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
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pbs@mendocinocounty.org
www.mendocinocounty.org/pbs

February 01, 2023

Agricultural Commissioner
Air Quality Management District
Archaeological Commission
Assessor's Office
Building Division Fort Bragg
County Addresser
Department of Transportation
Environmental Health Fort Bragg
Department of Forestry/ Calfire - Land Use
Fort Bragg Rural Fire District
Planning Division Fort Bragg
Sonoma State University
California Coastal Commission
Department of Fish & Wildlife
Cloverdale Rancheria
Redwood Valley Rancheria
Sherwood Valley Band of Pomo Indians

CASE#: CDP_2022-0034
DATE FILED: 10/7/2022
OWNER/APPLICANT: THOMAS & DEBORAH JOHNSON
REQUEST: Construct 2-bedroom single-family residence with garage, well, 2500 gal water tank, septic tank, solar array on garage roof; grade entrance road and building site.
LOCATION: In the Coastal Zone, 0.27± miles from Caspar town center; lying on the west side of State Route 1 (SR 1), 881± feet from its intersection with Caspar Road (CR 569); located at 15350 N. Hwy 1, Caspar; APN 118-020-18.
SUPERVISORIAL DISTRICT: 4
STAFF PLANNER: MATT GOINES
RESPONSE DUE DATE: February 15, 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_2022-0034

OWNER: /
APPLICANT: Thomas & Debora Johnson

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APN/S: 118-020-18

PARCEL SIZE: 3.26± acres

GENERAL PLAN: Rural Residential [RR:5(2)]
ZONING: Rural Residential [RR-5(2)]

EXISTING USES: Vacant

DISTRICT: 4 (Gjerde)

RELATED CASES:

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	Rural Residential [RR:5(2)]	Rural Residential [RR:5(2)]	6.0± acres	Vacant
EAST:	Remote Residential (RMR:20)	Remote Residential (RMR:20)	20.00± acres; State Route	Residential
SOUTH:	Rural Residential [RR:5(2)]	Rural Residential [RR:5(2)]	1.1± acres	Residential
WEST:	Rural Residential [RR:5(2)]	Rural Residential [RR:5(2)]	2.68± acres; County road	Residential

REFERRAL AGENCIES

LOCAL
- ☒ Agricultural Commissioner
- ☒ Air Quality Management District
- ☒ Archaeological Commission
- ☒ Assessor's Office
- ☒ Building Division Fort Bragg
- ☒ County Addresser
- ☒ Department of Transportation (DOT)
- ☒ Environmental Health (EH)
- ☒ Fort Bragg Rural Fire District
- ☒ Planning Division Fort Bragg
- ☒ Sonoma State University

STATE
- ☒ CALFIRE (Land Use)
- ☒ California Coastal Commission
- ☒ California Dept. of Fish & Wildlife

TRIBAL
- ☒ Cloverdale Rancheria
- ☒ Redwood Valley Rancheria
- ☒ Sherwood Valley Band of Pomo Indians

ADDITIONAL INFORMATION:

STAFF PLANNER: **DATE:** 1/31/2023

ENVIRONMENTAL DATA

1. MAC:
GIS
None

2. FIRE HAZARD SEVERITY ZONE:
CALFIRE FRAP maps/GIS
Very High

3. FIRE RESPONSIBILITY AREA:
CALFIRE FRAP maps/GIS
State Responsibility Area

4. FARMLAND CLASSIFICATION:
GIS
Urban and Built-Up Land
Grazing Land

5. FLOOD ZONE CLASSIFICATION:
FEMA Flood Insurance Rate Maps (FIRM)
None

6. COASTAL GROUNDWATER RESOURCE AREA:
Coastal Groundwater Study/GIS
Critical Water Resources

7. SOIL CLASSIFICATION:
Mendocino County Soils Study Eastern/Western Part
214 - Tropaquepts
117 - Cabrillo-Heeser Complex

