADE AWAY 1/4" PER FOOT FOR 10'-0" MIN. AWAY FROM BUILDING.
- (C) PRIOR TO CONSTRUCTION VERIFY FOUNDATION SECTIONS WITH STRUCTURAL ENGINEERS PLAN. SEE SOILS REPORT FOR PAD OVERBUILD REQUIREMENTS
- (D) PROVIDE POSITIVE DRAINAGE TO PREVENT PONDING OF WATER AT UNDER FLOOR AREA. USE 3" SCH. 40 OR SDR 35 DRAIN PIPE THROUGH FOUNDATION FOOTING AT LOWEST CORNER WITH 1% MIN. SLOPE DISCHARGING INTO APPROPRIATE AREA.
- (E) THE NUMBER AND LOCATION OF STEPS AND LANDINGS SHALL BE VERIFIED IN THE FIELD BY THE ARCHITECT AND/OR CONTRACTOR.

PRIVATE STORM DRAIN NOTES

1. ALL STORM DRAINS 8" OR SMALLER SHALL BE PVC, A.S.T.M. D3034, TYPE DSM SDR 35, A.S.T.M. D3212 GASKETED JOINTS WITH A.S.T.M. F477 ELASTROMETRIC SEALS OR A.S.T.M. 2855 SOLVENT CEMENT JOINTS USING A.S.T.M. D2564 SOLVENT CEMENT, O.A.E. ALL STORM DRAINS LARGER THAN 8" SHALL BE ADS N-12 SMOOTH BORE (A.S.T.M. F-894) O.A.E.
2. WATER FROM ROOF RAIN LEADERS SHALL BE DEPOSITED ONTO A PAVED SURFACE OR VIA RIGID PIPE TO THE CLOSED STORM DRAIN SYSTEM. ROOF LEADERS SHALL NOT BE CONNECTED TO SUBDRAINS.
3. ALL STORM STRUCTURES SHALL BE CENTRAL PRECAST, INC., DURA DRAIN MODELS, O.A.E., UNLESS NOTED OTHERWISE. ALL GRATES ON P-12 BOXES OR GREATER SHALL BE BOLT-DOWN MODELS.

EROSION CONTROL NOTES

1. INSTALL 6" TO 8" FRACTURED STONE OR COARSE AGGREGATE 10' MIN. INTO SITE THE WIDTH OF ROAD. IF AGGREGATE IS USED PLACE 8" THICK OVER GEOTEXTILE FABRIC.
2. HYDROSEED ALL SLOPES. SEE EROSION CONTROL NOTE 16 FOR ALL APPLICABLE INFORMATION. (PERMANENT CONTROL)
3. SILT FENCE. SEE DETAIL. (TEMPORARY CONTROL)
4. SOIL SURFACE INLET BARRIER (TEMPORARY CONTROL)
5. IMPERMEABLE SURFACE INLET BARRIER (TEMPORARY CONTROL)



NEW ROAD PLAN

LANDS OF SHEPPARD
10760 CALYPSO LANE
MENDOCINO CALIFORNIA

REVISIONS | BY

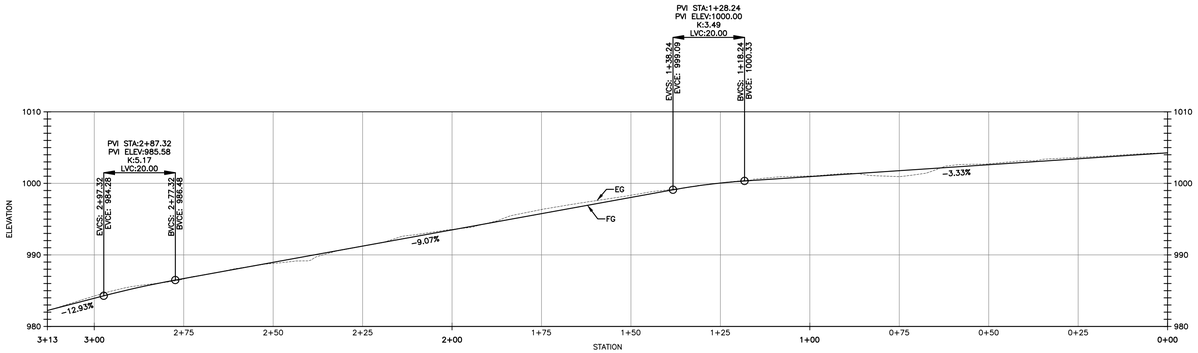
APPROVED BY | DATE

SAMUEL G. POPE

POPE ENGINEERING
CIVIL ENGINEERING - SURVEYING
SAMUEL G. POPE R.C.E. 65228
1540 HARRAH DRIVE WILLITS, CA 95490
OFFICE 707-459-3893 FAX 707-459-3875
CELL 707-321-7458

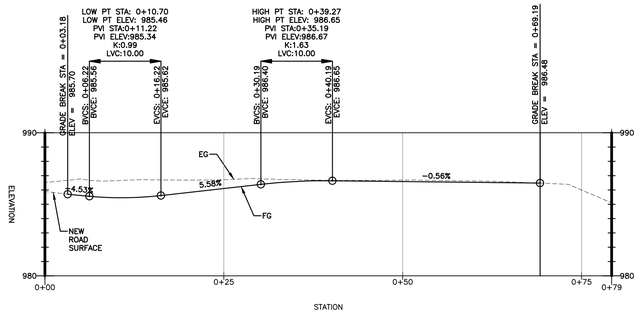
SCALE:	AS SHOWN
DESIGN:	POPE
JOB:	SHEPPARD
PLOT DATE:	3-1-2023

SHEET C-2 OF 3 SHEETS



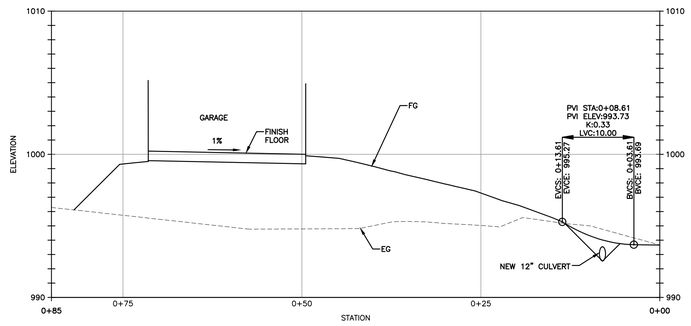
NEW ROAD PROFILE

1"=20' HORIZONTAL
1"=10' VERTICAL



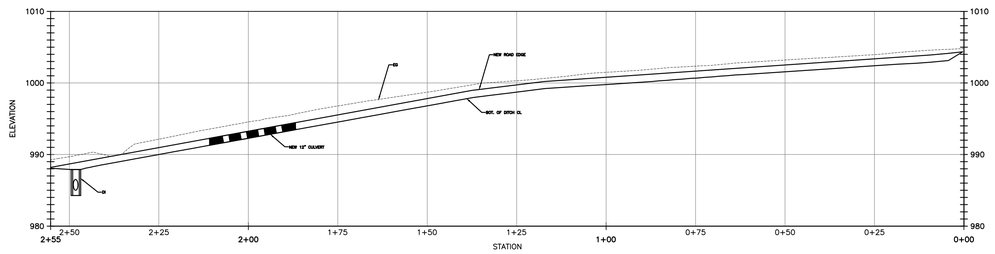
FIRE TRUCK TURN AROUND PROFILE

1"=10' HORIZONTAL
1"=5' VERTICAL



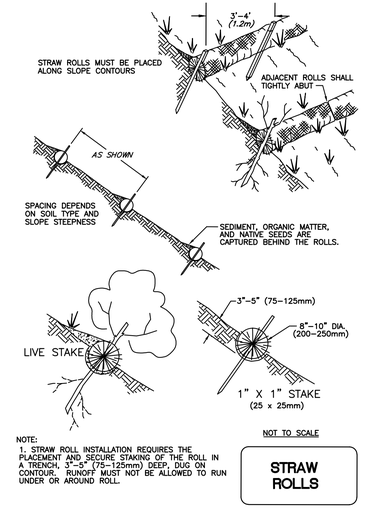
DW TO GARAGE PROFILE

1"=10' HORIZONTAL
1"=5' VERTICAL



NEW ROADSIDE DITCH PROFILE

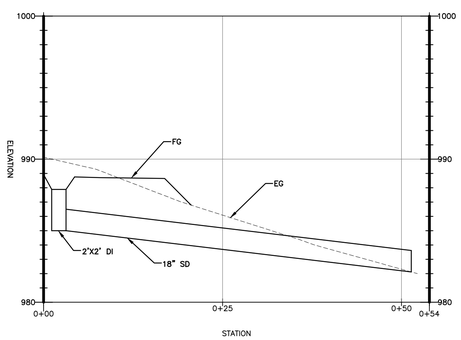
1"=20' HORIZONTAL
1"=10' VERTICAL



NOT TO SCALE

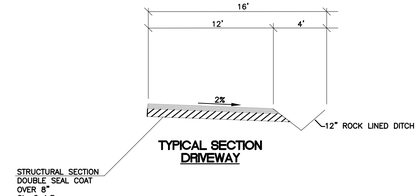
NOTE:
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

STRAW ROLLS

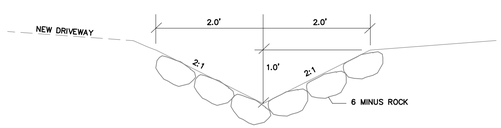


STORM DRAIN PROFILE

1"=10' HORIZONTAL
1"=5' VERTICAL

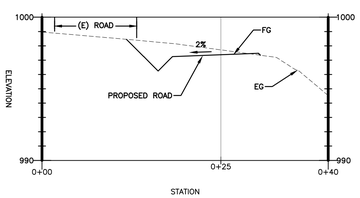


TYPICAL SECTION DRIVEWAY



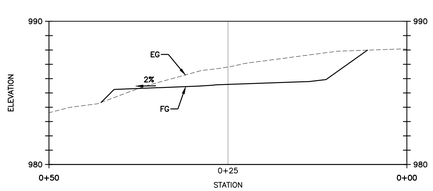
ROCK-LINED DITCH

N.T.S.



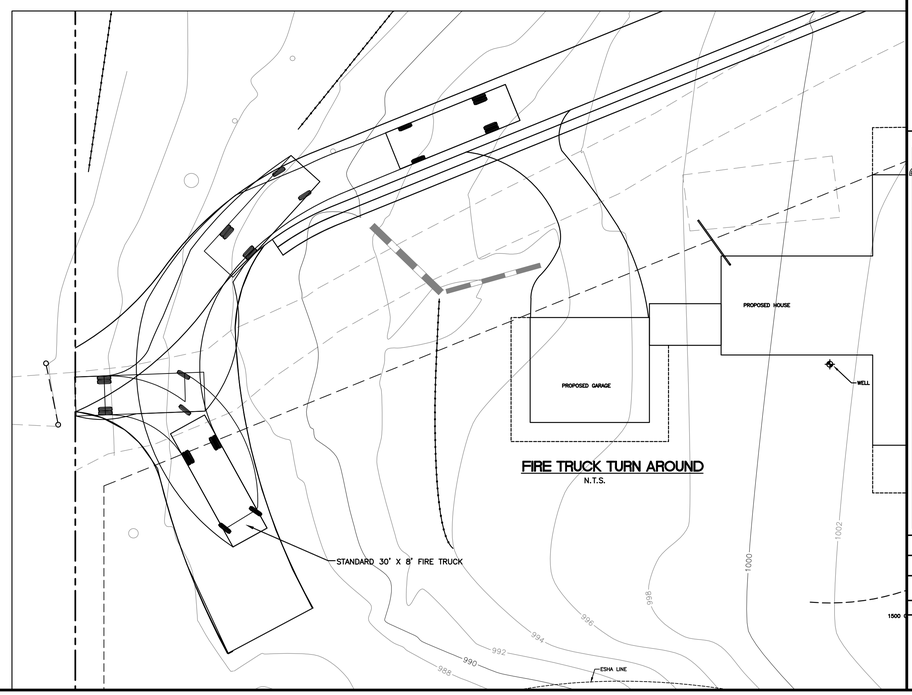
SECTION A-A

1"=10' HORIZONTAL
1"=5' VERTICAL



SECTION B-B

1"=10' HORIZONTAL
1"=5' VERTICAL



FIRE TRUCK TURN AROUND

N.T.S.

BY	REVISIONS	DATE

PROFILES, SECTIONS, AND DETAILS

LANDS OF SHEPPARD
10760 CALYPSO LANE
MENDOCINO CALIFORNIA

APPROVED BY
SAMUEL G. POPE
DATE

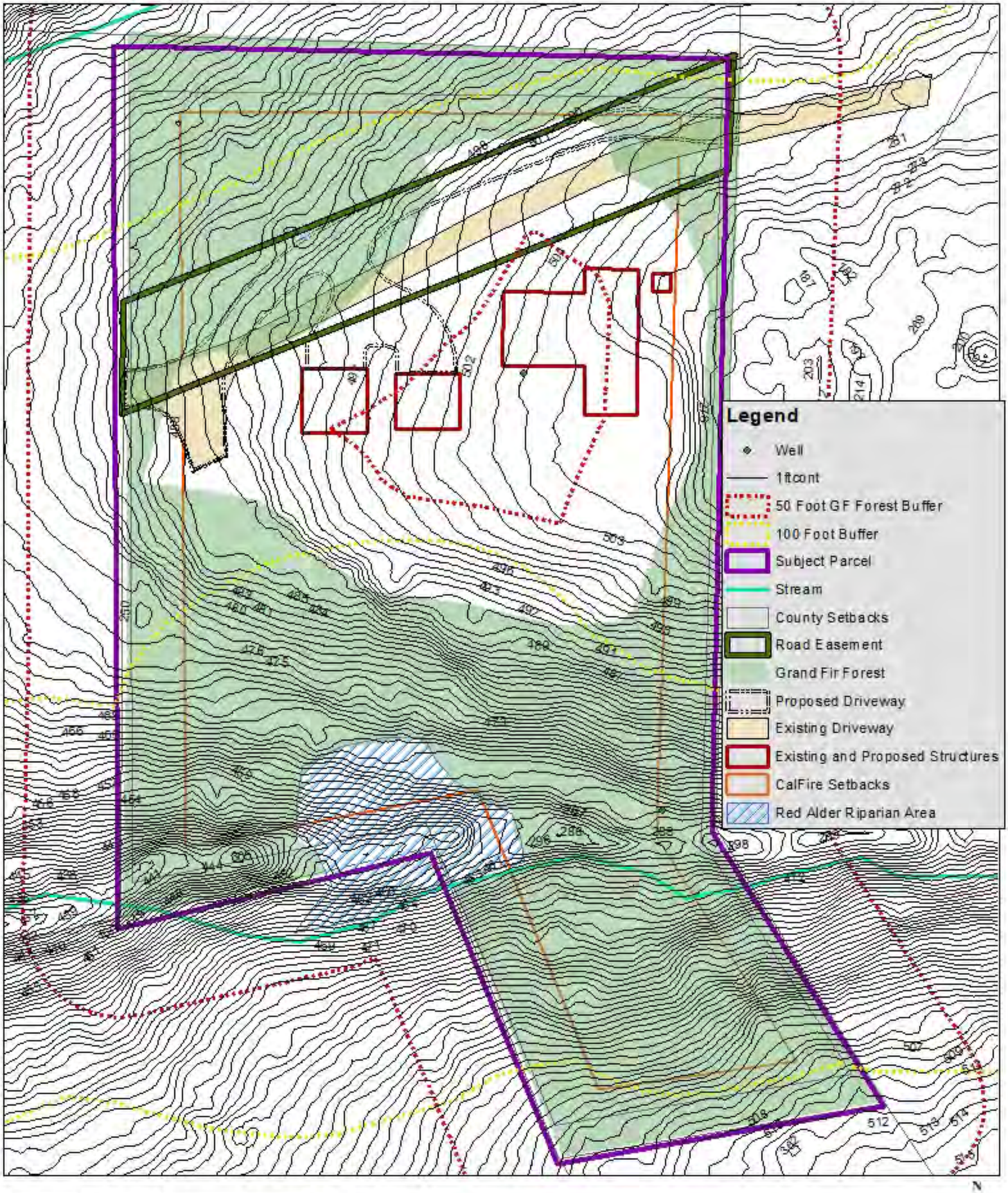
REGISTERED PROFESSIONAL ENGINEER
SAMUEL G. POPE
No. 62228
CIVIL
STATE OF CALIFORNIA

POPE ENGINEERING
CIVIL ENGINEERING - SURVEYING
SAMUEL G. POPE R.C.E. 62228
1540 HARRAH DRIVE WILLITS, CA 95490
OFFICE 707-459-3863 FAX 707-459-3875
CELL 707-367-7488

SCALE:	AS SHOWN
DESIGN:	POPE
JOB:	SHEPPARD
PLOT DATE:	3-1-2023

SHEET
C-3
OF 3 SHEETS

Sheppard
APN 119-090-46



0 37.5 75 150 Feet

Topographic Map

N
W E
S

BOTANICAL SURVEY

FOR
10770 CALYPSO LANE
(A.P.N. 119-090-35)
MENDOCINO CALIFORNIA
MENDOCINO COUNTY

prepared by:
William Maslach
32915 Nameless Lane
Fort Bragg, California 95437
(707) 964-4547
geobotanical@mcn.org

August 2006

SUMMARY

A survey on an approximately 7.5-acre parcel zoned rural-residential was conducted to locate rare plants, streams, and wetlands within the Project Site. An unpaved road and residence occur on the Project Site. Two small perennial streams occur on the parcel; no rare plants were detected during the surveys.

Development plans are submitted outside of all 100-foot ESHA buffers.

BACKGROUND / PROJECT DESCRIPTION

The botanical survey was conducted as a condition of the permit necessary to build within the Coastal Zone in Mendocino County. A building envelope was identified that was outside of any 100-foot buffer from an ESHA. Any building can occur outside of the 100-foot ESHA buffers.

The purpose of the study was to describe the existing vegetation communities, survey the parcel for special-status plant species, vegetation communities, stream, and wetlands, and recommend appropriate mitigation measures that help to reduce the impacts to wetland-, riparian-, and rare plant-buffers, which are considered Environmentally Sensitive Habitat Areas (ESHA's) under the Mendocino County Local Coastal Plan (Mendocino County, 1991).

PROJECT SITE DESCRIPTION

The Project Site is a 7.5-acre parcel zoned rural-residential east of Highway 1 and within the California Coastal Zone. It is located at located at 10770 Calypso Lane (A.P.N. 119-090-35) Mendocino, California. It occurs on portions of the NE ¼ of Section 29 and NW ¼ of Section 30, Township 17 N, Range 17 W of the Mount Diablo Base Meridian.

Soils are mapped as the Shinglemill-Gibney complex with 2 to 9% slopes (Natural Resource Conservation Service, 2001) neither soil is listed as a hydric soil (NRCS 1995). Topography is steep with few flat areas and most of the flat areas occur adjacent to the road.

Improvements to the Project Site include the existing roads and residence.

Vegetation on the site is predominantly a forest of mixed conifers such as grand fir (*Abies grandis*), Douglas-fir (*Pseudotsuga menziesii*), and bishop pine (*Pinus muricata*) with tan oak (*Lithocarpus densiflorus*). The building site is a small meadow of mostly exotic grasses. Perennial creeks occur on the southern and northern parcel boundaries.

METHODS

A field survey for botanical and wetland resources was conducted on the Project Site on May 15, June 12, July 15, and August 12, 2006. The survey protocol was based on Guidelines for Assessing the Effects of Proposed Developments on Rare, Threatened, and Endangered Plants and Plant Communities developed by James Nelson (CDFG 2000). The rare plants and plant communities considered in the survey are the native plants of limited abundance in California with known occurrence or distribution in Mendocino County, and were derived from the following lists:

May - Aug 2006

- species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act;
- species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act;
- species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act;
- plants listed by the California Native Plant Society (CNPS) as "presumed extinct" in California (List 1A);
- plants considered by CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2);
- plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4), which may be included as special-status species on the basis of local significance or recent biological information;
- plants of regional or specific interest not on any list above.

These special-status plants were further segregated regionally based on known occurrence on the project area USGS 7.5' quadrangle (Mendocino) for the Study Area and the adjacent quadrangles (Fort Bragg, Noyo Hill, Mathison Peak, Elk, and Albion). The regional assessment utilized the California Native Plant Society's (CNPS) electronic inventory (CNPS 2006) and the California Department of Fish and Game's (CDFG), Natural Diversity Data Base Rare Find (CDFG 2006). These special-status species and all other species derived from the aforementioned lists, their associated habitats, and their potential for occurrence in the project area are listed in Table 1. Vegetation descriptions are based on Sawyer and Keeler-Wolf (1995), Holland (1986), and California Department of Fish and Game (2003).

BLOOMING PERIOD

A floristic and seasonally appropriate survey was conducted in the field at the time of year when rare, threatened, or endangered species are both evident and identifiable for all species expected to occur in the Study Area.

Table 1. Special-Status Plants of Potential Occurrence on the Project Site. This table is derived from federal, state, and CNPS–listed plant species, including plants of regional significance. Explanation of column headings:

FED: federal status includes federally rare (FR), threatened (FT), or endangered (FE)

STATE: California state status includes rare (CR), threatened (CT), or endangered (CE)

CNPS: California Native Plant Society ranked inventory of native California plants thought to be at risk,

- List 1A (1A) Presumed extinct in California.
- List 1B (1B) Rare, threatened, or endangered in California and elsewhere.
- List 2 (2) Rare, threatened or endangered in California but more common elsewhere.
- List 3 (3) More information needed, a review list.
- List 4 (4) Species of limited distribution, a watch list.

A Threat Code extension has been added following the CNPS List (e.g. 1B.1, 2.2 etc.)

Threat Code extensions and their meanings:

- .1 – Seriously endangered in California
- .2 – Fairly endangered in California
- .3 – Not very endangered in California

CNDDB ELEMENT RANK

GRANK: Global Ranking - The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range.

SPECIES OR NATURAL COMMUNITY LEVEL

- G1 = Less than 6 viable element occurrences (Eos) OR less than 1,000 individuals OR less than 2,000 acres.
- G2 = 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres.
- G3 = 21-80 Eos OR 3,000-10,000 individuals OR 10,000-50,000 acres.
- G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat.
- G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world.