8. PYGMY VEGETATION OR PYGMY CAPABLE SOIL:
LCP maps, Pygmy Soils Maps; GIS
None

9. WILLIAMSON ACT CONTRACT:
GIS/Mendocino County Assessor's Office
No

10. TIMBER PRODUCTION ZONE:
GIS
No

11. WETLANDS CLASSIFICATION:
GIS
No

12. EARTHQUAKE FAULT ZONE:
Earthquake Fault Zone Maps; GIS
No

13. AIRPORT LAND USE PLANNING AREA:
Airport Land Use Plan; GIS
No

14. SUPERFUND/BROWNFIELD/HAZMAT SITE:
GIS; General Plan 3-11
No

15. NATURAL DIVERSITY DATABASE:
CA Dept. of Fish & Wildlife Rarefind Database/GIS
Yes

16. STATE FOREST/PARK/RECREATION AREA ADJACENT:
GIS; General Plan 3-10
No

17. LANDSLIDE HAZARD:
Hazards and Landslides Map; GIS; Policy RM-61; General Plan 4-44
No

18. WATER EFFICIENT LANDSCAPE REQUIRED:
Policy RM-7; General Plan 4-34
Yes

19. WILD AND SCENIC RIVER:
www.rivers.gov (Eel Only); GIS
No

20. SPECIFIC PLAN/SPECIAL PLAN AREA:
Various Adopted Specific Plan Areas; GIS
No

21. STATE CLEARINGHOUSE REQUIRED:
Policy
No

22. OAK WOODLAND AREA:
USDA
No

23. HARBOR DISTRICT:
Sec. 20.512
No

FOR PROJECTS WITHIN THE COASTAL ZONE ONLY

24. LCP LAND USE CLASSIFICATION:
LCP Land Use maps/GIS
LCP Land Use Map 15: Caspar (N/A)

25. LCP LAND CAPABILITIES & NATURAL HAZARDS:
LCP Land Capabilities maps/GIS; 20.500
Beach Deposits and Stream Alluvium and Terraces (Zone 3)

26. LCP HABITATS & RESOURCES:
LCP Habitat maps/GIS; 20.496
Barren

27. COASTAL COMMISSION APPEALABLE AREA:
Post LCP Certification Permit and Appeal Jurisdiction maps/GIS; 20.544
Yes

28. CDP EXCLUSION ZONE:
CDP Exclusion Zone maps/GIS
No

29. HIGHLY SCENIC AREA:
Highly Scenic & Tree Removal Area Maps/GIS; Secs. 20.504.015, 20.504.020
Yes

30. BIOLOGICAL RESOURCES & NATURAL AREAS:
Biological Resources & Natural Area Map; GIS; General Plan 4-9
Yes

31. BLUFFTOP GEOLOGY:
GIS; 20.500.020
No

ORIGINAL

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

Case No(s)	
CDF No(s)	CDP 2022-0034
Date Filed	10-7-22
Fee	$ 6733
Receipt No.	PRJ 052528
Received by	KG

Office Use Only

COASTAL ZONE APPLICATION FORM

APPLICANT

Name: THOMAS F. JOHNSON & DEBORA A. JOHNSON
Mailing Address: 251 FORSYTHE DRIVE
City: REDWOOD VALLEY State: CA Zip Code: 95470 Phone: 707-485-0530

PROPERTY OWNER

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

AGENT

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

PARCEL SIZE

3.41 ☐ Square feet ■ Acres

STREET ADDRESS OF PROJECT

15350 NORTH HIGHWAY 1, CASPAR CA

ASSESSOR'S PARCEL NUMBER(S)

118-020-18

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

Signature of Applicant/Agent — Date: 5/3/2021
Signature of Owner — Date: 5/3/2021

Mendocino County
OCT 07 2022
Planning & Building Services

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.

DEVELOP 2 BEDROOM 2 BATH RESIDENCE WITH GARAGE, NEW WELL, NEW 2500 GAL. WATER TANK, NEW SEPTIC SYSTEM PER PLANS BY CARL RITTMAN & ASSOCIATES SOLAR ARRAY ON GARAGE ROOF, EXCAVATE TO 18" BELOW EXISTING GROUND LEVEL ON SITE OF RESIDENCE TO LOWER OVER ALL HEIGHT OF STRUCTURE AS SEEN FROM HIGHWAY 1, EXCAVATE TO INSTALL SEPTIC SYSTEM PER PLAN, EXCAVATE TRENCHES FOR UNDERGROUND WATER, SEWER AND ELECTRICAL LINES, GRADE ENTRANCE ROAD AND BUILDING SITE

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

TYPE OF UNIT	NUMBER OF STRUCTURES	SQUARE FEET PER DWELLING UNIT
[x] Single Family	HOUSE GARAGE	HOUSE 24X40 FOOTPRINT, 20X40 SECOND FLOOR
[ ] Mobile Home		TOTAL FLOOR SPACE 1760 SQ FT
[ ] Duplex		GARAGE 20X30 =600 SQ FT
[ ] 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: _____
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.

PHASE ONE BUILD GARAGE, INSTALL SOLAR FOR WELL
PHASE TWO GRADE ROAD AND HOUSE SITE & INSTALL SEPTIC SYSTEM AND NEW WELL,
PHASE 3 BUILD HOUSE INSTALL ELECTRICAL SYSTEM

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.

YES THERE IS AN OLD HORSE BARN APPROXIMATELY 16' X 16' WHICH WILL REMAIN AS WILL THE EXISTING FENCED BARN AREA. tHERE ARE TWO OLDER OUT BUILDINGS WHICH WILL BE REMOVED BEFOR ANY CONSTRUCTION WILL BEGIN THEY ARE ABOUT 6'X6' AND 4' X 4'

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.

THE TWO SMALL OUTBUILDINGS ABOUT 6'X6' AND 4'X4' ARE SEVERELY DETERIORATED AND ARE TOO FAR GONE TO SALVAGE. THEY WILL BE DISMANTLED AND MATERIAL WILL BE HAULED TO DUMP

7. Project Height. Maximum height of structure HOUSE 18' GARAGE 18' feet.

8. Lot area (within property lines): 3.41 ☐ square feet ■ acres

9. Lot Coverage:

	EXISTING	NEW PROPOSED	TOTAL
Building coverage	BARN 256 square feet	1560 square feet	1816 square feet
Paved area	_____ square feet	_____ square feet	_____ square feet
Landscaped area	_____ square feet	_____ square feet	_____ square feet
Unimproved area	_____ square feet	_____ square feet	_____ square feet

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

10. Gross floor area: 2256 square feet (including covered parking and accessory buildings).

11. Parking will be provided as follows:

Number of Spaces Existing_____ Proposed6 Total6

Number of covered spaces	3 INSIDE GARAGE	Size 30'X20'=600'
Number of uncovered spaces	3 EXTERIOR	Size 600'
Number of standard spaces	ALL STANDARD	Size 9X20 EACH
Number of handicapped spaces	NONE	Size

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

A. Electricity
- ☐ Utility Company (service exists to the parcel).
- ■ Utility Company (requires extension of services to site: 20-30' feet _____ miles
- ■ On Site generation, Specify: SOLAR ARRAY ON ROOF OF GARAGE APPROXIMATELY 30'X10'=300'
- ☐ None

B. Gas
- ■ Utility Company/Tank
- ☐ On Site generation, Specify: _____
- ☐ None

C. Telephone: ■ Yes ☐ No

13. Will there by any exterior lighting? ■ Yes ☐ No

If yes, describe below and identify the location of all exterior lighting on the plot plan and building plans.