SUBSPECIES LEVEL

Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety. For example: *Chorizanthe robusta* var. *hartwegii*. This plant is ranked G2T1. The G-rank refers to the whole species range i.e., *Chorizanthe robusta* The T-rank refers only to the global condition of var. hartwegii.

SRANK: STATE RANKING - The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank.

- S1 = Less than 6 viable Eos OR less than 1,000 individuals OR less than 2,000 acres
  - S1.1 = very threatened
  - S1.2 = threatened
  - S1.3 = not very threatened OR no current threats known
- S2 = 6-20 Eos OR 1,000-3,000 individuals OR 2,000-10,000 acres
  - S2.1 = very threatened
  - S2.2 = threatened
  - S2.3 = not very threatened OR no current threats known
- S3 = 21-80 Eos or 3,000-10,000 individuals OR 10,000-50,000 acres
  - S3.1 = very threatened
  - S3.2 = threatened
  - S3.3 = not very threatened OR no current threats known
- S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.
- S5 = Demonstrably secure to ineradicable in California. NO THREAT RANK.

Notes:

1. Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take a bird's eye or aerial view when ranking sensitive elements rather than simply counting Eos.
2. Uncertainty about the rank of an element is expressed in two major ways:
   - By expressing the rank as a range of values: e.g., S2S3 means the rank is somewhere between S2 and S3.
   - By adding a ? to the rank: e.g., S2? This represents more certainty than S2S3, but less than S2.
3. Other symbols
   - GH - All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists (SH = All California sites are historical).
   - GX - All sites are extirpated; this element is extinct in the wild (SX = All California sites are extirpated).
   - GXC - Extinct in the wild; exists in cultivation.
   - G1Q - The element is very rare, but there are taxonomic questions associated with it.
   - T - Rank applies to a subspecies or variety.

TAXON	COMMON NAME	CNPS	FED	STATE	CNDDB ELEMENT RANK		HABITAT REQUIREMENTS	HABITAT IN PROJECT SITE
					GRANK	SRANK		
Abronia umbellata ssp. breviflora	pink sand-verbena	1B.1	-	-	G4G5T2	S2.1	coastal dunes	No
Agrostis blasdalei	Blasdale's bent grass	1B.2	-	-	G2	S2.2	coastal bluff scrub, coastal dunes, coastal prairie	No
Agrostis clivicola var. punta-reyesensis	Point Reyes bent grass	NL			G3T1Q	S1.2	coastal bluff. Endemic to Point Reyes Peninsula but known from two locations on near Stewart's Point	No
Angelica lucida	Sea-watch	4.2	-	-	G5	S2S3	coastal bluffs, beaches	No
Arctostaphylos canescens ssp. sonomensis	Sonoma manzanita	1B.2			G3G4T2	S2.1	chaparral, lower montane coniferous forest/sometimes serpentinite. Inland from the coast.	No
Arctostaphylos mendocinoensis	pygmy manzanita	1B.2	-	-	G1	S1?	closed cone coniferous forest (acidic sandy clay)	No
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	1B.1			G3T2?	S2?	chaparral, lower montane coniferous forest (openings)/rocky, often serpentinite. Inland from the coast.	No
Astragalus agnicidus	Humboldt milk-vetch	1B.1	-	-	G1	S1.1	broadleaf upland forests, North Coast coniferous forests / disturbed areas	Marginal
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	1B.2	-	-	G3?T2	S2.2	coastal dunes (mesic), marshes and swamps, (coastal salt, and streamsides)	No
Blennosperma nanum var. robustum	Point Reyes blennosperma	1B.2	-	CR	G4T1	S1.2	coastal prairie, coastal scrub. Known only from Glass Beach, Fort Bragg on the Mendocino coast.	No
Boschniakia hookeri	small groundcone	2.3	-	-	G5	S1S2	North Coast coniferous forest	Yes
Calamagrostis bolanderi	Bolander's reed grass	4.2	-	-	G3	S3.2	bogs & fens, broadleaf upland forests, closed cone coniferous forest, coastal scrub, meadows (mesic), marshes & swamps (freshwater), North Coast coniferous forests / mesic	Yes
Calamagrostis crassiglumis	Thurber's reed grass	2.1	-	-	G3Q	S1.2	coastal scrub (mesic)	No
Calamagrostis foliosa	leafy reed grass	4.2	-	CR	G3	S3.2	coastal bluff scrub, North Coast coniferous forest /rocky. Most occurrences from the King Range	No
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	1B.2	-	-	G4T2	S2.2	coastal dunes, coastal scrub	No
Campanula californica	swamp harebell	1B.2	-	-	G3	S3.2	bogs & fens, closed cone coniferous forest, coastal prairie, meadows, marshes & swamps (freshwater), North Coast coniferous forests / mesic	Yes
Cardamine pachystigma var. dissectifolia	dissected-leaved toothwort	3	-	-	G?T3?	S2S3	chaparral, lower montane coniferous forest / usually serpentinite, rocky. Above 700'	No
Carex arcta		2.2			G5	S1S2	bogs and fens, North Coast coniferous forest (mesic)	Yes
Carex californica	California sedge	2.3	-	-	G5	S2?	bogs & fens, closed cone coniferous forest, coastal prairie, meadows, marshes & swamps (margins)	Yes

TAXON	COMMON NAME	CNPS	FED	STATE	CNDDB ELEMENT RANK		HABITAT REQUIREMENTS	HABITAT IN PROJECT SITE
					GRANK	SRANK		
Carex lenticularis var. limnophila	lakeshore sedge	2.2			G5T5	S1S2.2	costal swamps and bogs, North Coast coniferous forests (mesic)	Yes
Carex livida	livid sedge	1A	-	-	G5	SH	bogs & fens	No
Carex lyngbyei	Lyngbye's sedge	2.2	-	-	G5	S2.2	marshes & swamps (brackish or freshwater)	No
Carex saliniformis	deceiving sedge	1B.2	-	-	G2	S2.2	coastal prairie, coastal scrub, meadows, marshes & swamps (coastal salt) / mesic	No
Carex viridula var. viridula	green sedge	2.3	-	-	G5T5	S1.3	bogs & fens, marshes & swamps (freshwater). North Coast coniferous forests (mesic)	Yes
Castilleja affinis ssp. litoralis	Oregon coast paintbrush	2.2	-	-	G4G5T4	S2.2	coastal bluff scrub, coastal dunes, coastal scrub/sandy	No
Castilleja ambigua ssp. humboldtiensis	Humboldt Bay owl's clover	1B.2	-	-	G4T2	S2.2	marshes & swamps (coastal salt)	No
Castilleja mendocinensis	Mendocino coast paintbrush	1B.2	-	-	G2	S2.2	coastal bluff scrub, closed cone coniferous forest, coastal dunes, coastal prairie, coastal scrub	No
Ceanothus gloriosus var. exaltatus	glory bush	4.3	-	-	G4T3	S3.3	chaparral	Yes
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	4.3	-	-	G5T3	S3.3	coastal bluff scrub, closed cone coniferous forest, coastal dunes, coastal scrub / sandy	No
Chorizanthe howellii	Howell's spineflower	1B.2	FE	CT	G1	S1.2	coastal dunes, coastal prairie, coastal scrub / sandy	No
Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	1B.1	-	-	G5T2	S2.1	coastal bluff scrub, coastal scrub	No
Collinsia corymbosa	round-headed Chinese houses	1B.2	-	-	G1	S1.2	coastal dunes	No
Cupressus goveniana ssp. pigmaea	pygmy cypress	1B.2	-	-	G2T2	S2.2	closed cone coniferous forest (podzol-like soil)	No
Erigeron supplex	supple daisy	1B.2	-	-	G1	S1.1	coastal bluff scrub, coastal prairie	No
Eriogonum kelloggii	Kellogg's buckwheat	1B.2			G1	S1.2	Inland from the coast. Most collections on Red Mountain where it is possibly endemic.	No
Erysimum menziesii ssp. menziesii	Menzies's wallflower	1B.1	FE	CE	G3?T2	S2.1	coastal dunes	No
Erythronium revolutum	coast fawn lily	2.2	-	-	G4	S2.2	margins of swamps, bogs, or wooded streams, broadleafed upland forest, North Coast coniferous forest / mesic, streambanks	Marginal
Fritillaria roderickii	Roderick's fritillary	1B.1	-	CE	G1Q	S1.1	coastal bluff scrub, coastal prairie, valley & foothill grasslands	No
Gilia capitata ssp. chamissonis	dune gilia	1B.1	-	-	G5T2	S2.1	coastal dunes, coastal scrub	No
Gilia capitata ssp. pacifica	Pacific gilia	1B.2	-	-	G5T3T4	S2.2?	coastal bluff scrub, coastal prairie	No
Gilia capitata ssp. tomentosa	wolly-headed gilia	1B.1	-	-	G5T1	S1.1	Known from only three occurrences near Tomales and Salt Pt. SP.	No
Gilia millefoliata	dark-eyed gilia	1B.2	-	-	G2	S2.2	coastal dunes	No
Glyceria grandis	American mana grass	2.3	-	-	G5	S1.3?	bogs and fens, meadows and seeps, marshes and swamps (streambanks and lake margins)	Marginal

TAXON	COMMON NAME	CNPS	FED	STATE	CNDDB ELEMENT RANK		HABITAT REQUIREMENTS	HABITAT IN PROJECT SITE
					GRANK	SRANK		
Hemizonia congesta ssp. leucocephala	Hayfield tarplant	3	-	-	G5T2T3	S2S3	coastal scrub, valley and foothill grassland	No
Hesperevax sparsiflora ssp. brevifolia	short-leaved evax	2.2	-	-	G4T3	S3.2	coastal bluff scrub (sandy)	No
Horkelia marinensis	Point Reyes horkelia	1B.2	-	-	G2	S2.2	coastal dunes, coastal prairie, coastal scrub / sandy	No
Horkelia tenuiloba	thin-lobed horkelia	1B.2	-	-	G2	S2.2	broadleafed upland forest, chaparral/mesic openings, sandy	Yes
Juncus supiniformis	hair-leaved rush	2.2	-	-	G5	S2.2?	bogs & fens, marshes & swamps (freshwater) / near coast	No
Lasthenia conjugens	Contra Costa goldfields	1B.1	FE	-	G1	S1.1	cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools/mesic	No
Lasthenia macrantha ssp. bakeri	Baker's goldfields	1B.2	-	-	G3TH	SH	closed cone coniferous forest (openings), coastal scrub	Marginal
Lasthenia macrantha ssp. macrantha	perennial goldfields	1B.2	-	-	G3T2	S2.2	coastal bluff scrub, coastal dunes, coastal scrub	No
Lilium maritimum	coast lily	1B.1	-	-	G2	S2.1	broadleaf upland forests, closed cone coniferous forest, coastal prairie, coastal scrub, marshes & swamps (freshwater), North Coast coniferous forests	Yes
Lotus formosissimus	coastal lotus	4.2	-	-	G4	S3.2	broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland/wetlands, roadsides	Yes
Lycopodium clavatum	running-pine	2.3	-	-	G5	S2S3	marshes & swamps, North Coast coniferous forests (mesic)	Yes
Microseris borealis	northern microseris	2.1	-	-	G4?	S1.1	bogs and fens, lower montane coniferous forest, meadows and seeps/mesic. 3000-6000' elevation	No
Microseris paludosa	microseris	1B.2			G2	S2.2	closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland . No specific locations for Mendocino County based on CNPS website. Mendocino County not suspected habitat based on range.	No
Mitella caulescens	leafy-stemmed mitrewort	4.2	-	-	G5	S4.2	broadleaf upland forests, lower montane coniferous forests, meadows, North Coast coniferous forests / mesic	Yes
Monotropa uniflora	Indian pipe	2.2	-	-	G5	S2S3	broadleafed upland forest, north Coast coniferous forest. Not known from Mendocino County.	No
Phacelia insularis var. continentus	North Coast phacelia	1B.2	-	-	G2T1	S1.2	coastal bluff scrub, coastal dunes / sandy	No
Pinus contorta ssp. bolanderi	Bolander's beach pine	1B.2	-	-	G5T3	S3.2	closed cone coniferous forest (podzol-like soil). Not found south of Cameron Ridge.	No

TAXON	COMMON NAME	CNPS	FED	STATE	CNDDB ELEMENT RANK		HABITAT REQUIREMENTS	HABITAT IN PROJECT SITE
					GRANK	SRANK		
Pleuropogon hooverianus	North Coast semaphore grass	1B.1	-	CT	G1	S1.1	broadleafed upland forest. meadows and seeps, North Coast coniferous forest/open areas, mesic	Marginal
Pleuropogon refractus	nodding semaphore grass	4.2	-	-	G4	S3.2?	lower montane coniferous forests, meadows, North Coast coniferous forests, riparian forests / mesic	Yes
Potentilla hickmanii	Hickman's cinquefoil	1B.1			G1	S1.1	coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater)	No
Puccinellia pumila	dwarf alkali grass	2.2	-	-	G4?	S1.1?	marshes & swamps (coastal salt)	No
Rhynchospora alba	white-beaked rush	2.2	-	-	G5	S3.2	bogs & fens, meadows, marshes & swamps (freshwater)	No
Sanguisorba officinalis	great burnet	2.2	-	-	G5?	S2.2	bogs & fens, broadleaf upland forests, meadows, marshes & swamps, North Coast coniferous forests, riparian forests / often serpentine	Yes
Senecio bolanderi var. bolanderi	seacoast ragwort	2.2	-	-	G4T4	S1.2	coastal scrub, North Coast coniferous forests	Yes
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	1B.2	-	-	G5T2	S2.2	marshes & swamps (freshwater. near coast)	No
Sidalcea malachroides	maple-leaved checkerbloom	4.2	-	-	G3	S3.2	broadleaf upland forests, coastal prairie, coastal scrub, North Coast coniferous forests / often disturbed areas	Yes
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2			G5T1	S1.1	coastal bluff scrub. coastal prairie. North Coast coniferous forest /often roadcuts. One collection 2 miles south of Albion in roadside ditch.	No
Sidalcea malviflora ssp. purpurea	purple-stemmed checkerbloom	1B.2	-	-	G5T2	S2.2	broadleaf upland forests, coastal prairie	Marginal
Triquetrella californica	coastal triquetrella	1B.2	-	-	G1	S1.2	coastal bluff scrub. coastal scrub/soil	No
Usnea longissima	long-beard lichen	-	-	-	G1	S1.1	semi-open canopy forests, old-growth forests	Yes
Veratrum fimbriatum	fringed false-hellebore	4.3	-	-	G3	S3.3	bogs & fens, coastal scrub, meadows, North Coast coniferous forests (mesic)	Yes
Viburnum ellipticum	oval-leaved viburnum	2.3			G5	S2.3	chaparral, cismontane woodland, lower montane coniferous forest. Inland from the coast.	No
Viola adunca	dog violet	-	-	-	-	-	coastal prairie, meadows	Marginal
Viola palustris	marsh violet	2.2	-	-	G5	S1S2	coastal scrub (mesic), bogs & fens (coastal)	No

SURVEY RESULTS

DOCUMENTED SPECIES PRESENCE

The wetlands and species with regional known occurrence having potential habitat in the project site were surveyed for presence (Table 1). Species without potential habitat in the Project Site were considered, but surveys were focused on those with potential habitat. The survey results of detected special-status species were recorded (Table 2) and drawn on a map of the Project Site (Figure 1). Species that are listed in Table 1 but not below in Table 2 were not detected.

Table 2. Wetlands and Special-Status Plants Documented on the Project Site.

SCIENTIFIC NAME	COMMON NAME	CNPS RANK	POPULATION SIZE
Veratrum fimbriatum	corn-lily	4.3	5 individuals
-	creek	-	two small creeks

Wetlands

Creeks – Two small creeks occur on the Project Site. The creek on the northern portion of the parcel has an incised channel about 15" wide and about 2' deep. A small amount of water was flowing during the time of the last survey. Vegetation along the creek had an open canopy of a few red alder (*Alnus rubra*) and tan oak (*Lithocarpus densiflorus*). The herbaceous layer along the creek was made up of sword fern (*Polystichum munitum*), horsetail (*Equisetum telmateia*), and sugar scoops (*Tiarella trifoliata* var. *unifoliata*).

The creek on the southern portion of the parcel has a steeply incised channel about 1/5' wide and about 1.5' – 2.5'. The creek was flowing with a small amount of water at the time of the last survey, and several pools occur within the creekbed. Vegetation along the creek has a relatively closed canopy of grand fir (*Abies grandis*) tan oak, and Douglas fir (*Pseudotsuga menziesii*) with an understory of sword fern, thimbleberry (*Rubus parviflorus*), and lady fern (*Athyrium filix-femina*).

Veratrum fimbriatum – or corn-lily is a perennial plant with leaves that look like corn. It has large white blooms of many small flowers when the plants are growing in sufficient sunlight. It is always associated with wet areas such as moist soil in forests, wet meadow, and along streambanks.

This plant is not considered "rare" or "endangered", rather it is a special-status plant placed on a watch-list (CNPS, 2006). Nonetheless, the California Department of Fish and Game strongly recommends that plants on the CNPS List 3 and List 4 be considered in the environmental review process. No disturbance to the plants will occur because they occur in the creek that is over 100' from the proposed building envelope.

North Coast coniferous forest best describes the mix of conifers dominant on the building site. Douglas-fir, Bishop pine (*Pinus muricata*), grand fir, and tan oak occur on the site with an understory of sweet vernal grass (*Anthoxanthum odoratum*) and sword fern.

Building site – The building site is an old clearing along the road. The vegetation is primarily exotic grasses such as purple velvet grass (*Holcus lanatus*) and sweet vernal grass (*Anthoxanthum odoratum*) with patches of pampas grass (*Cortaderia jubata*) and thimbleberry.

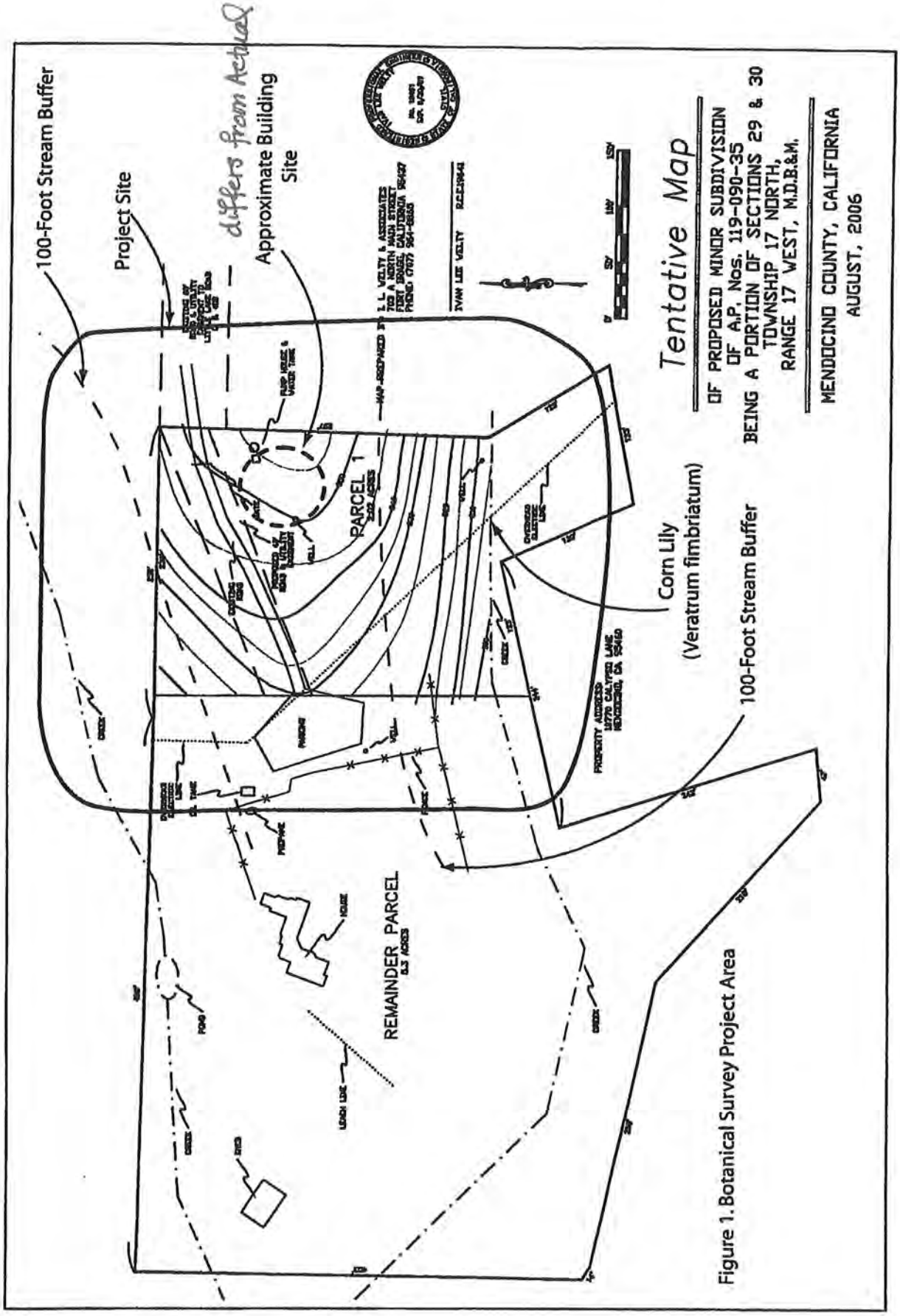


Figure 1. Botanical Survey Project Area

FLORISTIC SURVEY

A floristic survey was completed for the surveyed area; all plants encountered were documented (Appendix A). Taxonomy follows Hickman (1993).

DISCUSSION and MITIGATION

The purpose of the survey was to identify a building envelope that does not occur within 100' of an ESHA. The proposed building site does not occur within an ESHA or a 100-foot buffer from an ESHA.

REFERENCES

California Department of Fish and Game (CDFG). 2000. "Guidelines for Assessing the Effects of Proposed Developments on Rare, Threatened, and Endangered Plants and Plant Communities." Developed by James Nelson. Sacramento, California.

California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch (CDFG). May 2003 Edition. California Natural Diversity Database, List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database.