THERE WILL BE EXTERIOR LIGHTS ON THE EACH OF THE FOUR SIDES OF THE HOUSE AND OF THE GARAGE THAT WILL BE MOTION ACTIVATED AND WILL AUTOMATICALLY SHUT OFF WHEN MOTIONS STOPS. ALL LIGHTS WILL BE IN SCONCES AND THE LIGHT WILL BE POINTED DOWNWARD. CLOSEST LIGHT WILL BE OVER 100 FEET FROM HIGHWAY 1 AND OVER 100 FEET FROM CASPAR ROAD

14. What will be the method of sewage disposal?

- ☐ Community sewage system, specify supplier _____
- ■ Septic Tank
- ☐ Other, specify _____

15. What will be the domestic water source?

- ☐ Community water system, specify supplier _____
- ■ Well
- ☐ Spring
- ☐ Other, specify _____

16. Is any grading or road construction planned? ■ 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.).

For grading and road construction, complete the following:

A. Amount of cut: 30 cubic yards
B. Amount of fill: 30 cubic yards
C. Maximum height of fill slope: 18 INCHES feet
D. Maximum height of cut slope: 18 INCHES feet
E. Amount of import or export: 0 cubic yards
F. Location of borrow or disposal site: THE HOUSE SITE WILL BE DUG DOWN 18 INCHES MAXIMUM ON THE EAST SIDE TO ZERO INCHES ON WEST SIDE WHICH WILL AVERAGE 7.5 INCHES. DIRT WILL BE USED IN YARD NEXT TO HOUSE

17. Will vegetation be removed on areas other than the building sites and roads? ■ Yes ☐ No
If yes, explain:
TRENCHES FOR WATER, SEWER AND UNDERGROUND ELECTRICITY, TV CABLE AND PHONE CABLE AND INSTALLATION OF SEPTIC SYSTEM WILL ALL REQUIRE REMOVAL OF VEGETATION BUT ALL WILL BE PUT BACK INTO TRENCH OR SPREAD EXCESS AT TRENCH SITES.

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

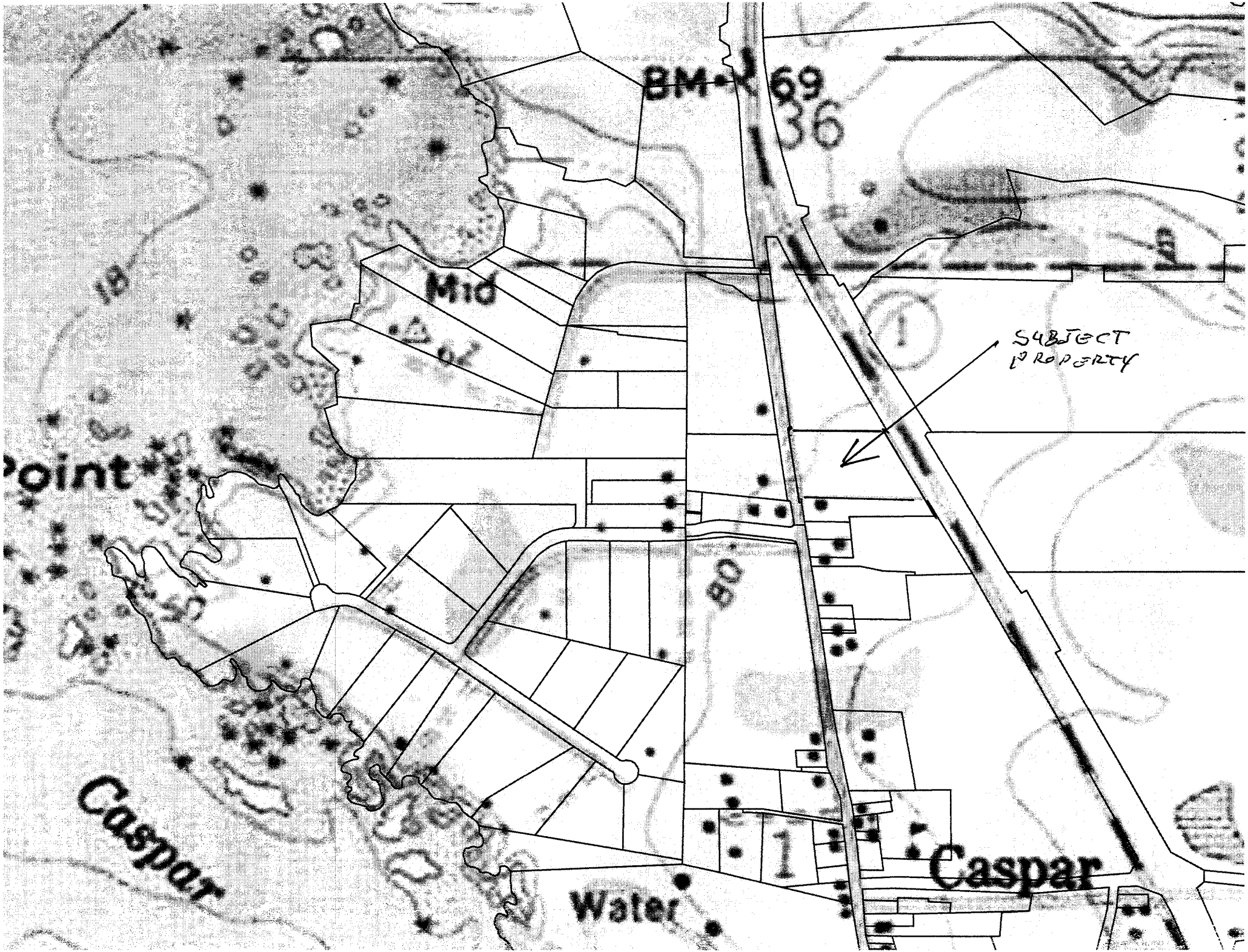
Amount of material to be dredged or filled? _____ cubic yards.