California Department of Fish and Game (CDFG). 2006. Habitat Conservation Division. Natural Diversity Data Base. Rare Find 3.

California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). California Native Plant Society. Sacramento, CA. Accessed from http://www.cnps.org/inventory

Hickman, James C., Ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Holland, Robert F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game. Sacramento, California.

Mendocino County. 1985 (Revised 1991). Mendocino County General Plan Coastal Element.

Mendocino County. 1991. Mendocino County Coastal Zoning Code. Title 20 – Division II of the Mendocino County Code.

Natural Resources Conservation Service, US Department of Agriculture. December 15, 1995. National Hydric Soils List by State, Hydric Soils of California. http://soils.usda.gov/use/hydric/lists/state.html

Natural Resource Conservation Service. 2001. Mendocino County Soil Survey, Western Part.

US Geological Survey. Mendocino 7.5 minute topographic quadrangle.

APPENDIX

Appendix A. List of Plant Species Documented in the Study Area.

Appendix A. List of Plant Species Documented in the Study Area.

GROUP	FAMILY	SCIENTIFIC NAME	COMMON NAME	NATIVE
FERNS AND ALLIES				
	Dryopteridaceae			
		Athyrium filix-femina var. cyclosorum	lady fern	Y
		Polystichum munitum	western sword fern	Y
	Equisetaceae			
		Equisetum telmateia ssp. braunii	giant horsetail	Y
GYMNOSPERMS				
	Pinaceae			
		Abies grandis	grand fir; lowland fir	Y
		Pinus muricata	bishop pine; prickle-cone pine	Y
		Tsuga heterophylla	western hemlock	Y
DICOTS				
	Anacardiaceae			
		Toxicodendron diversilobum	poison oak	Y
	Apiaceae			
		Sanicula crassicaulis	Pacific sanicle, Gamble Weed	Y
	Asteraceae			
		Cirsium vulgare	bull thistle	N
		Erechtites glomerata	New Zealand fireweed	N
		Gnaphalium purpureum	purple everlasting	Y
		Hypochaeris radicata	rough cat's ear, hairy cat's ear	N
		Madia madioides	woodland madia	Y
		Senecio jacobaea	tansy ragwort	N
		Sonchus oleraceus	common sow thistle	N
	Berberidaceae			
		Berberis aquifolium	Oregon grape	Y
	Betulaceae			
		Alnus rubra	red alder	Y
	Caprifoliaceae			
		Lonicera hispidula var. vacillans	hairy honeysuckle	Y
		Sambucus racemosa var. racemosa	red elderberry	Y
	Ericaceae			
		Gaultheria shallon	salal	Y
		Rhododendron macrophyllum	California rose-bay	Y
		Vaccinium ovatum	California huckleberry	Y
		Vaccinium parvifolium	red huckleberry	Y
	Fabaceae			
		Cytisus scoparius	Scotch broom	N
		Medicago polymorpha	California burclover	N
		Trifolium dubium	shamrock	N
		Trifolium repens	white clover	N
		Vicia sativa ssp. sativa	spring vetch	N
	Fagaceae			
		Lithocarpus densiflorus var. densiflorus	tanoak	Y
	Grossulariaceae			
		Ribes menziesii	canyon gooseberry	Y

GROUP	FAMILY	SCIENTIFIC NAME	COMMON NAME	NATIVE
	Myricaceae			
		Myrica californica	wax-myrtle	Y
	Oxalidaceae			
		Oxalis oregana	redwood sorrel	Y
	Philadelphaceae			
		Whipplea modesta	yerba de selva	Y
	Primulaceae			
		Trientalis latifolia	woodland star	Y
	Rosaceae			
		Rosa gymnocarpa	wood rose	Y
		Rubus discolor	Himalaya-berry	N
		Rubus parviflorus	thimbleberry	Y
		Rubus spectabilis	salmon berry	Y
		Rubus ursinus	California blackberry	Y
	Rubiaceae			
		Galium aparine	common bedstraw	Y
	Saxifragaceae			
		Tiarella trifoliata var. unifoliata	foamflower, sugar-scoops	Y
	Scrophulariaceae			
		Digitalis purpurea	purple foxglove	N
	Violaceae			
		Viola sempervirens	redwood violet	Y
MONOCOTS				
	Liliaceae			
		Disporum hookeri		Y
		Trillium ovatum	western wakerobin	Y
		Veratrum fimbriatum	fringed false-hellebore	Y
	Orchidaceae			
		Calypso bulbosa	fairy slipper	Y
		Corallorhiza maculata	spotted coralroot	Y
		Goodyera oblongifolia	rattlesnake plantain	Y
	Poaceae			
		Aira caryophyllea	silver European hairgrass	N
		Anthoxanthum odoratum	sweet vernal grass	N
		Briza maxima	rattlesnake grass	N
		Briza minor	little quaking grass	N
		Bromus levipes		Y
		Cortaderia jubata	Andes grass	N
		Elymus glaucus ssp. glaucus	blue wildrye; blue wild rye	Y
		Hierochloe occidentalis	western sweetgrass	Y
		Holcus lanatus	common velvetgrass	N
		Lolium multiflorum	Italian ryegrass	N
		Poa kelloggii	Kellogg's bluegrass	Y

Teresa R Spade, AICP
Spade Natural Resources Consulting
PO Box 1503
Mendocino, CA 95460
phone: 707-397-1802
spadenrc@gmail.com

To: Juliana Cherry, Planner III
County of Mendocino

Date: September 9, 2019

Re: CDP 2018-0012 Sheppard Botanical Update Report Clarifications

Dear Ms. Cherry:

In your hold letter, dated August 26, 2019, you request clarifications regarding the recently submitted botanical update letter for CDP 2018-0012 Sheppard. Those clarifications are provided as follows:

The update letter incorrectly indicates on page one of the letter that the soils are mapped as Abalobadiah – Bruhel – Vizcaino complex soils. This was a holdover from the template, and I apologize for the confusion. The soil report included as Appendix D of the update letter correctly shows the mapped soil type as Shinglemill-Gibney complex, 2-9 percent slopes. I have revised page one of the update letter to be consistent with the Appendix D. That page is attached.

You suggest that Shinglemill-Gibney soils are likely to be hydric and are associated with pygmy type vegetation.

The Shinglemill -Gibney complex is comprised of 45% Shinglemill soils, which are a hydric soil type, 5% Tregoning soils, which are hydric, and 5% Tropaquepts which are hydric. The remainder of soils are non-hydric. The USDA hydric soils list can be found at https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

On the subject property, no potential wetland areas were observed outside of the mapped riparian area. Neither the original report by Mr. Maslach nor my follow up letter called out any potential wetlands in the project area. A follow up soil analysis in unwarranted.

Pygmy forest is generally associated with Blacklock and Aborigine soils. Although small areas of Blacklock are found in the Shinglemill-Gibney complex, most areas of Shinglemill-Gibney soils are not pygmy. As shown in the plant list, no rare pygmy vegetation was found on or near the site.

Your letter suggests that the onsite mixed coniferous forest includes three special status sensitive natural communities, and should therefore be considered ESHA. In response to your letter, I consulted with Todd Keeler-Wolf and Diana Hickson of Department of Fish and Wildlife. Per their input, I am classifying the surrounding forest as Grand Fir Forest (Abies grandis Forest Alliance (G4 S2.1). I have been informed that Department of Fish and Wildlife no longer views only high quality stands as worthy of protection. This is because some examples of rare types could be restored and are therefore still

valuable and worthy of protection. Based on this new information, I agree that the Grand Fir Forest surrounding the project area, although not old growth or a high-quality stand, should qualify as Other Resource Areas ESHA per DFW guidance.

I am therefore providing a revised map, showing the onsite forest as Grand Fir Forest. I am also providing a reduced buffer analysis.

Sincerely,

Teresa R Spade, AICP
Spade Natural Resources Consulting

REVISED REDUCED BUFFER ANALYSIS
SUPERSEDING 8-27-2019

Table 4. Sec. 20.496.020 ESHA -- Development Criteria

(A) Buffer Areas. *A buffer area shall be established adjacent to all environmentally sensitive habitat areas. The purpose of this buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from degradation resulting from future developments and shall be compatible with the continuance of such habitat areas.*

Reduced buffer areas are being established for the Grand Fir Forest, an Other Resource Area.

(1) Width. *The width of the buffer area shall be a minimum of one hundred (100) feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning staff, that one hundred (100) feet is not necessary to protect the resources of that particular habitat area from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas and shall not be less than fifty (50) feet in width. New land division shall not be allowed which will create new parcels entirely within a buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent Environmentally Sensitive Habitat Area.*

The recommended width of the buffer area for Grand Fir Forest is 50 feet. For streams and riparian areas, the buffer width is recommended to be 100 feet. The proposed development would be located outside of the Grand Fir Forest but within the buffer area, as close as 5 feet to the Grand Fir Forest.

Standards for determining the appropriate width of the buffer area are as follows:
(1a) Biological Significance of Adjacent Lands.
Lands adjacent to a wetland, stream, or riparian habitat area vary in the degree to which they are functionally related to these habitat areas. Functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance depends upon the habitat requirements of the species in the habitat area (e.g., nesting, feeding, breeding, or resting). Where a significant functional relationship exists, the land supporting this relationship shall also be considered to be part of the ESHA, and the buffer zone shall be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationships exist, the buffer shall be measured from the edge of the wetland, stream, or riparian habitat that is adjacent to the proposed development.

No functional relationships are noted. Lands adjacent to the Grand Fir Forest are non-native grasslands with invasive plant species present. There are no wetlands, streams or riparian habitats between the Grand Fir Forest and non-native grassland. The riparian area and streams are over 100 feet from the development area and are not subject to the reduced buffer analysis.
Table 4. Sec. 20.496.020 ESHA -- Development Criteria.

(1b) Sensitivity of Species to Disturbance. *The width of the buffer zone shall be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination shall be based on the following after consultation with the Department of Fish and Game or others with similar expertise: (1b-i) Nesting, feeding, breeding, resting, or other*

habitat requirements of both resident and migratory fish and wildlife species; (1b-ii) An assessment of the short-term and long-term adaptability of various species to human disturbance; (1b-iii) An assessment of the impact and activity levels of the proposed development on the resource.

Special status species that may be present in the Grand Fir Forest include special status and nesting birds, special status bats and Sonoma tree vole. If these species are present within 100 feet of the development area, they are already adapted to human disturbance, since there are residences on both the east and west sides of the subject property.

(1c) Susceptibility of Parcel to Erosion. *The width of the buffer zone shall be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel and to what degree the development will change the potential for erosion. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development should be provided.*

The project area is relatively flat.

(1d) Use of Natural Topographic Features to Locate Development. *Hills and bluffs adjacent to ESHA's shall be used, where feasible, to buffer habitat areas. Where otherwise permitted, development should be located on the sides of hills away from ESHA's. Similarly, bluff faces should not be developed, but shall be included in the buffer zone.*

The property slopes downward towards the river, however this slope location is less than 50 feet from the forest edge. The proposed 50 foot buffer is more protective than use of natural topographic features.

(1e) Use of Existing Cultural Features to Locate Buffer Zones. *Cultural features (e.g., roads and dikes) shall be used, where feasible, to buffer habitat areas. Where feasible, development shall be located on the side of roads, dikes, irrigation canals, flood control channels, etc., away from the ESHA.*

There are no existing cultural features that could be used to delineate a buffer zone.

(1f) Lot Configuration and Location of Existing Development. *Where an existing subdivision or other development is largely built-out and the buildings are a uniform distance from a habitat area, at least that same distance shall be required as a buffer zone for any new development permitted. However, if that distance is less than one hundred (100) feet, additional mitigation measures (e.g., planting of native vegetation) shall be provided to ensure additional protection. Where development is proposed in an area that is largely undeveloped, the widest and most protective buffer zone feasible shall be required.*

As seen on GoogleEarth arial photography, surrounding development is closer than 50 feet to the Grand Fir Forest.

(1g) Type and Scale of Development Proposed. *The type and scale of the proposed development will, to a large degree, determine the size of the buffer zone necessary to protect the ESHA. Such evaluations shall be made on a case-by-case basis depending upon the resources involved, the degree to which adjacent lands are already developed, and the type of development already existing in the area.*

The proposed development consists of a single family residence and associated development. Residences are commonly in and near forests.

(2) Configuration. *The buffer area shall be measured from the nearest outside edge of the ESHA (e.g., for a wetland from the landward edge of the wetland; for a stream from the landward edge of riparian vegetation or the top of the bluff).*

The buffer areas are measured from the nearest outside edge of the dripline of trees and other vegetation, interpreted from aerial photography.

(3) Land Division. *New subdivisions or boundary line adjustments shall not be allowed which will create or provide for new parcels entirely within a buffer area.*

No new subdivisions or boundary line adjustments are proposed.

(4) Permitted Development. *Development permitted within the buffer area shall comply at a minimum with the following standards:*

Development would be located within the buffer area of the following sensitive resources: Grand fir forest. Development within this area would include a single family residence and associated development.

(4a) Development shall be compatible with the continuance of the adjacent habitat area by maintaining the functional capacity, their ability to be self-sustaining and maintain natural species diversity.

With the exception of the relocation of the driveway, development will not require removal of trees or other vegetation within the forested area. No impacts will occur to the forest that would change functional capacity or species diversity. Driveway relocation is occurring within the approved driveway easement.

(4b) Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel.

The least damaging place for the proposed structures is within the existing non-native grassland. There is no other feasible less damaging location on the property.

(4c) Development shall be sited and designed to prevent impacts which would degrade adjacent habitat areas. The determination of the best site shall include consideration of drainage, access, soil type, vegetation, hydrological characteristics, elevation, topography, and distance from natural stream channels. The term "best site" shall be defined as the site having the least impact on the maintenance of the biological and physical integrity of the buffer strip or critical habitat protection area and on the maintenance of the hydrologic capacity of these areas to pass a one hundred (100) year flood without increased damage to the coastal zone natural environment or human systems.

The best site is within the non-native grassland.

(4d) Development shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity.

Development is proposed within the non-native grassland. There is no other feasible site on the parcel. There will not be any riparian vegetation lost as a result of this project.

(4e) Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1, which are lost as a result of development under this solution.

There is no other feasible less impacting location as discussed above.

(4f) Development shall minimize the following: impervious surfaces, removal of vegetation, amount of bare soil, noise, dust, artificial light, nutrient runoff, air pollution, and human intrusion into the wetland and minimize alteration of natural landforms.

Development is designed to minimize impacts.

(4g) Where riparian vegetation is lost due to development, such vegetation shall be replaced at a minimum ratio of one to one (1:1) to restore the protective values of the buffer area.

No riparian or wetland vegetation will be lost.

(4h) Above ground structures shall allow peak surface water flows from a one hundred (100) year flood to pass with no significant impediment.

The project is not located in a 100 year flood zone.

(4i) Hydraulic capacity, subsurface flow patterns, biological diversity, and/or biological or hydrological processes, either terrestrial or aquatic, shall be protected.

With the recommended mitigation measures included in the botanical study, all hydrology and biologic processes are expected to be protected and maintained.

(4j) Priority for drainage conveyance from a development site shall be through the natural stream environment zones, if any exist, in the development area. In the drainage system design report or development plan, the capacity of natural stream environment zones to convey runoff from the completed development shall be evaluated and integrated with the drainage system wherever possible. No structure shall interrupt the flow of groundwater within a buffer strip. Foundations shall be situated with the long axis of interrupted impermeable vertical surfaces oriented parallel to the groundwater flow direction. Piers may be allowed on a case by case basis.

The project area is relatively flat and stormwater runoff is not expected to result in detrimental impacts to the forest.

(4k) If findings are made that the effects of developing an ESHA buffer area may result in significant adverse impacts to the ESHA, mitigation measures will be required as a condition of project approval. Noise barriers, buffer areas in permanent open space, land dedication for erosion

control, and wetland restoration, including off-site drainage improvements, may be required as mitigation measures for developments adjacent to environmentally sensitive habitats. (Ord. No. 3785 (part), adopted 1991)

Mitigation measures are included to assure the project as a whole will not result in impacts to sensitive resources.

SUPERSEDED SEE 2-6-2020

Table 4. Sec. 20.496.020 ESHA -- Development Criteria.

(A) Buffer Areas. *A buffer area shall be established adjacent to all environmentally sensitive habitat areas. The purpose of this buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from degradation resulting from future developments and shall be compatible with the continuance of such habitat areas.*

Reduced buffer areas are being established for the Grand Fir Forest, an Other Resource Area.

(1) Width. *The width of the buffer area shall be a minimum of one hundred (100) feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning staff, that one hundred (100) feet is not necessary to protect the resources of that particular habitat area from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the Environmentally Sensitive Habitat Areas and shall not be less than fifty (50) feet in width. New land division shall not be allowed which will create new parcels entirely within a buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent Environmentally Sensitive Habitat Area.*

The recommended width of the buffer area is 50 feet.

Standards for determining the appropriate width of the buffer area are as follows:

(1a) Biological Significance of Adjacent Lands.

Lands adjacent to a wetland, stream, or riparian habitat area vary in the degree to which they are functionally related to these habitat areas. Functional relationships may exist if species associated with such areas spend a significant portion of their life cycle on adjacent lands. The degree of significance depends upon the habitat requirements of the species in the habitat area (e.g., nesting, feeding, breeding, or resting).

Where a significant functional relationship exists, the land supporting this relationship shall also be considered to be part of the ESHA, and the buffer zone shall be measured from the edge of these lands and be sufficiently wide to protect these functional relationships. Where no significant functional relationships exist, the buffer shall be measured from the edge of the wetland, stream, or riparian habitat that is adjacent to the proposed development.

No functional relationships are noted. Lands adjacent to the Grand Fir Forest are non-native grasslands with invasive plant species present. There are no wetlands, streams or riparian habitats between the Grand Fir Forest and non-native grassland. The riparian area and streams are over 100 feet from the development area and are not subject to the reduced buffer analysis.

Table 4. Sec. 20.496.020 ESHA -- Development Criteria.

(1b) Sensitivity of Species to Disturbance. *The width of the buffer zone shall be based, in part, on the distance necessary to ensure that the most sensitive species of plants and animals will not be disturbed significantly by the permitted development. Such a determination shall be based on the following after consultation with the Department of Fish and Game or others with similar expertise:*

(1b-i) Nesting, feeding, breeding, resting, or other habitat requirements of both resident and migratory fish and wildlife species;

(1b-ii) An assessment of the short-term and long-term adaptability of various species to human disturbance;

(1b-iii) An assessment of the impact and activity levels of the proposed development on the resource.

Special status species that may be present in the Grand Fir Forest include special status and nesting birds, special status bats and Sonoma tree vole. If these species are present within 100 feet of the development area, they are already adapted to human disturbance, since there are residences on both the east and west sides of the subject property.

(1c) Susceptibility of Parcel to Erosion. *The width of the buffer zone shall be based, in part, on an assessment of the slope, soils, impervious surface coverage, runoff characteristics, and vegetative cover of the parcel and to what degree the development will change the potential for erosion. A sufficient buffer to allow for the interception of any additional material eroded as a result of the proposed development should be provided.*

The project area is relatively flat.

(1d) Use of Natural Topographic Features to Locate Development. *Hills and bluffs adjacent to ESHA's shall be used, where feasible, to buffer habitat areas. Where otherwise permitted, development should be located on the sides of hills away from ESHA's. Similarly, bluff faces should not be developed, but shall be included in the buffer zone.*

The property slopes downward towards the river, however this slope location is less than 50 feet from the forest edge. The proposed 50 foot buffer is more protective than use of natural topographic features.

Table 4. Sec. 20.496.020 ESHA -- Development Criteria.

(1e) Use of Existing Cultural Features to Locate Buffer Zones. *Cultural features (e.g., roads and dikes) shall be used, where feasible, to buffer habitat areas. Where feasible, development shall be located on the side of roads, dikes, irrigation canals, flood control channels, etc., away from the ESHA.*

SUPERSEDED SEE 2-6-2020

There are no existing cultural features that could be used to delineate a buffer zone.

(1f) Lot Configuration and Location of Existing Development. *Where an existing subdivision or other development is largely built-out and the buildings are a uniform distance from a habitat area, at least that same distance shall be required as a buffer zone for any new development permitted. However, if that distance is less than one hundred (100) feet, additional mitigation measures (e.g., planting of native vegetation) shall be provided to ensure additional protection. Where development is proposed in an area that is largely undeveloped, the widest and most protective buffer zone feasible shall be required.*

As seen on GoogleEarth arial photography, surrounding development is closer than 50 feet to the Grand Fir Forest.

(1g) Type and Scale of Development Proposed. *The type and scale of the proposed development will, to a large degree, determine the size of the buffer zone necessary to protect the ESHA. Such evaluations shall be made on a case-by-case basis depending upon the resources involved, the degree to which adjacent lands are already developed, and the type of development already existing in the area.*

The proposed development consists of a single family residence and associated development. Residences are commonly in and near forests.

(2) Configuration. *The buffer area shall be measured from the nearest outside edge of the ESHA (e.g., for a wetland from the landward edge of the wetland; for a stream from the landward edge of riparian vegetation or the top of the bluff).*

The buffer areas are measured from the nearest outside edge of the dripline of trees and other vegetation, interpreted from aerial photography.

(3) Land Division. *New subdivisions or boundary line adjustments shall not be allowed which will create or provide for new parcels entirely within a buffer area.*

No new subdivisions or boundary line adjustments are proposed.

(4) Permitted Development. *Development permitted within the buffer area shall comply at a minimum with the following standards:*

Development would be located within the buffer area of the following sensitive resources: Grand fir forest. Development within this area would include a single family residence and associated development.

(4a) Development shall be compatible with the continuance of the adjacent habitat area by maintaining the functional capacity, their ability to be self-sustaining and maintain natural species diversity.

Development will not require removal of trees or other vegetation within the forested area. No impacts will occur to the forest that would change functional capacity or species diversity.

(4b) Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel.

The least damaging place for the proposed structures is within the existing non-native grassland. There is no other feasible less damaging location on the property.

(4c) Development shall be sited and designed to prevent impacts which would degrade adjacent habitat areas. The determination of the best site shall include consideration of drainage, access, soil type, vegetation, hydrological characteristics, elevation, topography, and distance from natural stream channels. The term "best site" shall be defined as the site having the least impact on the maintenance of the biological and physical integrity of the buffer strip or critical habitat protection area and on the maintenance of the hydrologic capacity of these areas to pass a one hundred (100) year flood without increased damage to the coastal zone natural environment or human systems.

The best site is within the non-native grassland.

(4d) Development shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity.

Development is proposed within the non-native grassland. There is no other feasible site on the parcel. There will not be any riparian vegetation lost as a result of this project.

(4e) Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1, which are lost as a result of development under this solution.

There is no other feasible less impacting location as discussed above.

(4f) Development shall minimize the following: impervious surfaces, removal of vegetation, amount of bare soil, noise, dust, artificial light, nutrient runoff, air pollution, and human intrusion into the wetland and minimize alteration of natural landforms.

Development is designed to minimize impacts.

(4g) Where riparian vegetation is lost due to development, such vegetation shall be replaced at a minimum ratio of one to one (1:1) to restore the protective values of the buffer area.

SUPERSEDED SEE 2-6-2020

No riparian or wetland vegetation will be lost.

(4h) Aboveground structures shall allow peak surface water flows from a one hundred (100) year flood to pass with no significant impediment.

The project is not located in a 100 year flood zone.

(4i) Hydraulic capacity, subsurface flow patterns, biological diversity, and/or biological or hydrological processes, either terrestrial or aquatic, shall be protected.

With the recommended mitigation measures included in the botanical study, all hydrology and biologic processes are expected to be protected and maintained.

(4j) Priority for drainage conveyance from a development site shall be through the natural stream environment zones, if any exist, in the development area. In the drainage system design report or development plan, the capacity of natural stream environment zones to convey runoff from the completed development shall be evaluated and integrated with the drainage system wherever possible. No structure shall interrupt the flow of groundwater within a buffer strip. Foundations shall be situated with the long axis of interrupted impermeable vertical surfaces oriented parallel to the groundwater flow direction. Piers may be allowed on a case by case basis.

The project area is relatively flat and stormwater runoff is not expected to result in detrimental impacts to the forest.

(4k) If findings are made that the effects of developing an ESHA buffer area may result in significant adverse impacts to the ESHA, mitigation measures will be required as a condition of project approval. Noise barriers, buffer areas in permanent open space, land dedication for erosion control, and wetland restoration, including off-site drainage improvements, may be required as mitigation measures for developments adjacent to environmentally sensitive habitats. (Ord. No. 3785 (part), adopted 1991)

Mitigation measures are included to assure the project as a whole will not result in impacts to sensitive resources.

Teresa R Spade, AICP
Spade Natural Resources Consulting
PO Box 1503
Mendocino, CA 95460 phone: 707-397-1802
spadenrc@gmail.com

August 27, 2019

UPDATE LETTER TO BOTANICAL SURVEY FOR 10770 CALYPSO LANE, MENDOCINO (APN 119-090-46)

The property was surveyed by William Maslach in May, June, July and August of 2006, as outlined in his August 2006 Botanical Survey Report. A survey update has been requested by the County and is hereby provided.

Teresa Spade of Spade Natural Resources Consulting visited the project site on April 26, May 20, June 7, and July 24, 2019, to determine if special status plants or other Environmentally Sensitive Habitat Areas were present.

According to the 2006 botanical survey report by William Maslach, streams are present offsite to the north of the property, and onsite to the south of the project area. Mr. Maslach found five corn lilies growing along the stream.

For our 2019 update, the project area and other areas of the parcel were surveyed during the bloom windows of any potentially present special status plant species. The corn lilies observed by Mr. Maslach are still present along the streamside, over 100 feet from the project area. No additional special status plants were observed. The streams are still more than 100 feet from the project area.

Scoping for the project included a California Native Plant Society (CNPS) 9 Quad Search, as well as CNDDB and BIOS searches (Appendix A, Scoping Lists). The 2006 report by William Maslach was also reviewed. Surveys were conducted by Teresa Spade of Spade Natural Resources Consulting. Teresa Spade has a BS degree in Natural Resources Planning and Interpretation from Humboldt State University, and nine years of field experience with Spade Natural Resources Consulting and Caltrans.

Soils in the project area are mapped as Shinglemill Gibney complex, 2-9% slopes (NRCS Custom Soil Report, Appendix D). The Shinglemill -Gibney complex contains 45% Shinglemill soils, 5% Tregoning soils, and 5% Tropaquepts soils, which are hydric. The remainder of soils are non-hydric.

Botanical surveys consisted of walking and observing all areas of vegetation within the mapped survey areas. Vegetation alliances were noted, and all plant species observed were listed (Appendix B). No special status plants were observed during 2018 surveys.

The forest surrounding the project area is best described as mixed coniferous forest, as is indicated in Mr. Maslach's study. The overstory species present are grand fir (*Abies grandis*), Douglas fir (*Pseudotsuga menziesii*), hemlock (*Tsuga heterophylla*), Bishop pine (*Pinus muricata*), redwood (*Sequoia sempervirens*) and

Teresa R Spade, AICP
Spade Natural Resources Consulting
PO Box 1503
Mendocino, CA 95460 phone: 707-397-1802
spadenrc@gmail.com

August 23, 2019

PAGE 1 SUPERSEDED. SEE 8-27-2019 PAGE 1.

UPDATE LETTER TO BOTANICAL SURVEY FOR 10770 CALYPSO LANE, MENDOCINO (APN 119-090-46)

The property was surveyed by William Maslach in May, June, July and August of 2006, as outlined in his August 2006 Botanical Survey Report. A survey update has been requested by the County and is hereby provided.

Teresa Spade of Spade Natural Resources Consulting visited the project site on April 26, May 20, June 7, and July 24, 2019, to determine if special status plants or other Environmentally Sensitive Habitat Areas were present.

According to the 2006 botanical survey report by William Maslach, streams are present offsite to the north of the property, and onsite to the south of the project area. Mr. Maslach found five corn lilies growing along the stream.

For our 2019 update, the project area and other areas of the parcel were surveyed during the bloom windows of any potentially present special status plant species. The corn lilies observed by Mr. Maslach are still present along the streamside, over 100 feet from the project area. No additional special status plants were observed. The streams are still more than 100 feet from the project area.

Scoping for the project included a California Native Plant Society (CNPS) 9 Quad Search, as well as CNDDB and BIOS searches (Appendix A, Scoping Lists). The 2006 report by William Maslach was also reviewed. Surveys were conducted by Teresa Spade of Spade Natural Resources Consulting. Teresa Spade has a BS degree in Natural Resources Planning and Interpretation from Humboldt State University, and nine years of field experience with Spade Natural Resources Consulting and Caltrans.

Soils in the project area are generally mapped as Abalobadiah – Bruhel – Vizcaino complex, 50 to 75% slopes, in the areas where botanical surveys occurred. The steeper riparian areas are mapped with Dystropepts, 30 to 75% slopes (NRCS Custom Soil Report, Appendix D).

Botanical surveys consisted of walking and observing all areas of vegetation within the mapped survey areas. Vegetation alliances were noted, and all plant species observed were listed (Appendix B). No special status plants were observed during 2018 surveys.

The forest surrounding the project area is best described as mixed coniferous forest, as is indicated in Mr. Maslach's study. The overstory species present are grand fir (*Abies grandis*), Douglas fir (*Pseudotsuga menziesii*), hemlock (*Tsuga heterophylla*), Bishop pine (*Pinus muricata*), redwood (*Sequoia sempervirens*) and

tanoak (*Notholithocarpus densiflorus*). The most dominant overstory species is grand fir, however it does not appear to meet the membership requirement of more than 60% cover in the tree canopy. The grand fir forest is also described as having a sparse to intermittent shrub layer and open to abundant herbaceous layer, and the shrub layer within the subject forest is too thick to allow an open to abundant herbaceous layer. The shrub layer in the forest includes black huckleberry (*Vaccinium ovatum*), rhododendron (*Rhododendron macrophyllum*), salal (*Gaultheria shallon*), red huckleberry (*Vaccinium parviflorum*), and hairy manzanita (*Arctostaphylos columbiana*), and the herbaceous layer is characterized by redwood sorrel (*Oxalis oregana*), sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), chinook brome (*Bromus laevipes*), and Oregon grape (*Berberis aquifolium*).

The project area is located in a non-native grassland dominated by purple velvet grass (*Holcus lanatus*), sweet vernal grass (*Anthoxanthum odoratum*) and hairy cat's ear (*Hypochaeris radicata*).

The red alder riparian area contains red elderberry (*Sambucus racemosa*), thimbleberry (*Rubus parviflorus*), California beeplant (*Scrophularia californica*), salmonberry (*Rubus spectabilis*), veronica (*Veronica americana*) and bugle hedge-nettle (*Stachys ajugoides*).

Sonoma tree vole and Mendocino leptonetid spider may be present in the forested areas, and special status amphibians including Pacific tailed frog, foothill yellow-legged frog, northern red-legged frog, southern torrent salamander, and red-bellied newt may be found in and near the streams. Northern red-legged frog may be found in upland areas of the site during migration. Special status bats and birds, including but not limited to Townsend's big eared bat and osprey may be found on the site. Townsend's big eared bat may be found inside the existing structures, and an osprey nest would be on a tall snag. During survey efforts, none of these species were observed, however avoidance measures would be warranted if potential habitat is to be disturbed.

Spade Natural Resources Consulting recommends the following avoidance measures:

1. Special Status Birds and Bats Avoidance

   The bird breeding season typically extends from February to August. Ideally, the clearing of vegetation and the initiation of construction 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 sites can change from year to year, so pre-construction 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.

2. Special Status Amphibian Avoidance

   If development is limited to areas at least 100 feet from streams, potential impacts to most amphibians would be avoided, however northern red-legged frog may be found during migratory times within the project area. Within two weeks prior to construction or demolition, project contractors should be trained by a qualified biologist in the identification of northern red-legged frog. 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 northern red-legged frog. If northern red-legged frog is detected, construction or demolition crews will stop all ground disturbing activities and contact the California Department of Fish and Wildlife or a qualified biologist prior to re-initiating work.
   If a rain event occurs during the construction period, all ground disturbing or construction-related activities will cease for a period of 48 hours after the rain stops. Prior to resuming ground disturbing or construction activities, trained construction crew member(s) will examine the site for the presence of northern red-legged frog. If no northern red-legged frogs are found, construction activities may resume.

3. Special Status Sonoma Tree Vole and Mendocino Leptonetid Spider Avoidance

   If trees are to be removed or if vegetation is cleared in the forest, surveys should occur first for Sonoma Tree Vole and Mendocino Leptonetid Spider.

Teresa R Spade, AICP
Spade Natural Resources Consulting

Sheppard Calypso Location Map

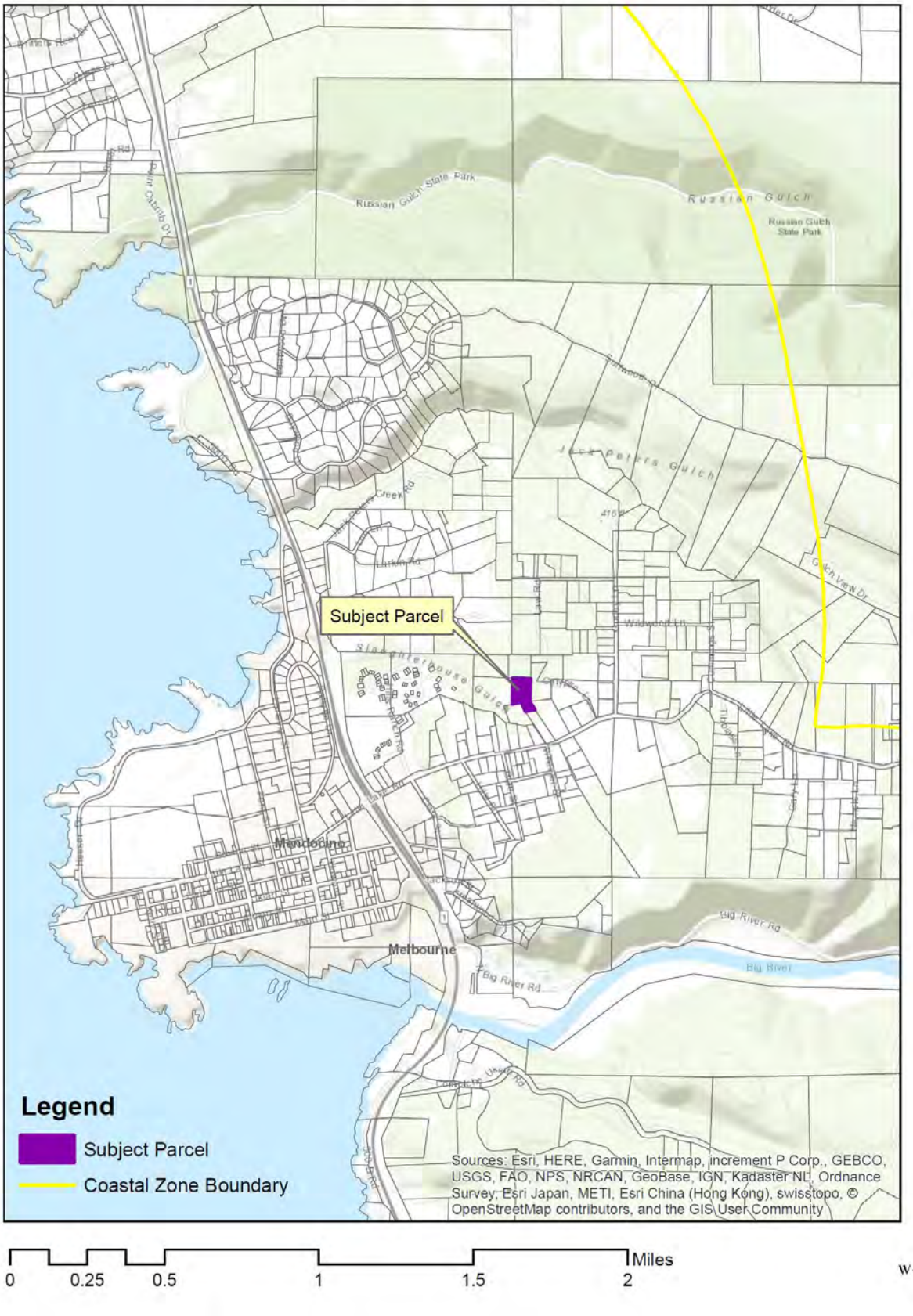
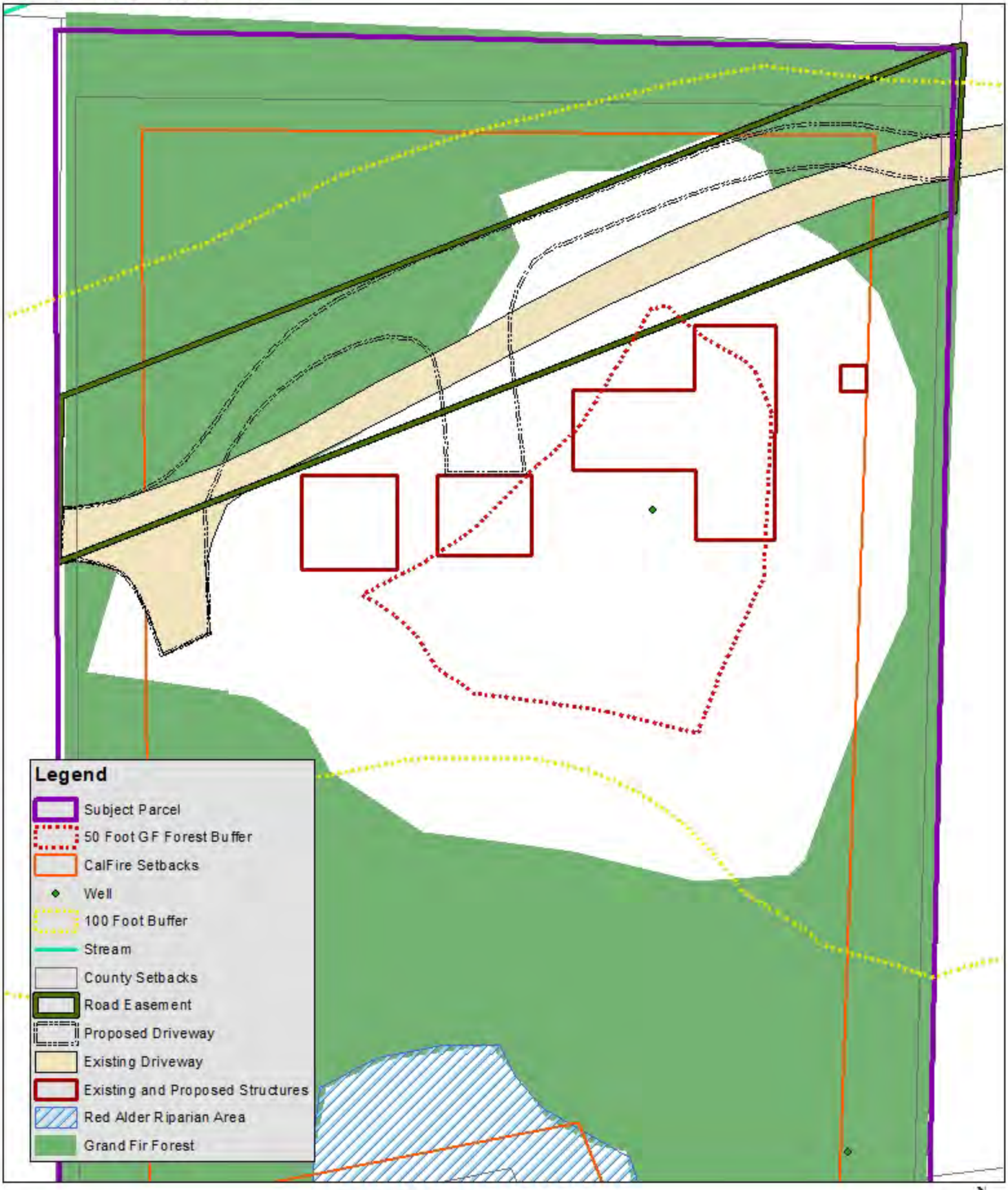


Figure 1. Project location.