Location of dredged material disposal site: _____

_____

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.


BM 69
136
Mid
SUBJECT
PROPERTY
Point
Caspar
Water
Caspar

Lands of Johnson
Section 1, Township 17 North,
Range 18 West, Mount Diablo Meridian
Mendocino County, CA

General Notes

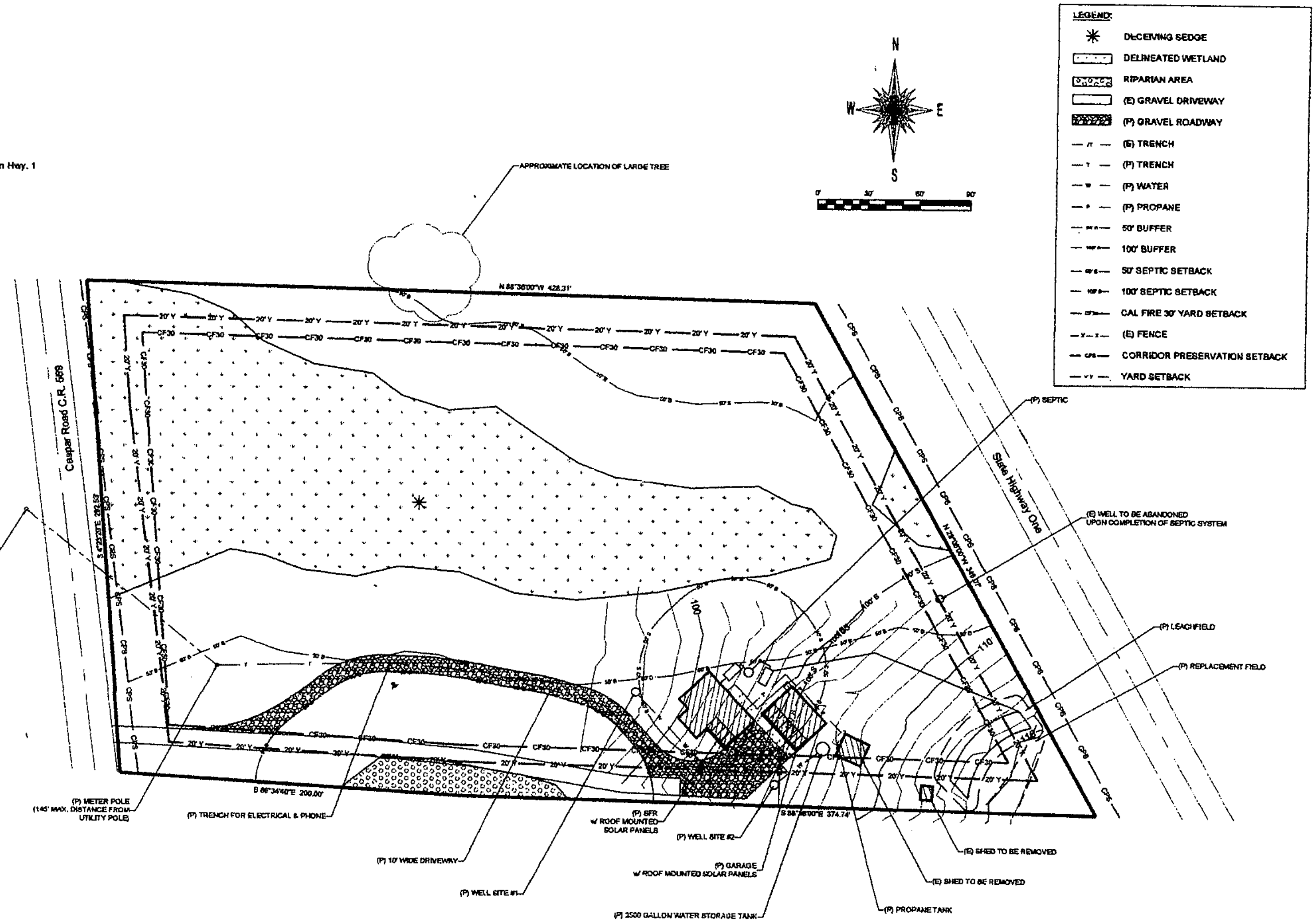
General Plan Designation:	RR 5 (2)
Zoning District:	RR:5
Urban/Rural:	Rural
Highly Scenic Area:	Yes
Proposed Land Use:	SFR
Appealable to Coastal Commission:	Yes
Entitlement Permit Type:	CDP
Yard Setbacks:	20'
CalFire Setbacks:	30'
Corridor Preservation Setback:	25' from Casper Road, 45' from Hwy. 1
Height Limit:	18'
Environmental Constraints:	Rare Plant and Wetland
Potential Geologic Hazards:	n/a
Landscaping:	n/a
Water Source:	On-site well (proposed)
Wastewater Disposal:	On-site septic (proposed)
Tree Removal:	None
CDP Lot Coverage Tabulation Gross Site Area:	
Gross Site Area:	3.165 ac (137,884 sf)
Maximum allowable lot coverage:	15% (20,682.6 sf)