Sheppard
APN 119-090-46



PBS RECEIVED 2-6-2020

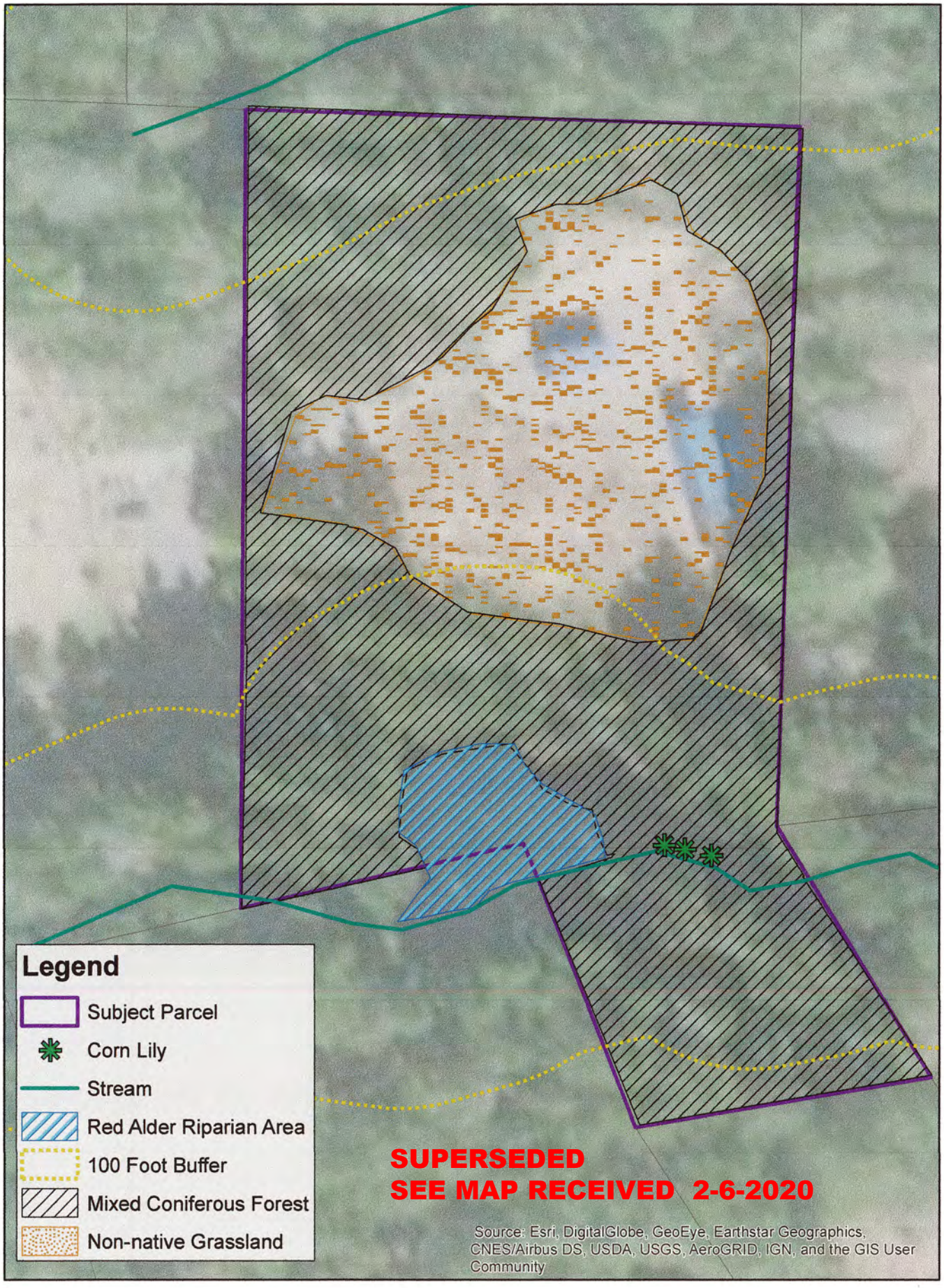
0 25 50 100 Feet

ESHA Buffer Map

APN 119-090-35
APN 119-090-46

N W E S

Sheppard Calypso ESHA Map



APN 119-090-35

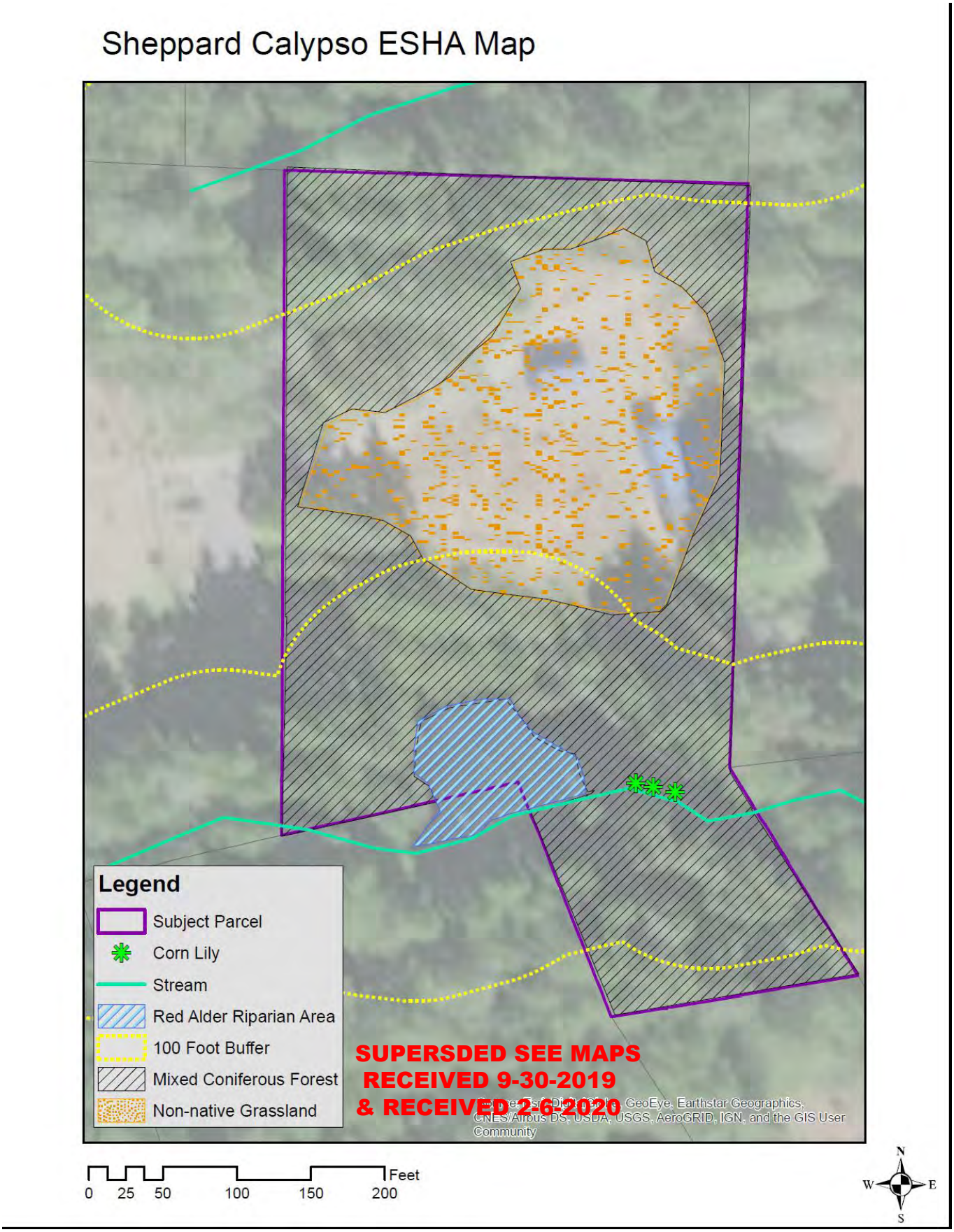


Figure 2. ESHA map.

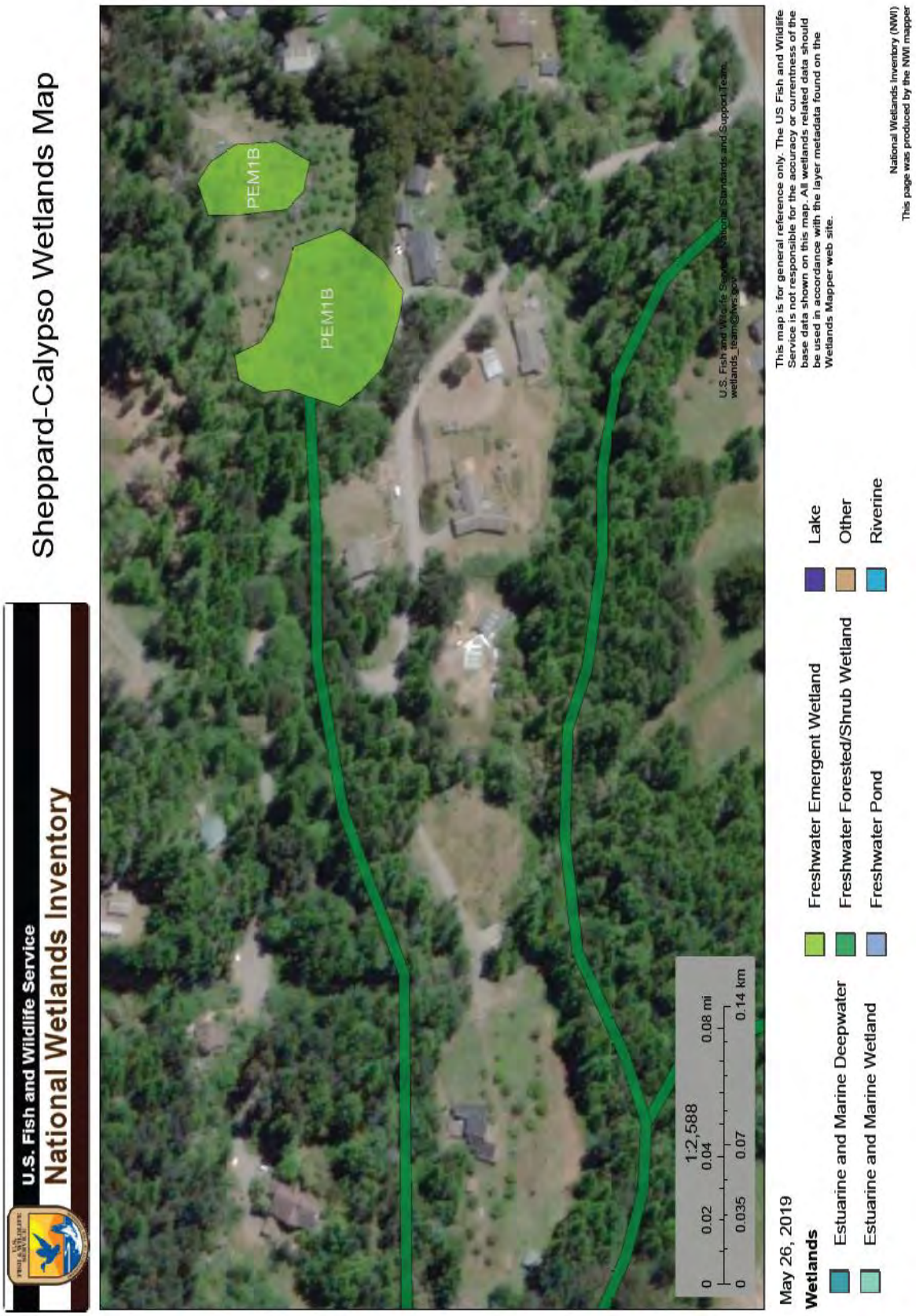


Figure 3. Wetlands Map.

Table 1. CNPS 9-QUAD Search

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

69 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 3912347, 3912346, 3912337, 3912336 3912327 and 3912326;

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
Abronia umbellata var. breviflora	pink sand-verbena	Nyctaginaceae	perennial herb	Jun-Oct	1B.1	S2	G4G5T2
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	S2	G2
Angelica lucida	sea-watch	Apiaceae	perennial herb	May-Sep	4.2	S3	G5
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	Ericaceae	perennial evergreen shrub	Jan	1B.2	S1	G3?T1
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	perennial herb	Apr-Sep	1B.1	S2	G2
Blennosperma nanum var. robustum	Point Reyes blennosperma	Asteraceae	annual herb	Feb-Apr	1B.2	S2	G4T2
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	4.2	S4	G4
Calamagrostis crassiglumis	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	2B.1	S2	G3Q
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	1B.2	S2S3	G4T2T3
Campanula californica	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3	G3
Carex californica	California sedge	Cyperaceae	perennial rhizomatous herb	May-Aug	2B.3	S2	G5
Carex lenticularis var. limnophila	lagoon sedge	Cyperaceae	perennial herb	Jun-Aug	2B.2	S1	G5T5
Carex livida	livid sedge	Cyperaceae	perennial rhizomatous herb	Jun	2A	SH	G5
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	2B.2	S3	G5
Carex saliniformis	deceiving sedge	Cyperaceae	perennial rhizomatous herb	Jun(Jul)	1B.2	S2	G2

Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	1B.2	S2	G4T2
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	2B.2	S3	G3
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	1B.2	S2	G2
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	S4	G4T4
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	4.3	S4	G4T4
Chorizanthe howellii	Howell's spineflower	Polygonaceae	annual herb	May-Jul	1B.2	S1	G1
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun(Jul)	4.3	S3	G5?
Clarkia amoena ssp. whitneyi	Whitney's farewell-to-spring	Onagraceae	annual herb	Jun-Aug	1B.1	S1	G5T1
Collinsia corymbosa	round-headed Chinese-houses	Plantaginaceae	annual herb	Apr-Jun	1B.2	S1	G1
Coptis laciniata	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	4.2	S3?	G4?
Cornus canadensis	bunchberry	Cornaceae	perennial rhizomatous herb	May-Jul	2B.2	S2	G5
Cuscuta pacifica var. papillata	Mendocino dodder	Convolvulaceae	annual vine (parasitic)	(Jun)Jul-Oct	1B.2	S1	G5T1
Erigeron supplex	supple daisy	Asteraceae	perennial herb	May-Jul	1B.2	S2	G2
Erysimum concinnum	bluff wallflower	Brassicaceae	annual / perennial herb	Feb-Jul	1B.2	S2	G3
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	1B.1	S1	G1
Fritillaria roderickii	Roderick's fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.1	S1	G1Q
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	1B.2	S2	G5T3
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3
Hesperocyparis pygmaea	pygmy cypress	Cupressaceae	perennial evergreen tree		1B.2	S1	G1
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	S2	G2

Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	S3	G3G4
Juncus supiniformis	hair-leaved rush	Juncaceae	perennial rhizomatous herb	Apr-May(Jun-Jul)	2B.2	S1	G5
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?
Lasthenia californica ssp. bakeri	Baker's goldfields	Asteraceae	perennial herb	Apr-Oct	1B.2	S1	G3T1
Lasthenia californica ssp. macrantha	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	S2	G3T2
Lathyrus palustris	marsh pea	Fabaceae	perennial herb	Mar-Aug	2B.2	S2	G5
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1	S2	G2
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
Lycopodium clavatum	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	4.1	S3	G5
Microseris borealis	northern microseris	Asteraceae	perennial herb	Jun-Sep	2B.1	S1	G5
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	4.2	S4	G5
Packera bolanderi var. bolanderi	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan-Apr)May-Jul(Aug)	2B.2	S2S3	G4T4
Phacelia insularis var. continentis	North Coast phacelia	Hydrophyllaceae	annual herb	Mar-May	1B.2	S2	G2T2
Pinus contorta ssp. bolanderi	Bolander's beach pine	Pinaceae	perennial evergreen tree		1B.2	S2	G5T2
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3
Pityopus californicus	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar-Apr)May-Aug	4.2	S4	G4G5
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	S4	G4
Puccinellia pumila	dwarf alkali grass	Poaceae	perennial herb	Jul	2B.2	SH	G4?
Ramalina thrausta	angel's hair lichen	Ramalinaceae	fruticose lichen (epiphytic)		2B.1	S2?	G5
Rhynchospora alba	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S2	G5
Sanguisorba officinalis	great burnet	Rosaceae	perennial rhizomatous herb	Jul-Oct	2B.2	S2	G5?
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Sep	1B.2	S2	G5T2
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	4.2	S3	G3
		Malvaceae			1B.2	S2	G5T2

Sidalcea malviflora ssp. patula	Siskiyou checkerbloom		perennial rhizomatous herb	(Apr)May-Aug			
Sidalcea malviflora ssp. purpurea	purple-stemmed checkerbloom	Malvaceae	perennial rhizomatous herb	May-Jun	1B.2	S1	G5T1
Tiarella trifoliata var. trifoliata	trifoliate laceflower	Saxifragaceae	perennial rhizomatous herb	(May)Jun-Aug	3.2	S2S3	G5T5
Trifolium trichocalyx	Monterey clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		1B.2	S2	G2
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4
Veratrum fimbriatum	fringed false-hellebore	Melanthiaceae	perennial herb	Jul-Sep	4.3	S3	G3
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	Mar-Aug	2B.2	S1S2	G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 23 May 2019].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The Calflora Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

Table 2. CNDDB Search Mendocino Quad

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Mendocino (3912337))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Abronia umbellata var. breviflora	pink sand-verbena	Dicots	PDNYC010N4	61	2	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive	Coastal dunes
Agrostis blasdalei	Blasdale's bent grass	Monocots	PMPOA04060	62	3	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Arborimus pomo	Sonoma tree vole	Mammals	AMAFF23030	222	2	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	Dicots	PDERI04280	7	3	None	None	G3?T1	S1	1B.2	null	Closed-cone coniferous forest
Ascaphus truei	Pacific tailed frog	Amphibians	AAABA01010	491	6	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	1	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	282	1	None	None	G2G3	S1	null	USFS_S-Sensitive, XERCES_IM-Imperiled	null
Brachyramphus marmoratus	marbled murrelet	Birds	ABNNN06010	110	1	Threatened	Endangered	G3G4	S1	null	CDF_S-Sensitive, IUCN_EN-Endangered, NABCI_RWL-Red Watch List	Lower montane coniferous forest, Oldgrowth, Redwood
Calamagrostis crassiglumis	Thurber's reed grass	Monocots	PMPOA17070	15	1	None	None	G3Q	S2	2B.1	null	Coastal scrub, Freshwater marsh, Marsh & swamp, Wetland
Calileptoneta wapiti	Mendocino leptonetid spider	Arachnids	ILARAU6040	2	1	None	None	G1	S1	null	null	North coast coniferous forest
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	Dicots	PDCON040D2	42	2	None	None	G4T2T3	S2S3	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub, North coast coniferous forest
Campanula californica	swamp harebell	Dicots	PDCAM02060	139	8	None	None	G3	S3	1B.2	BLM_S-Sensitive	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Marsh & swamp, Meadow & seep, North coast coniferous forest, Wetland

Carex californica	California sedge	Monocots	PMCYP032D0	41	12	None	None	G5	S2	2B.3	null	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Freshwater marsh, Marsh & swamp, Meadow & seep, Wetland
Carex livida	livid sedge	Monocots	PMCYP037L0	1	1	None	None	G5	SH	2A	null	Bog & fen, Wetland
Carex lyngbyei	Lyngbye's sedge	Monocots	PMCYP037Y0	29	2	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
Carex saliniformis	deceiving sedge	Monocots	PMCYP03BY0	18	2	None	None	G2	S2	1B.2	null	Coastal prairie, Coastal scrub, Marsh & swamp, Meadow & seep, Wetland
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Dicots	PDSCR0D402	31	2	None	None	G4T2	S2	1B.2	BLM_S-Sensitive	Marsh & swamp, Salt marsh, Wetland
Castilleja litoralis	Oregon coast paintbrush	Dicots	PDSCR0D012	39	1	None	None	G3	S3	2B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub
Castilleja mendocinensis	Mendocino Coast paintbrush	Dicots	PDSCR0D3N0	47	11	None	None	G2	S2	1B.2	BLM_S-Sensitive	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub
Chorizanthe howellii	Howell's spineflower	Dicots	PDPGN040C0	9	1	Endangered	Threatened	G1	S1	1B.2	null	Coastal dunes, Coastal prairie, Coastal scrub
Coastal Brackish Marsh	Coastal Brackish Marsh	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	1	None	None	G4?	S3?	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
Cornus canadensis	bunchberry	Dicots	PDCOR01040	11	1	None	None	G5	S2	2B.2	null	Bog & fen, Meadow & seep, North coast coniferous forest
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	628	1	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Cuscuta pacifica var. papillata	Mendocino dodder	Dicots	PDCUS011A2	5	1	None	None	G5T1	S1	1B.2	null	Coastal dunes
Erigeron supplex	supple daisy	Dicots	PDAST3M3Z0	21	4	None	None	G2	S2	1B.2	null	Coastal bluff scrub, Coastal prairie
Erysimum concinnum	bluff wallflower	Dicots	PDBRA160E3	30	6	None	None	G3	S2	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal prairie

Fratercula cirrhata	tufted puffin	Birds	ABNNN12010	17	2	None	None	G5	S1S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Protected deepwater coastal communities
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	83	1	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Gilia millefoliata	dark-eyed gilia	Dicots	PDPLM04130	54	1	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal dunes
Grand Fir Forest	Grand Fir Forest	Forest	CTT82120CA	9	1	None	None	G1	S1.1	null	null	null
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Dicots	PDASTE5011	56	3	None	None	G4T3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Hesperocyparis pygmaea	pygmy cypress	Gymnosperms	PGCUP04032	37	10	None	None	G1	S1	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest
Juncus supiniformis	hair-leaved rush	Monocots	PMJUN012R0	3	2	None	None	G5	S1	2B.2	null	Bog & fen, Marsh & swamp, Wetland
Lasthenia californica ssp. bakeri	Baker's goldfields	Dicots	PDAST5L0C4	19	1	None	None	G3T1	S1	1B.2	null	Closed-cone coniferous forest, Coastal scrub, Marsh & swamp, Meadow & seep
Lasthenia californica ssp. macrantha	perennial goldfields	Dicots	PDAST5L0C5	59	5	None	None	G3T2	S2	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub
Lathyrus palustris	marsh pea	Dicots	PDFAB250P0	13	1	None	None	G5	S2	2B.2	null	Bog & fen, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Lilium maritimum	coast lily	Monocots	PMLIL1A0C0	80	10	None	None	G2	S2	1B.1	null	Broadleaved upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marsh & swamp, North coast coniferous forest
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	Forest	CTT83161CA	25	11	None	None	G2	S2.1	null	null	Closed-cone coniferous forest
Microseris borealis	northern microseris	Dicots	PDAST6E030	3	1	None	None	G5	S1	2B.1	null	Bog & fen, Lower montane coniferous forest, Meadow & seep, Wetland
Mitellastra caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	1	None	None	G5	S4	4.2	null	Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Oceanodroma homochroa	ashy storm-petrel	Birds	ABNDC04030	21	1	None	None	G2	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern,	Protected deepwater coastal communities

											IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	70	3	None	None	G4T4	S2S3	2B.2	null	Coastal scrub, North coast coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	500	1	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Phacelia insularis var. continentis	North Coast phacelia	Dicots	PDHYD0C2B1	15	1	None	None	G2T2	S2	1B.2	null	Coastal bluff scrub, Coastal dunes
Pinus contorta ssp. bolanderi	Bolander's beach pine	Gymnosperms	PGPIN04081	28	14	None	None	G5T2	S2	1B.2	null	Closed-cone coniferous forest
Plebejus idas lotis	lotis blue butterfly	Insects	IILEPG5013	1	1	Endangered	None	G5TH	SH	null	XERCES_CI-Critically Imperiled	Bog & fen, Meadow & seep, Wetland
Progne subis	purple martin	Birds	ABPAU01010	71	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, Lower montane coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	290	5	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Klamath/North coast flowing waters, Riparian forest, Riparian woodland
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2379	2	None	Candidate Threatened	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	415	3	None	None	G3G4	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
Sanguisorba officinalis	great burnet	Dicots	PDROS1L060	22	1	None	None	G5?	S2	2B.2	null	Bog & fen, Broadleaved upland forest, Marsh & swamp, Meadow & seep, North coast coniferous forest, Riparian forest, Ultramafic, Wetland
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	1	None	None	G3	S3	4.2	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous

												forest, Riparian forest
Sphagnum Bog	Sphagnum Bog	Marsh	CTT51110CA	12	3	None	None	G3	S1.2	null	null	Bog & fen, Wetland
Taricha rivularis	red-bellied newt	Amphibians	AAAAF02020	136	1	None	None	G4	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, North coast coniferous forest, Redwood, Riparian forest, Riparian woodland

Table 3. California Sensitive Natural Communities A partial list of vegetation alliances, those occurring in coastal Mendocino County, is derived from the California Department of Fish and Wildlife's "Sensitive Natural Communities," (2018) (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline).

Scientific Name	Common Name	Global & State Rank
Woodland and Forest Alliances and Stands		
Abies grandis Alliance	Grand fir forest	G4 S2
Acer macrophyllum Alliance	Bigleaf maple forest	G4 S3
Alnus rubra Alliance	Red alder forest	G5 S4
Arbutus menziesii Alliance	Madrone forest	G4 S3
Hesperocyparis pigmaea Alliance	Mendocino pygmy cypress woodland	G2 S2
Hesperocyparis sargentii Alliance	Sargent cypress woodland	G3 S3
Notholithocarpus densiflorus Alliance	Tanoak forest	G4 S3
Picea sitchensis Alliance	Sitka spruce forest	G5 S2
Pinus attenuata Alliance	Knobcone pine forest	G4 S4
Pinus contorta ssp. *contorta* Alliance	Beach pine forest	G5 S3
Pinus muricata Alliance	Bishop pine forest	G3 S3
Pseudotsuga menziesii Alliance	Douglas fir forest	G5 S4
Pseudotsuga menziesii - Lithocarpus densiflorus Alliance	Douglas fir - tanoak forest	G4 S4
Salix laevigata Alliance	Red willow thickets	G3 S3
Salix lucida Alliance	Shining willow groves	G4 S3
Sequoia sempervirens Alliance	Redwood forest	G3 S3
Tsuga heterophylla Alliance	Western hemlock forest	G5 S2
Umbellularia californica Alliance	California bay forest	G4 S3
Shrubland Alliances and Stands		
Arctostaphylos (canescens, manzanita, stanfordiana) Alliance	Hoary, common and Stanford manzanita chaparral	G3 S3
Arctostaphylos glandulosa Alliance	Eastwood manzanita chaparral	G4 S4
Arctostaphylos (nummularia, sensitiva) Alliance	Glossy leaf manzanita chaparral	G2 S2
Baccharis pilularis Alliance	Coyote brush scrub	G5 S5

Broom (Cytisus scoparius and Others)	Broom patches	
Ceanothus cuneatus Alliance	Wedge leaf ceanothus chaparral; Buck brush chaparral	G4 S4
Ceanothus thyrsiflorus Alliance	Blue blossom chaparral	G4 S4
Chrysolepis chrysophylla	Gloden chinquapin thickets	G2 S2
Corylus cornuta var. *californica* Alliance	Hazelnut scrub	G3 S2?
Frangula californica Alliance	California coffee berry scrub	G4 S4
Garrya elliptica Provisional Alliance	Coastal silk tassel scrub	G3? S3?
Diplacas aurantiacus Alliance	Bush monkeyflower scrub	G3 S3?
Holodiscus discolor Alliance	Ocean spray brush	G4 S3
Lupinus arboreus scrub	Yellow bush lupine scrub	G4 S4
Morella californica Alliance	Wax myrtle scrub	G3 S3
Rhododendron columbianum Alliance	Western Labrador-tea thickets	G4 S2?
Rhododendron occidentale Provisional Alliance	Western azalea patches	G3 S2?
Rosa californica Alliance	California rose briar patches	G3 S3
Rubus (parviflorus, spectabilis, ursinus) Alliance	Coastal brambles	G4 S3
Salix hookeriana Alliance	Coastal dune willow thickets	G4 S3
Salix lasiolepis Alliance	Arroyo willow thickets	G4 S4
Salix sitchensis Alliance	Sitka willow thickets	G4 S3?

Sphagnum Bog	Sphagnum bog	G3 S1.2
Toxicodendron diversilobum Alliance	Poison oak scrub	G4 S4
Herbaceous Alliances and Stands		
Abronia latifolia–Ambrosia chamissonis Alliance	Dune mat	G3 S3
Argentina egedii Alliance	Pacific silverweed marshes	G4 S2
Bolboschoenus maritimus Alliance	Salt marsh bulrush marshes	G4 S3
Bromus carinatus –Elymus glaucus Alliance	California brome – blue wildrye prairie	G3 S3
Calamagrostis nutkaensis Alliance	Pacific reed grass meadows	G4 S2
Camassia quamash Alliance	Small camas meadows	G4? S3?
Carex obnupta Alliance	Slough sedge swards	G4 S3

Carex pansa Alliance	Sand dune sedge swaths	G4? S3?
Danthonia californica Alliance	California oat grass prairie	G4 S3
Deschampsia caespitosa Alliance	Tufted hair grass meadows	G5 S4?
Distichlis spicata Alliance	Salt grass flats	G5 S4
Eleocharis macrostachya Alliance	Pale spike rush marshes	G4 S4
Elymus glaucus Alliance	Blue wild rye meadows	G3? S3?
Festuca rubra Alliance	Red fescue grassland	G4 S3?
Festuca idahoensis Alliance	Idaho fescue grassland	G4 S3?
Glyceria xoccidentalis	Northwest manna grass marshes	G3? S3?
Grindelia (stricta) Provisional Alliance	Gum plant patches	G3? S3?
Heterotheca (sessiflora) Alliance	Goldenaster patches	G3 S3
Hordeum brachyantherum Alliance	Meadow barley patches	G4 S3?
Juncus articus (var. *balticus, mexicanus*)	Baltic and Mexican rush marshes	G5 S4
Juncus effusus Alliance	Soft rush marshes	G4 S4?
Juncus (oxymeris, xiphioides) Provisional Alliance	Iris-leaf rush seeps	G2? S2?
Juncus lescurii Alliance	Salt rush swales	G3 S2?
Juncus patens Provisional Alliance	Western rush marshes	G4? S4?
Lasthenia californica – Plantage erecta – Vulpia microstachys Alliance	California goldfields – dwarf plantain – small fescue flower fields	G4 S4
Leymus mollis Alliance	Sea lyme grass patches	G4 S2
Leymus triticoides Alliance	Creeping rye grass turfs	G5 S3
Mimulus (guttatus) Alliance	Common monkey flower seeps	G4? S3?
Nassella pulchra Alliance	Purple needle grass grassland	G4 S3?
Poa secunda Alliance	Curley bluegrass grassland	G4 S3?
Schoenoplectus acutus Alliance	Hardstem bulrush marsh	G5 S4
Schoenoplectus californicus Alliance	California bulrush marsh	G5 S4?
Scirpus microcarpus Alliance	Small-fruited bulrush marsh	G4 S2
Solidago canadensis Provisional Alliance	Canada goldenrod patches	G4? S4?
Woodwardia fimbriata	Woodwardia thicket	G3 S3.2

Aquatic Vegetation		
Azolla (*filiculoides*, *mexicana*) Provisional Alliance	Mosquito fern mats	G4 S4
Hydrocotyle (*ranunculoides*, *umbellata*) Alliance	Mats of floating pennywort	G4 S3?
Lemna (*minor*) and Relatives Provisional Alliance	Duckweed blooms	G5 S4?
Nuphar lutea Provisional Alliance	Yellow pond-lily mats	G5 S3?
Oenanthe sarmentosa Alliance	Water-parsley marsh	G4 S2?
Sarcocornia pacifica (*Salicornia depressa*) Alliance	Pickleweed mats	G4 S3
Sparganium (*angustifolium*) Alliance	Mats of bur-reed leaves	G4 S3?
Typha (*angustifolia, domingensis, latifolia*) Alliance	Cattail marshes	G5 S5

Appendix B: List of All Plant Species Documented in the Study Area

GROUP	FAMILY	BINOMIAL	COMMON NAME	NATIVE
FERNS AND ALLIES				
	Dennstaedtiaceae			
		Pteridium aquilinum var. pubescens	bracken; western bracken; hairy bracken fern	Y
	Dryopteridaceae			
		Athyrium filix-femina var. cyclosorum	subarctic lady-fern; lady fern	Y
		Polystichum munitum	western sword fern	Y
	Equisetaceae			
		Equisetum telmateia ssp. braunii	giant horsetail	Y
GYMNOSPERMS				
	Pinaceae			
		Abies grandis	grand fir; lowland fir	Y
		Pinus muricata	Bishop pine; prickle-cone pine; bull pine	Y
		Pseudotsuga menziesii var. menziesii	Douglas fir	Y
		Tsuga heterophylla	western hemlock	Y
DICOTS				
	Anacardiaceae			
		Toxicodendron diversilobum	poison oak	Y
	Apiaceae			
		Sanicula crassicaulis	Pacific sanicle, gamble weed, Pacific blacksnakeroot	Y
	Aquifoliaceae			
		Ilex aquifolium	English holly	N
	Araliaceae			
		Aralia californica	elk clover, prairie sagewort, elk's clover, California spikenard	Y
	Asteraceae			
		Anaphalis margaritacea	pearly everlasting	Y
		Anisocarpus madioides	woodland madia	Y
		Baccharis pilularis	coyote brush	Y

GROUP	FAMILY	BINOMIAL	COMMON NAME	NATIVE
		Bellis perennis	English daisy	N
		Cirsium vulgare	bull thistle	N
		Hypochaeris radicata	rough cat's ear, hairy cat's ear	N
		Senecio glomeratus	cut-leafed erechtites, New Zealand fireweed	N
		Senecio jacobaea	tansy ragwort	N
		Sonchus oleraceus	common sow thistle	N
	Berberidaceae			
		Berberis aquifolium	Oregon grape, holly leaf berberis	Y
	Betulaceae			
		Alnus rubra	red alder, Oregon alder	Y
	Boraginaceae			
		Myosotis micrantha	small-flowered forget-me-not	N
	Brassicaceae			
		Cardamine californica	bitter cress, California toothwort, milk maids	Y
	Caprifoliaceae			
		Lonicera hispidula	hairy honeysuckle	Y
		Sambucus racemosa var. racemosa	red elderberry	Y
	Ericaceae			
		Arctostaphylos columbiana	redwood manzanita, hairy manzanita	Y
		Gaultheria shallon	salal	Y
		Rhododendron macrophyllum	California rose-bay	Y
		Vaccinium ovatum	California huckleberry	Y
		Vaccinium parvifolium	red huckleberry	Y
	Fabaceae			
		Cytisus scoparius	Scotch broom	N
		Genista monspessulana	French broom	N
		Medicago polymorpha	California burclover, Bur clover, Bur medic	N
		Trifolium dubium	shamrock, Shamrock clover, Suckling clover	N
		Trifolium repens	white clover	N
		Vicia sativa ssp. sativa	spring vetch	N

GROUP	FAMILY	BINOMIAL	COMMON NAME	NATIVE
	Fagaceae			
		Notholithocarpus densiflorus var. densiflorus	tanoak	Y
	Grossulariaceae			
		Ribes menziesii	canyon gooseberry	Y
		Ribes sanguineum var. glutinosum	pink-flowering currant	Y
	Lamiaceae			
		Stachys ajugoides	bugle hedge-nettle	Y
	Myricaceae			
		Morella californica	wax-myrtle	Y
	Myrsinaceae			
		Lysimachia latifolia	Pacific starflower	Y
		Lysimachia arvensis	scarlet pimpernel, poor man's weathervane	N
	Oxalidaceae			
		Oxalis oregana	redwood sorrel	Y
	Philadelphaceae			
		Whipplea modesta	yerba de selva, modesty	Y
	Plantaginaceae			
		Digitalis purpurea	purple foxglove	N
		Plantago lanceolata	English plantain, ribwort, narrow leaved plantain, ribgrass	N
		Veronica americana	American speedwell, American brooklime	Y
	Rhamnaceae			
		Frangula purshiana	cascara sagrada, chittum, cascara buckthorn	Y
	Rosaceae			
		Rosa gymnocarpa	wood rose	Y
		Rubus armeniacus	Himalaya-berry, Himalayan blackberry	N
		Rubus parviflorus	thimbleberry	Y
		Rubus spectabilis	salmon berry	Y
		Rubus ursinus	California blackberry	Y

GROUP	FAMILY	BINOMIAL	COMMON NAME	NATIVE
	Rubiaceae			
		Galium aparine	common bedstraw; cleavers; goose-grass	Y
	Saxifragaceae			
		Heuchera micrantha	crevice alumroot	Y
		Tiarella trifoliata var. unifoliata	foamflower, sugar-scoops	Y
	Violaceae			
		Viola sempervirens	evergreen violet, redwood violet	Y
MONOCOTS				
	Iridaceae			
		Iris douglasiana	Douglas' iris	Y
	Juncaceae			
		Luzula comosa	hairy wood rush	Y
	Liliaceae			
		Disporum hookeri		Y
		Trillium ovatum	western wakerobin	Y
		Veratrum fimbriatum	fringed false-hellebore	Y
	Orchidaceae			
		Calypso bulbosa	fairy slipper	Y
		Corallorhiza maculata	spotted coralroot	Y
		Goodyera oblongifolia	rattlesnake plantain	Y
	Poaceae			
		Agrostis stolonifera	creeping bentgrass	N
		Aira caryophyllea	silver European hairgrass, hairgrass	N
		Anthoxanthum occidentalis	western sweetgrass; vanilla grass, California sweetgrass	Y
		Anthoxanthum odoratum	sweet vernal grass	N
		Briza maxima	big quaking grass; rattlesnake grass	N
		Bromus catharticus	rescue grass	N
		Bromus laevipes	Chinook brome, narrow flowered brome	Y
		Cortaderia jubata	Andes grass	N
		Dactylis glomerata	orchard-grass	N

GROUP	FAMILY	BINOMIAL	COMMON NAME	NATIVE
		Danthonia californica	California oatgrass, wild oatgrass	Y
		Elymus glaucus ssp. glaucus	blue wildrye; blue wild rye	Y
		Holcus lanatus	common velvetgrass	N
		Hordeum murinum ssp. glaucum	farmer's foxtail	N
		Poa kelloggii	Kellogg's bluegrass	Y

Appendix C: References

California Department of Fish and Wildlife (CDFW). March 20, 2018. "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities." Sacramento, California.

California Department of Fish and Wildlife (CDFW), California Natural Diversity Database RareFind 5 https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data Accessed April, 2019.

California Department of Fish and Wildlife (CDFW). April 2019. "California Natural Diversity Database, Special Animals List."

California Department of Fish and Wildlife (CDFW). January 2018. California Natural Community List. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 23 May 2019].

Holland, Robert F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game. Sacramento, California.

Jepson Flora Project (eds.) 2018. Jepson eFlora, http://ucjeps.berkeley.edu/eflora/

Mendocino County. 1985 (Revised 1991). Mendocino County General Plan Coastal Element.

Mendocino County. 1991. Mendocino County Coastal Zoning Code. Title 20 – Division II of the Mendocino County Code.

Natural Resources Conservation Service (NRCS). 2018. National Hydric Soils List. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html

United States Fish and Wildlife Service. 2018. Wetlands Mapper. Online: http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Department of Agriculture. Reissued 2006. Soil Survey of Mendocino County, California, Western Part. http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA694/0/MendocinoWP_CA.pdf

Appendix D: Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Calypso Lane

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Mendocino County, Western Part, California.....13
199—Shinglemill-Gibney complex, 2 to 9 percent slopes.....13
References.....15

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

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

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.

Custom Soil Resource Report
Soil Map

Map Scale: 1:949 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- 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
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

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: Mendocino County, Western Part, California
Survey Area Data: Version 13, Sep 17, 2018

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

Date(s) aerial images were photographed: Dec 31, 2009—Jun 13, 2017

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
199	Shinglemill-Gibney complex, 2 to 9 percent slopes	2.1	100.0%
Totals for Area of Interest		**2.1**	**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, 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

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

Map Unit Setting

National map unit symbol: hmp2
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: Fluviomarine deposits derived from sedimentary rock

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 15 inches: loam
H3 - 15 to 25 inches: clay loam
H4 - 25 to 63 inches: sandy clay

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural 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 storage in profile: High (about 9.6 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: Fluviomarine deposits derived from sandstone

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 29 inches: sandy clay loam
H3 - 29 to 55 inches: clay
H4 - 55 to 63 inches: sandy clay loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural 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 storage in profile: 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

Tregoning

Percent of map unit: 5 percent
Landform: Marine terraces
Hydric soil rating: Yes

Blacklock

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

Gibwell

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

Tropaquepts

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

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

REPORT OF COMPLIANCE

FOR

10770 CALYPSO LANE
(APN 119-090-46)
MENDOCINO, CA
MENDOCINO COUNTY

prepared for:
Noah Sheppard
PO Box 112
Albion, CA 95410

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

March 26, 2020

Report of Compliance

Background: A single family residence and associated development are proposed at 10770 Calypso Lane. The subject residence is a modular home that was moved to the site in two pieces, prior to application. The site contains a cleared area within the flat portion of the property near the roadway. According to GoogleEarth images, in around 2002 to 2003, a portion of that flat area was first cleared in association with the construction of the residence located to the east, which was at that time part of the same property. A building envelope and road easement corridor were identified on the subject parcel as a part of CDMS 28-2006. At that time, the subject forest was identified as a mixed coniferous forest, which is a common forest type. Sometime after the subdivision was approved, tree removal occurred again within the flat area of the parcel by the property owner at that time, most likely in order to improve the roadway corridor and approved building envelope. GoogleEarth imagery shows that this second tree removal incident occurred in 2010-2011.

Purpose: The Report of Compliance is required by Section 20.536.060(E) Mendocino County Coastal Zoning Code, which requires supplemental application procedures for development in Environmentally Sensitive Habitat Areas as follows:

> ***Report of Compliance.*** *A report based upon an on-site investigation which demonstrates that the development meets all of the criteria specified for development in, and proximate to, an environmentally sensitive habitat area including a description and analysis of the following performed by a qualified professional:*
>
> *(1)*
>
> *Present extent of the habitat, and if available, maps, photographs or drawings showing historical extent of the habitat area.*
>
> *(2)*
>
> *Previous and existing ecological conditions.*
>
> *(a)*
>
> *The life history, ecology and habitat requirements of the relevant resources, such as plants, fish and wildlife, in sufficient detail to permit a biologist familiar with similar systems to infer functional relationships (the maps described in above may supply part of this information).*
>
> *(b)*
>
> *Restoration potentials.*
>
> *(3)*
>
> *Present and potential adverse physical and biological impacts on the ecosystem.*
>
> *(4)*
>
> *Alternatives to the proposed development, including different projects and alternative locations.*
>
> *(5)*
>
> *Mitigation measures, including restoration measures and proposed buffer areas.*
>
> *(6)*
>
> *If the project includes dredging, explain the following:*
>
> *(a)*
>
> *The purpose of the dredging.*
>
> *(b)*

The existing and proposed depths.

(c)

The volume (cubic yards) and area (acres or square feet) to be dredged.

(d)

Location of dredging (e.g., estuaries, open coastal waters or streams).

(e)

The location of proposed spoil disposal.

(f)

The grain size distribution of spoils.

(g)

The occurrence of any pollutants in the dredge spoils.

(7)

If the project includes filling, identify the type of fill material to be used, including pilings or other structures, and specify the proposed location for the placement of the fill, the quantity to be used and the surface area to be covered.

(8)

If the project includes diking, identify on a map the location, size, length, top and base width, depth and elevation of the proposed dike(s) as well as the location, size and invert elevation of any existing or proposed culverts or tide gates.

(9)

If the project is adjacent to a wetland and may cause mud waves, a report shall be prepared by a qualified geotechnical engineer which explains ways to prevent or mitigate the problem.

(10)

Benchmark and survey data used to locate the project, the lines of highest tidal action, mean high tide, or other reference points applicable to the particular project.

(11)

Other governmental approvals as required and obtained. Indicate the public notice number of Army Corps of Engineers permit if applicable.

Investigator: Teresa R Spade, AICP (B.S. Natural Resources Planning and Interpretation, Humboldt State)

Property Address: 10770 Calypso Lane, Mendocino, CA

APN: 119-090-46

Project Area: The 2.02-acre undeveloped parcel (APN 119-090-46) is located within the California Coastal Zone, in the town of Mendocino, on the south east side of Calypso Lane, 800 feet north of its intersection with Little Lake Road (CR 408). The property relatively flat in the vicinity of the building envelope, with a south facing slope to Slaughterhouse Gulch on the south side of the building envelope, and a north facing slope on the north side of the building envelope to an unnamed stream. The building envelope is vegetated by a non-native grassland. The area surrounding the building envelope consists of a mixed coniferous forest that CDFW views as a Grand Fir Forest due to 30-45% presence of grand fir within the forest overstory mosaic, and due to the fact that the southernmost extent of the grand fir forest is found in this area. A Red Alder Forest

riparian area is present in association with the drainage to the south. The drainage to the north is off the property, more than 100 feet from the project area on private land.

Project Description: Proposed single family residence and associated residential development.

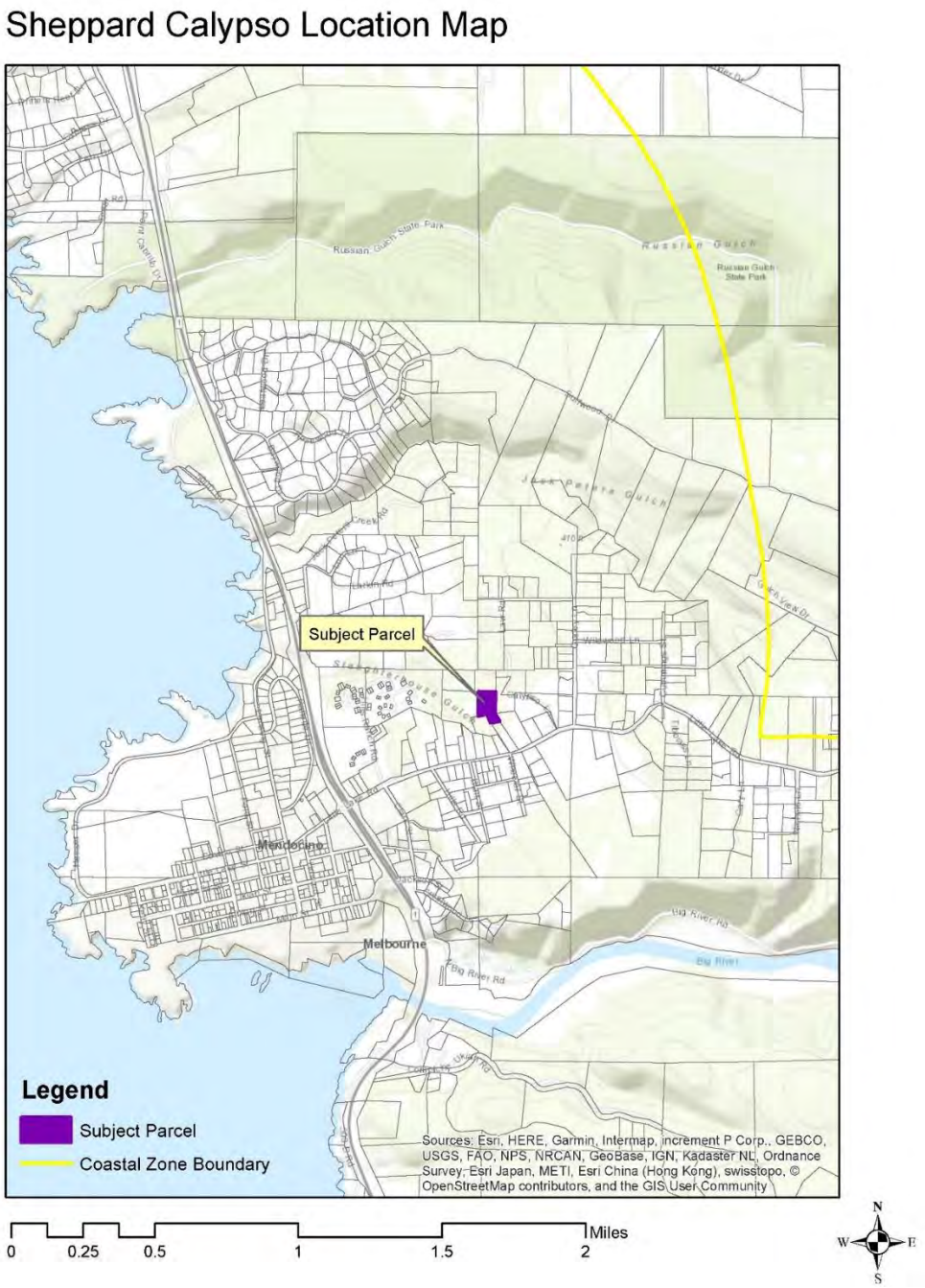


Figure 1. Project location map.