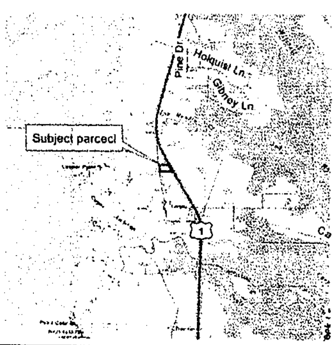
Lot Coverage:

(P) Footprint - Residence:	1,088 sf
(P) Footprint - Garage:	720 sf
Proposed Total Building Footprint:	1,808 sf
(E) Driveway & Parking:	3,346 sf
(P) Driveway & Parking:	4,710 sf
(P) Concrete Walk:	420 sf
Total Driveway, Parking & Walk:	8,476 sf
Total Lot Coverage (Footprint):	10,284 sf (7.46%)

Sensitive Resources:

Legend	Type	Distance from Development
✳	DECEIVING SEDGE	155' ±
(dotted box)	DELINEATED WETLAND	50' ±
(riparian box)	RIPARIAN AREA	51' ±





DRAWING LIST

SITE PLAN	SHEET 1
EXTERIOR ELEVATIONS - HOUSE	2
FLOOR PLANS - HOUSE	3
GARAGE FLOOR PLAN & ELEVATIONS	4

NOTE: THE PORTION OF THE EXISTING DRIVEWAY WITHIN THE 50' ESHA BUFFER WILL NOT BE IMPROVED.

SITE PLAN 1 : 30 | 1

Design review, not meant for construction.