Grand Fir Forest (Abies Grandis Forest Alliance, G4, S2.1)

Present Extent of Habitat

According to the Manual of California Vegetation Online, in California, Grand Fir Forest is limited in range to coastal California, from the northern state border to Sonoma County, and as far inland as the Highway 101 corridor. Figure 2 shows the southern extent of the California range. Grand fir forest found in southern Canada and throughout the west side of Washington and Oregon states, and is also present throughout most of northern Idaho, with this inland extent stretching northward to Canada, westward into eastern Washington and Oregon, and westward into Montana, as shown in Figure 3. Populations in Mendocino County and Sonoma County are therefore the most southerly extent for this species.

Figure 2. USDA Ecological Map of Grand Fir Forest in California.

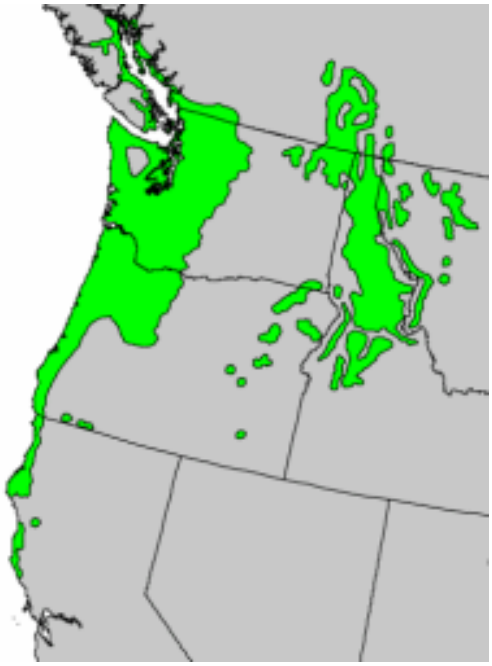


Figure 3. USGS Range Map for Grand Fir Forest

Historical Extent

The NatureServe State Rarity designation S2.1, indicates that this vegetation alliance is imperiled, at high risk of extinction or elimination due to a very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. The S2 ranking per the Manual of California Vegetation indicates that there are 6-20 viable occurrences statewide, and/or there are 518-2,590 hectares statewide. One hectare is approximately 2.47 acres, so this means that either there are only 6 to 20 occurrences of this forest type in the entire state or a maximum of around 6,397 acres statewide. According to the membership rules for this alliance type (as found on the Manual of California Vegetation Online) the membership for this alliance is limited to populations where grand fir comprises more than 60% of the cover in the tree canopy (NatureServe 2007). California Department of Fish and

Wildlife has determined that the subject site, a 2-acre residential parcel with a cover of approximately 30 to 45% grand fir, meets the grand fir forest designation. Based on this expanded and more inclusive interpretation of this forest type, which includes what was once considered mixed coniferous forest, the subject forest type is by far the most common in California (Figure 4).

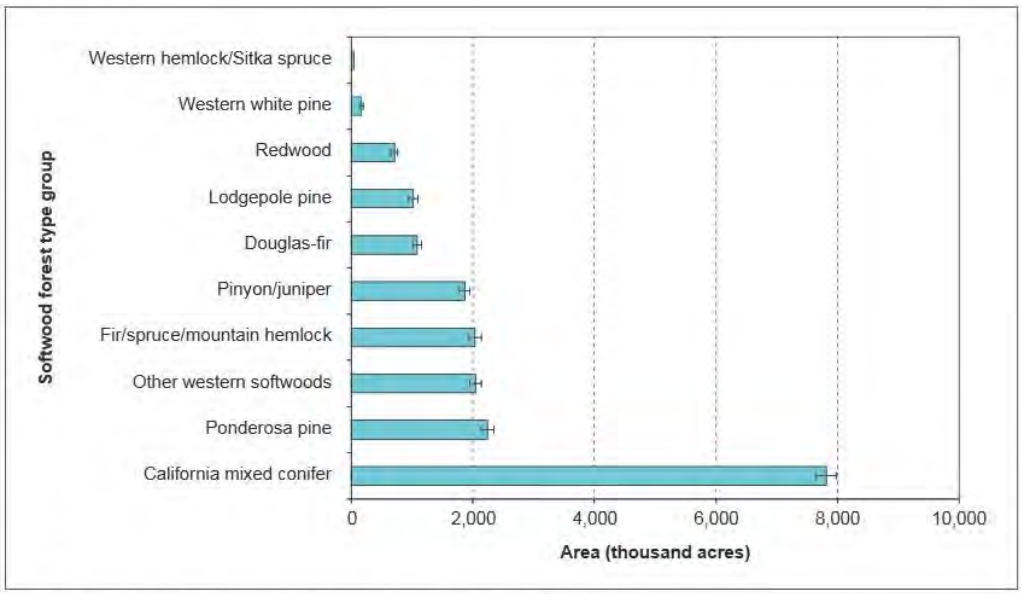


Figure 9—Area of softwood forest type groups on forest land in California, 2001–2010.

Figure 4. Forest types found in California between 2001 and 2010 (Thompson et al, 2016).

According to the US Forest Service Publication, "Area of Old Growth Forests in California, Oregon, and Washington, old growth forests in California have decreased from 9.5 million acres in around 1933 to 1945, to around 2.5 acres in 1992. This is a loss of roughly 75% of old growth forests in California over a 60 year period. These estimates do not differentiate between types of old growth forests lost, however it is feasible that the overall loss of old growth grand fir forest is comparable to the loss of other old growth forest types within this same time period.

Table 1. Forest land estimates in the Pacific Northwest,

Table 1--Productive forest land and old-growth forest area in California, Oregon, and Washington, 1933 to 1945 and 1992

State	1933 to 1945			1992 [b]		
	Productive forest	Old growth	Percent [a]	Productive forest	Old growth	Percent [a]
	--Million acres--		- % -	*--Million acres--*		- % -
California	17.1	9.5	55.6	13.1 [c]	2.5 [d]	19.1
Oregon	26.7	14.2	53.2	23.9	4.9	20.5
Washington	22.7	9.1	40.1	19.6	2.8	14.3
Total	66.5	32.8	49.3	56.6 [c]	10.3 [d]	18.2

It is important to keep in mind that surveys for forest alliances are limited in Mendocino County, and little survey data has been collected by California Department of Fish and Wildife on grand fir forests in Mendocino County, old growth or otherwise. According to a map provided by the US Forest Service in 1972 (Figure 5), most grand fir stands are found in Mendocino and Humboldt Counties, with grand fir also found in Sonoma and Del Norte Counties. Without current estimates of either intact old growth grand fir forests or estimates of mixed coniferous forest containing a grand fir component, it is not possible to accurately determine rarity status.

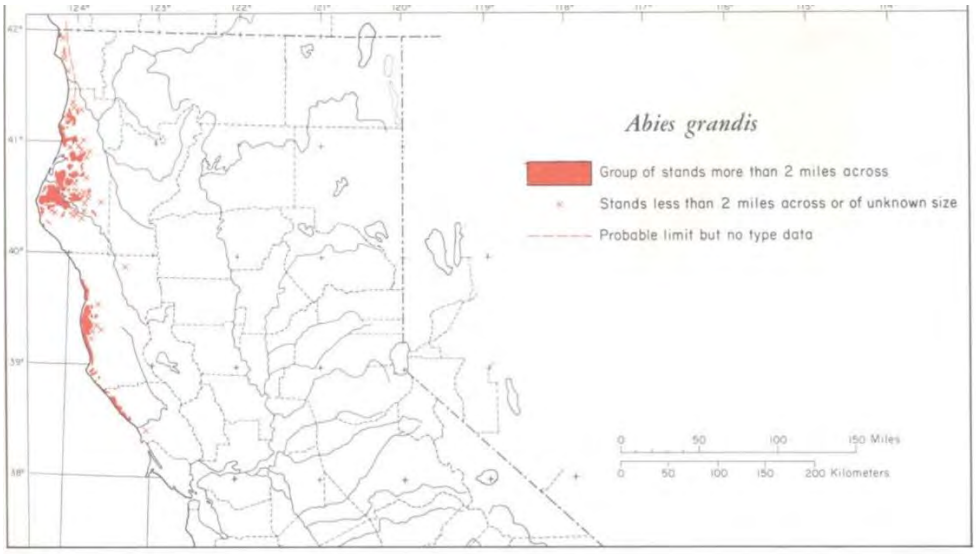


Figure 5. Stands of grand fir in California in the 1970s (Griffin & Critchfield, 1972).

Previous and Existing Ecological Conditions

Grand fir (*Abies grandis*) is a shade tolerant species with thin bark. They do not produce heavy pitch or have decay inhibiting properties. Grand firs are very susceptable to fire when young, and are susceptable to heart and root decaying fungi when more mature. They do well in areas with long fire intervals (more than 100 years). After fire, seedlings establish in open areas, and due to shade tolerance, they persist as the canopy closes. Grand firs mature at 20 to 30 years, and commonly live to around 250 years (some are known to live to 300 years). For comparison, Bishop pines generally live to around 50-80 years, and can live as long as 100 to 150 years, and redwoods commonly live 500 to 700 years and can live more than 2,000 years.

Within the neighborhood, an area approximately 200 acres in size, by 1998, around ¼ or more of the forest had already been disturbed due to residential development, as shown in Figure 6.

Figure 6. GoogleEarth 1998 aerial photograph showing forest loss due to residential and school development in 200 acre area around the subject property.

By 2018, the disturbance area has increased from ¼ to approximately 1/3, as shown in Figure 7.

Figure 7. GoogleEarth 2018 aerial photo showing approximately 1/3 of the forest has been impacted by development.

Within the parcel itself, the forest was relatively undisturbed until around 2003. Figure 8 shows the property in a relatively undisturbed state, and Figure 9 shows how a cleared area was created at around the same time a residence was built to the west. This construction and associated clearing happened when

the property was one parcel, and was approved by the County of Mendocino at a time when the LCP was in effect. Any mitigation measures warranted for that disturbance should have been addressed at the time of that development.

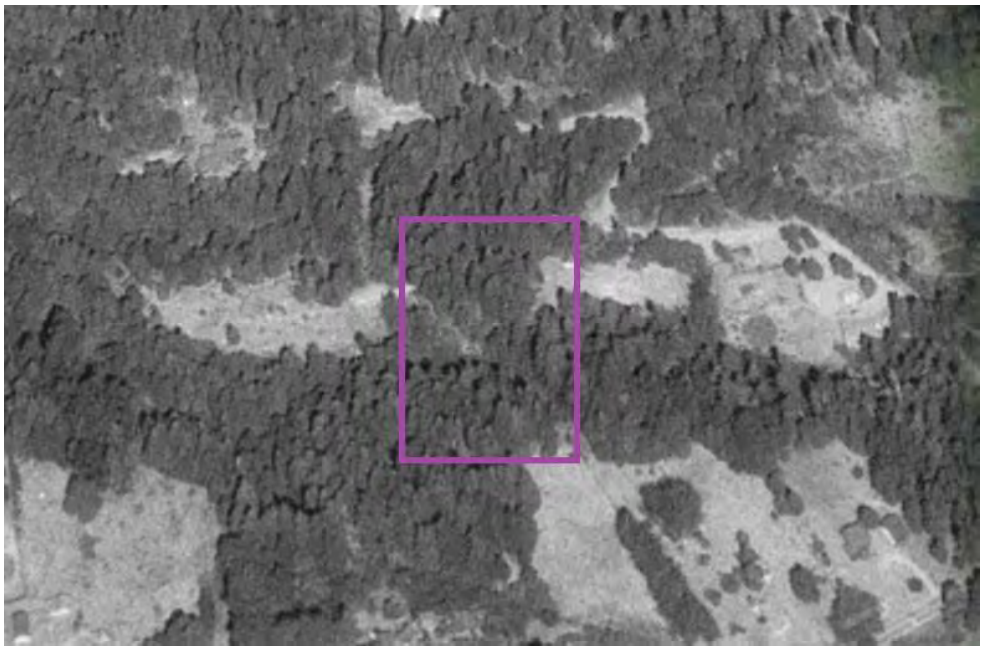


Figure 8. GoogleEarth aerial photo from 2002, showing roughly where the parcel boundaries are today, and relatively intact forest in that area. The clearing to the right was on the same parcel, as the parceel was not subdivided until later.

Figure 9. GoogleEarth aerial photo from 2003, showing how the area of the subject parcel was partially cleared when the residence was built on the same property to the right.

By 2010, the property was in about the same shape, as shown in Figure 10. Figure 11 shows how additional clearing occurred between 2010 and 2012. This was after the subdivision, which created the subject parcel, was approved.

Figure 10. GoogleEarth aerial photo from 2010, showing that the property remained relatively the same between 2003 and 2010.

Figure 11. GoogleEarth 2012 aerial photo shows how additional clearing occurred sometime between 2010 and 2012.

Subdivision CDMS 28-2006 was approved in October of 2007. The site plan for the subdivision included a building envelope and a 40’ road and utility easement as shown in Figure 12. The clearing that occurred in around 2010-2012 appears to have happened within the approved building envelope, likely in

preparation for the sale of the subdivided property, which was subsequently purchased by Sheppard in October of 2015.

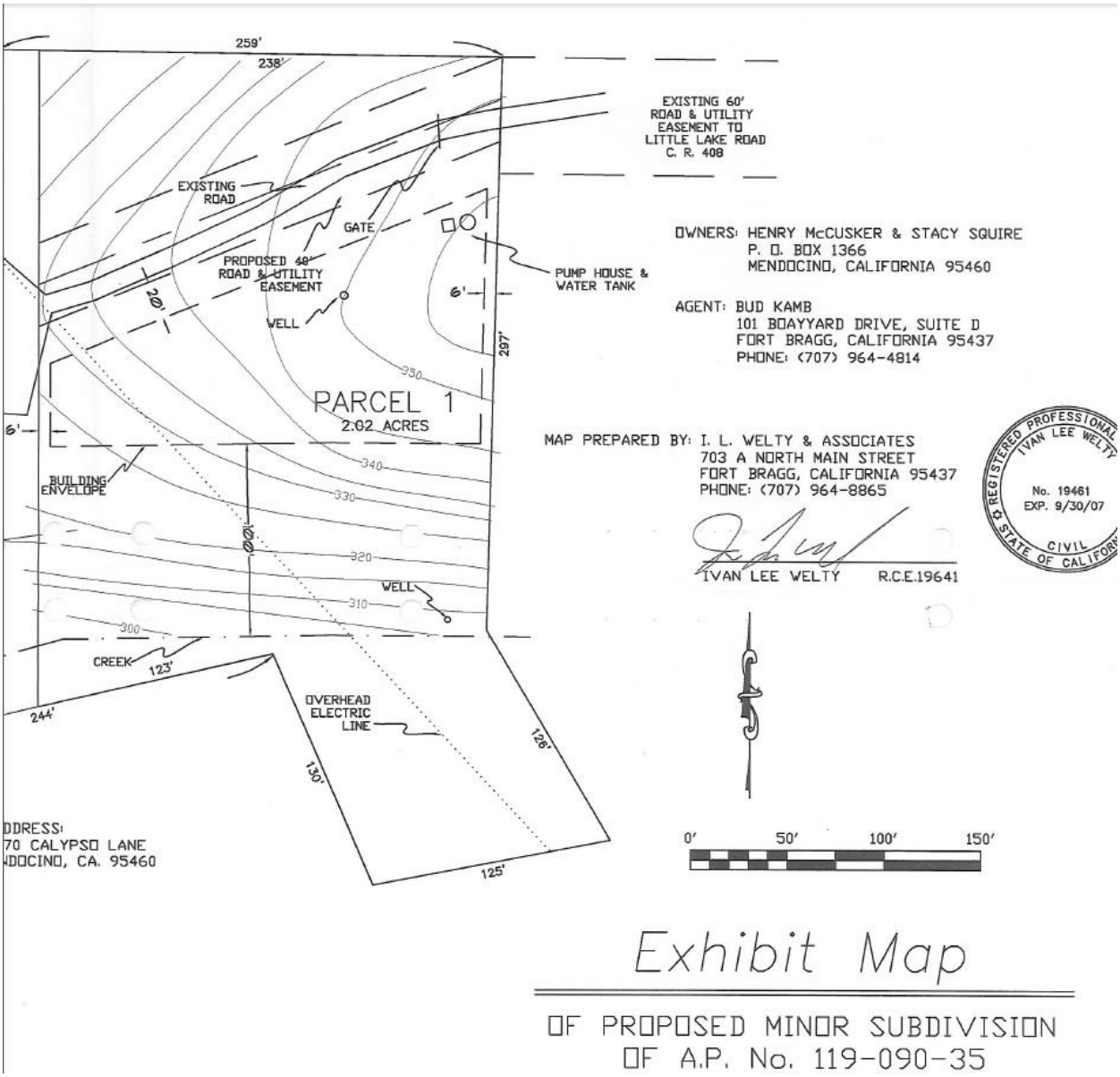


Figure 12.Building envelope and road and utility easement as shown on the subdivision map.

Alternatives to the proposed development, including different projects and alternative locations
Alternative projects: The project is located on a residentially zoned property (RR-2 [MRR-2]), and nearby development is residential. Principally permitted uses in the Rural Residential zoning district include single family residence, vacation home rental (either of which would be accommodated by the

proposed development); agricultural uses including light agriculture, row and field crops, and tree crops; and passive recreation.

Agricultural use of the 2-acre property, which is further limited by topography and sensitive areas is unrealistic. Economically feasible passive recreation in the area is accommodated to the north at the Botanical Gardens, and a small residential property would not be able to compete with the well-established 47-acre attraction. Conditionally permitted uses such as day care facilities and religious facilities would likely have a greater impact and more potential for incompatibility.

The property was purchased with the understanding that residential use is principally permitted, and nearby development is residential in nature.

Alternative locations:

The building envelope identified in association with the subdivision, and subsequently improved by the prior owner, appears to be the only feasible location for the proposed development. Within that building envelope, the following alternatives have been considered:

1. Locating development within or as close to the 50 foot Grand Fir Forest ESHA buffer. This option is shown in Figure 13 as Option A. While this option allows for less of the proposed development to be closer than 50 feet to the Grand Fir Forest, this option places development approximately 15 to 20 feet closer to streams and riparian areas, and requires about 1000 sf of additional driveway development.
2. Locating development in the disturbed area, as far as possible from streams and as close to the road easement as possible. This option is shown in Figure 14 as Option B. Due to the existing well and the need for driveway access to both accessory structures, it is not possible

to locate all of the development such that it meets a minimum 50 foot buffer to the Grand Fir Forest.

Option B is selected as the least impacting option due to the reduction in driveway development and distance from streams and riparian areas.

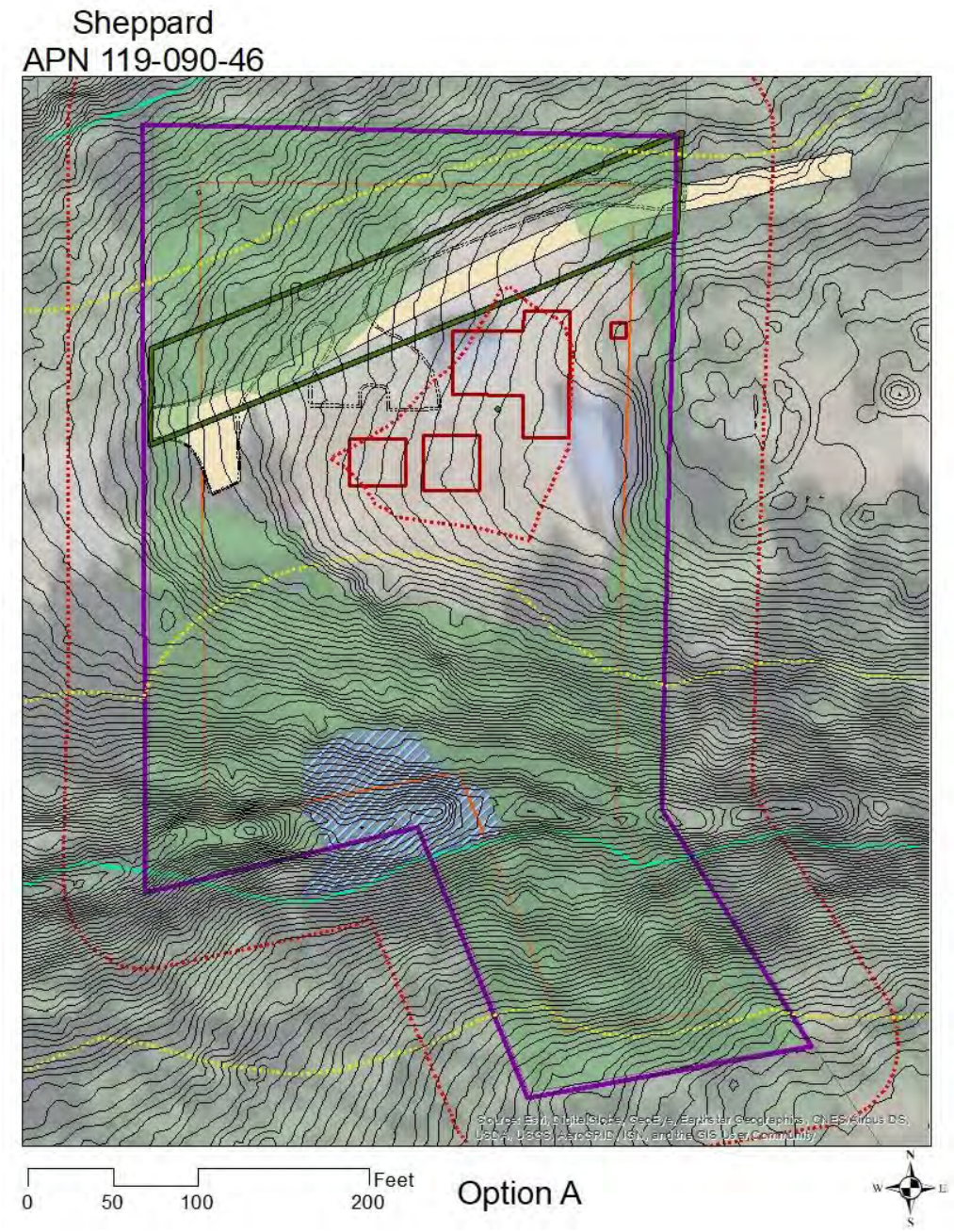


Figure 13. Option A is shown with development as far as feasible from the Grand Fir Forest.

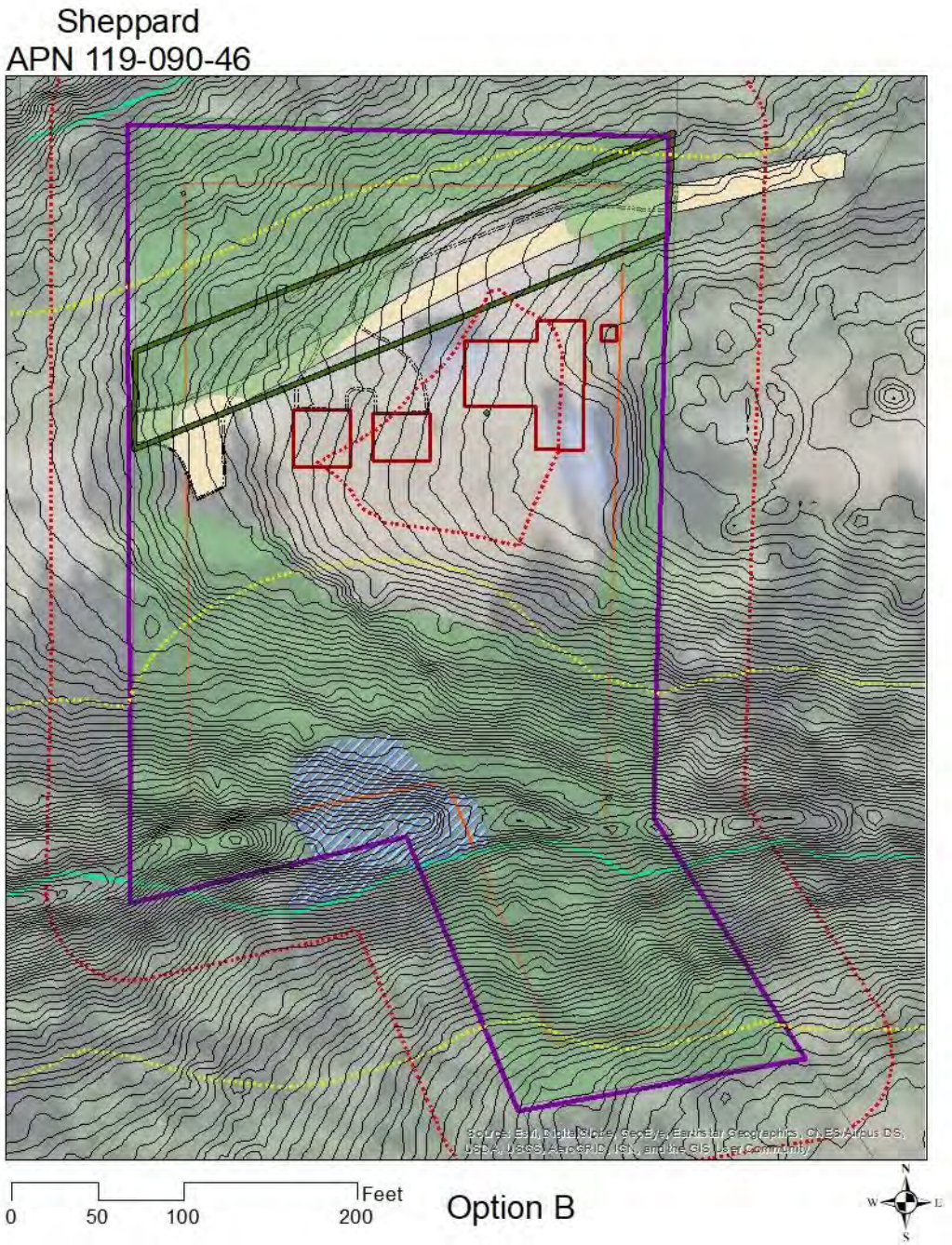


Figure 14. Option B is shown with development as far as feasible from streams and riparian areas, and closer to the roadway.

The following mitigation and avoidance measures are recommended:

Proposed Buffer Areas – A minimum setback of 40 feet is recommended between structures and the grand fir forest to the south of the building area. Structures are limited on the north side to being south of the road and utility easement. On the east and west sides, new structures should

observe a minimum 30 foot setback to grand fir forest areas. All development should be at least 100 feet from the streams and riparian areas.

Invasive Plants - Removal of invasive plants present on the site, including bull thistle (*Cirsium vulgare*), Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*), and English holly (*Ilex aquifolium*) is recommended to improve habitat value. Prior to use on the site, heavy equipment should be washed down off site to prevent accidental contamination with invasive plant seed. Invasive plants as listed by CalIPC should not be used as landscaping species, and landscaping should consist of native plants

Erosion Control – Standard Best Management Practices shall be employed to assure minimization of erosion resulting from construction. Ground disturbance shall be limited to the minimum necessary and disturbed soil areas shall be stabilized as soon as feasible. Any soil stockpiles will need to be covered or otherwise stabilized to prevent dust impacts.

Birds and Bats - The bird breeding season typically extends from February to August. Ideally, the clearing of vegetation and the initiation of construction 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 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 sites can change from year to year, so pre-construction 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.

Northern Red-Legged Frog – Project contractors will be trained by a qualified biologist in the identification of the northern red-legged frog (*Rana aurora*). A survey for Northern red-legged frog should occur within two weeks prior to construction. 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 frogs. If a special status frog is detected, construction crews will contact California Department of Fish and Wildlife or a qualified biologist to relocate northern red-legged frogs prior to re-initiating work.

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

Sonoma Tree Vole – If trees are to be removed to accommodate the development, a Sonoma tree vole survey shall occur within two weeks of tree removal activities. Protocols per the California Department of Fish and Wildlife shall be followed should Sonoma tree vole nests be identified in trees to be removed.

Special Status Habitat Avoidance – No direct impacts are to occur to onsite or nearby streams, riparian areas, or special status vegetation alliances, from construction or related activities. All staging and materials storage, and other project components must occur outside of streams, riparian areas and special status vegetation alliances. Prior to ground disturbance with heavy equipment for road relocation, construction fence with straw wattles along the base shall be installed at the northernmost boundary of the road and utility easement on the property. If ground disturbance with heavy equipment is to occur southward of the road easement within the building envelope, construction fence with straw wattles shall also be installed along the dripline of the grand fir forest as it surrounds the building envelope. All staging, storage, and equipment use shall occur within the existing non-native grassland and roadway, and shall not in the forested areas of the property.

.

References

Bolsinger, Charles L. and Karen L. Waddell. 1993. "Area of Old Growth Forests in California, Oregon, and Washington." https://www.fs.fed.us/pnw/pubs/pnw_rb197.pdf US Forest Service Research Bulletin PNW-RB- 197.

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. 2020. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ (Accessed: March 26, 2020).

California Department of Fish and Wildlife (CDFW). September 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program. Sacramento, CA

California Invasive Plant Council (Cal-IPC). California Invasive Plant Database http://cal-ipc.org/paf/ Accessed March 26, 2020.

CNPS, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 26 March 2020].

Griffin, James R. and William B. Critchfield. 1972. The Distribution of Forest Trees in California. US Forest Service Pacific Southwest Forest and Range Experiment Station.

Mendocino County. 1991. Mendocino County Coastal Zoning Code. Title 20 – Division II of the Mendocino County Code.

Sawyer, J. O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, CA.

Thompson, Joel et al. 2016. California's Forest Resources: Forest Inventory and Analysis, 2001-2010. US Forest Service Pacific Northwest Research Station, General Technical Report PNW-GTR-913, February 2016. https://www.fs.fed.us/pnw/pubs/pnw_gtr913.pdf

SPECIAL STATUS COMMUNITY AVOIDANCE AND REPLANTING PLAN

10770 CALYPSO LANE
(APN 119-090-46)
MENDOCINO, CA
MENDOCINO COUNTY

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

July 28, 2020

Contents

1 PROJECT INFORMATION 3
2 BACKGROUND 4
2.1 RESPONSIBLE PARTIES 4
3 IMPACT AVOIDANCE PLAN 6
3.1 Staging and Fencing 6
3.2 Impact Minimization 7
3.2.1 Erosion, Sedimentation and Dust Control 7
3.2.2 Invasive Plant Contamination Avoidance 7
3.3 Spill Prevention Plan 7
3.4 Contractor Education 7
4 RESTORATION PLAN 7
4.1 Replanting of clearing within 50 foot buffer 7
4.2 Disturbance of Existing Grand Fir Forest 8
4.2.1 Report to California Department of Fish and Wildlife 8
4.2.2 Cease Disturbance 8
4.2.3 Soil Restoration 8
4.2.4 Grand Fir Forest Restoration of Existing Areas Disturbed During Construction 8
5 MONITORING 8
5.1 REPORTING 8

FIGURES

Figure 1. Location map. 3
Figure 2. ESHA and replanting map. 5
Figure 3. Location for construction fence. 6

1 PROJECT INFORMATION

Property Address: 10770 Calypso Lane, Mendocino, CA
APN: 119-090-46
Project Area: The 2.02-acre undeveloped parcel (APN 119-090-46) is located within the California Coastal Zone, in the town of Mendocino, on the south east side of Calypso Lane, 800 feet north of its intersection with Little Lake Road (CR 408). The property relatively flat in the vicinity of the building envelope, with a south facing slope to Slaughterhouse Gulch on the south side of the building envelope, and a north facing slope on the north side of the building envelope to an unnamed stream. The building envelope is vegetated by a non-native grassland. The area surrounding the building envelope consists of a mixed coniferous forest that CDFW views as a Grand Fir Forest due to 30-45% presence of grand fir within the forest overstory mosaic, and due to the fact that the southernmost extent of the grand fir forest is found in this area. A Red Alder Forest riparian area is present in association with the drainage to the south. The drainage to the north is off the property, more than 100 feet from the project area on private land.

Figure 1. Location map.

2 BACKGROUND

A single-family residence and associated development are proposed at 10770 Calypso Lane. The subject residence is a modular home that was moved to the site in two pieces, prior to application. The site contains a cleared area within the flat portion of the property near the roadway. According to GoogleEarth images, in around 2002 to 2003, a portion of that flat area was first cleared in association with the construction of the residence located to the east, which was at that time part of the same property. A building envelope and road easement corridor were identified on the subject parcel as a part of CDMS 28-2006. At that time, the subject forest was identified as a mixed coniferous forest, which is a common forest type. Sometime after the subdivision was approved, tree removal occurred again within the flat area of the parcel by the property owner at that time, most likely in order to improve the roadway corridor and approved building envelope. GoogleEarth imagery shows that this second tree removal incident occurred in 2010-2011. Although the clearing occurred when the forest was considered a common forest type, and occurred within an approved building envelope, the County now is asking that the new property owner apply after the fact for this clearing as major vegetation removal, and that a replanting plan be submitted as a part of the application.

2.1 RESPONSIBLE PARTIES

The party responsible for the replanting and avoidance measures is the legal property owner during the time period in which the replanting plan is active.

This Special Status Community and Avoidance Plan was written by:

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

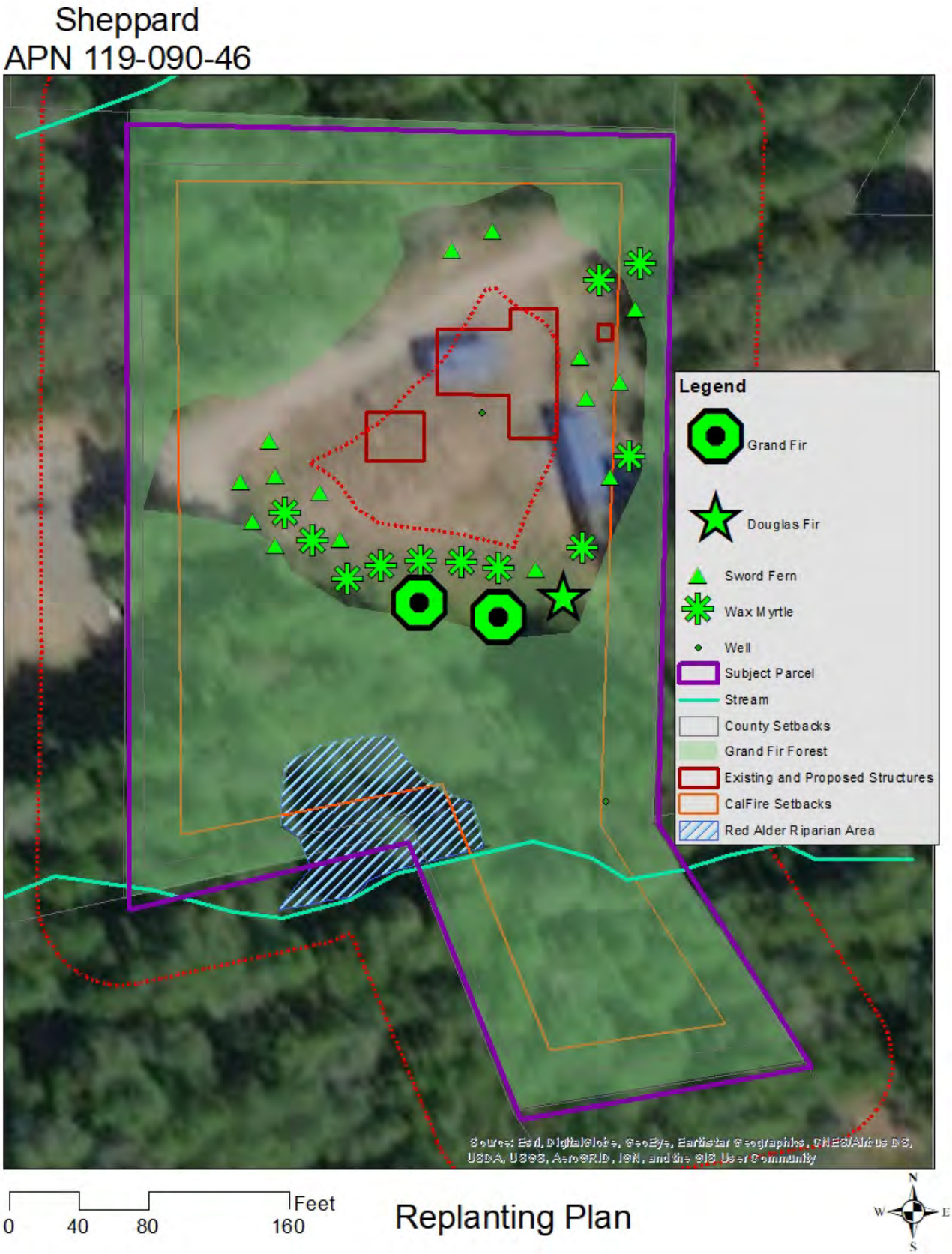


Figure 2. ESHA and replanting map.

3 IMPACT AVOIDANCE PLAN

3.1 Staging and Fencing

Prior to any construction related ground disturbing activities, orange plastic construction fence will be erected at the locations shown in Figure 3. This construction fence will be maintained in good working order until all ground disturbance, staging, storage, and heavy equipment use associated with the project is complete. Fencing will be staked with ~6 foot metal t-posts at 4 to 6 foot intervals, and secured to the t-posts with zip ties.

If ground disturbing activities are to occur during the rainy season (between October 31 and May 1 of any year), silt fencing will also be properly installed and maintained in place on the outer (side away from wetlands) side of the construction fence.

Staging and stockpiling will be limited to areas at least 50 feet from ESHA. No equipment or materials will enter sensitive areas, and all contractors will be made aware of the purpose of the construction fence, and where to store materials.

Figure 3. Location for construction fence.

3.2 Impact Minimization

The following measures will be implemented to minimize the potential for impacts to special status vegetation alliances during project implementation:

3.2.1 Erosion, Sedimentation and Dust Control

1. Ground disturbance will be minimized, and limited to that which is necessary for the project.
2. Any soil stockpiles will be covered or otherwise stabilized to reduce dust impacts.
3. Areas of disturbed soil will be planted or otherwise stabilized as soon as possible after disturbance.

3.2.2 Invasive Plant Contamination Avoidance

1. Heavy equipment will be washed off-site, prior to use at the site. Special care will be taken to wash tires and undercarriages, where invasive seeds might be present.
2. Soil stabilizing seed will not include invasive seed.
3. Landscaping will not include species found on the CalIPC Invasive inventory. https://www.cal-ipc.org/plants/inventory/

3.3 Spill Prevention Plan

All heavy equipment maintenance such as filling with oil and lubricants will occur off-property. Fuel, oils, and lubricants used for heavy equipment will not be stored at the site. Paints, stains, cement, and other construction materials that may spill will be stored inside sheds or other storage structures if feasible, or in a dedicated portion of the staging area where a tarp or similar device is placed, preventing absorption into the soil if accidentally spilled. Brushes, pans, and other equipment to be rinsed will be wrapped in a plastic bag and rinsed off site. Wash water will not be thrown into the bushes.

An accidental spill kit will be kept on site, which will include a shovel, heavy duty plastic bags, absorbent pads, and personal protective devices (gloves, goggles etc.) necessary for the types of materials kept on the site.

The Caltrans Spill Prevention and Control manual (WM-4) included as Appendix A (or a more current version if available), should be followed for spill prevention and control procedures.

3.4 Contractor Education

Prior to the onset of ground disturbing activities, an onsite contractor training will occur. Contractors and subcontractors will be trained by a qualified biologist or ecologist, to recognize on-site special status habitats, including special status vegetation alliances. The contractors will be made aware of the purpose of the construction fence, how it will need to be maintained in place in good working order throughout project implementation, how equipment and materials will need to stay out of sensitive areas, and where staging is to occur. A copy of this Wetland and Rare Plant Avoidance and Mitigation Plan will be provided to contractors, and kept on site.

4 RESTORATION PLAN

Should special status vegetation alliances accidentally be disturbed or destroyed during project implementation, these guidelines are provided for the restoration activities that will be necessary.

4.1 Replanting of clearing within 50 foot buffer

4.1.1 By December 31 of the first year after the CDP is approved and the residence has been finaled, restoration planting will occur as shown in Figure 2, or an alternative planting plan as approved by Department of Fish and Wildlife should adjustments need to be made to accommodate available plant species, changing regulatory protocols or other changes of circumstance that prevent planting as shown. Plants used will be purchased in a

minimum 5 gallon size container, and will be irrigated or hand watered daily to twice a week as needed for at least the first dry season. Plants will be protected from deer browse, and dead plants will be replaced as needed.

4.2 Disturbance of Existing Grand Fir Forest

4.2.1 Report to California Department of Fish and Wildlife

As soon as it is discovered that grand fir forest, or areas mapped as such have been detrimentally impacted during project implementation, the head contractor on site will be responsible to contact the California Department of Fish and Wildlife (CDFW), who will be allowed on-site as soon as possible in order to assess and record the extent of the disturbance. California Department of Fish and Wildlife contacts include Jennifer Garrison at 964-1476.

4.2.2 Cease Disturbance

As soon as it is discovered that accidental disturbance has taken place, all disturbances to the sensitive area will stop. Any equipment or materials will be removed from the area as carefully as possible. Protective fencing and/or flagging will be immediately placed around the disturbed area to prevent further impacts.

4.2.3 Soil Restoration

After permission is granted by CDFW, any disturbed soils will be replaced to previous conditions to the extent feasible. Care will be taken to avoid impacts to any undisturbed areas or special status plants still present.

4.2.4 Grand Fir Forest Restoration of Existing Areas Disturbed During Construction

If areas of Grand Fir Forest are detrimentally impacted, Department of Fish and Wildlife will determine whether a Grand Fir Forest restoration plan will be required, or if other measures, such as understory planting will suffice. Restoration efforts will result in restoration of plants lost at a ratio of at least 2:1 or as required by the CDFW.

5 MONITORING

Monitoring will occur until replacement ratio goals are achieved.

5.1 REPORTING

Reports will be received by the California Department of Fish and Wildlife by December 1 of each year until replacement goals have been met and CDFW signs off on the restoration effort.

Reports will be sent by US Mail to:

Jennifer Garrison
California Department of Fish and Wildlife
32330 North Harbor Drive
Fort Bragg, CA 95437

Reports will include the following information:

- Name and contact information of person in charge of monitoring activities, and name and contact information of reporting party.
- Color photos of the active management areas at the beginning and end of the reporting period.
- A summary of any issues encountered and management steps taken during the reporting period.
- Methods used during that monitoring period to eradicate weeds, improve ecosystem health, and encourage appropriate vegetative growth.
- Any new invasive plant species observed or evidence of pathogen presence will be described.

SEVERI FORESTRY
PO Box 1071, Fort Bragg, CA 95437
Phone: 707-357-9663
7severi@gmail.com

August 20,2021

Noah Sheppard
10760 Calypso ln.
A.P.N 11909046

Mr. Sheppard
Concerning the parcel on Calypso lane I made a site visit to ascertain the stand type and species composition of the approximately 2 acre parcel. My conclusions are as follows.
The majority of conifer in the stand is comprised of a mix of Bishop Pine, Douglas fir, Grand Fir and Western Hemlock. The Grand fir component makes up less than approximately 37% of the conifer stand with the other conifers comprising approximately 63% of the conifer stand. Mixed within the conifer are approximately 31 Tan Oak trees. The conifer regeneration or younger trees less than10inch diameter at breast height are primarily Bishop Pine and Western Hemlock with a minor portion of them being Douglass Fir and Grand Fir. The understory and brush species are made up of several types of fern and Salal, Black Berry, Huckleberry and Rhododendron. Ocular evaluation of adjacent parcels appear to be very similar to the stand on the subject parcel.
Based upon the above information it is my opinion that the parcel is situated within a mixed conifer forest.

Sincerely

Steve Severi
Registered Professional Forester
License No. 2989