Based on a Map Prepared by:
Richard A. Seale L.S. 4455
420 E. Redwood Ave.
Fort Bragg, CA 95437

Wynn Coastal Planning & Biology

JOHNSON
15405 Caspar Road
(formerly 15350 N. Highway 1)
Caspar, CA 95420

APN: 118-020-15-00
DRAWN BY: TH
DATE: 11/4/2011
SCALE: AS SHOWN

REVISION	BY	DATE

SHEET 1 OF 1 SHEETS

Lands of Johnson
Section 1, Township 17 North,
Range 18 West, Mount Diablo Meridian
Mendocino County, CA

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Landscaping:	n/a
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	DELINEATED WETLAND	50' ±
	RIPARIAN AREA	51' ±

LEGEND:
- ✳ DECEIVING SEDGE
- DELINEATED WETLAND
- RIPARIAN AREA
- (E) GRAVEL DRIVEWAY
- (P) GRAVEL ROADWAY
- (E) TRENCH
- (P) TRENCH
- (P) WATER
- (P) PROPANE
- 50' BUFFER
- 100' BUFFER
- 50' SEPTIC SETBACK
- 100' SEPTIC SETBACK
- CF30 CAL FIRE 30' YARD SETBACK
- (E) FENCE
- CPS CORRIDOR PRESERVATION SETBACK
- YARD SETBACK

N 88°36'00"W 428.31'

APPROXIMATE LOCATION OF LARGE TREE

Caspar Road C.R. 569

State Highway One

(E) UTILITY POLE (VERIFY LOCATION IN THE FIELD)

(P) METER POLE (145' MAX. DISTANCE FROM UTILITY POLE)

(P) TRENCH FOR ELECTRICAL & PHONE

S 88°34'48"E 200.00'

(P) 10' WIDE DRIVEWAY

(P) WELL SITE #1

(P) SFR w ROOF MOUNTED SOLAR PANELS

(P) WELL SITE #2

(P) GARAGE w ROOF MOUNTED SOLAR PANELS

(P) 2500 GALLON WATER STORAGE TANK

S 88°34'00"E 374.74'

(P) SEPTIC

(E) WELL TO BE ABANDONED UPON COMPLETION OF SEPTIC SYSTEM

(P) LEACHFIELD

(P) REPLACEMENT FIELD

(E) SHED TO BE REMOVED

(E) SHED TO BE REMOVED

(P) PROPANE TANK

DRAWING LIST

SITE PLAN	SHEET 1
EXTERIOR ELEVATIONS - HOUSE	2
FLOOR PLANS - HOUSE	3
GARAGE FLOOR PLAN & ELEVATIONS -	4

NOTE:
THE PORTION OF THE EXISTING DRIVEWAY WITHIN THE 50' ESHA BUFFER WILL NOT BE IMPROVED.

SITE PLAN | 1:30 | 1

Design review, not meant for construction.

Based on a Map Prepared by:
Richard A. Seale L.S. 4445
420 E. Redwood Ave.
Fort Bragg, CA 95437

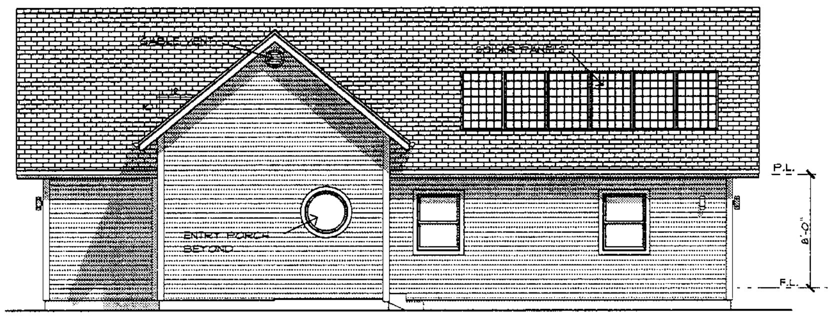
Wynn Coastal Planning

JOHNSON
15405 Caspar Road
(formerly 15350 N. Highway 1)
Caspar, CA 95420

APN: 118-020-14-00
DRAWN BY: EH
DATE: 10/14/2021
SCALE: AS SHOWN

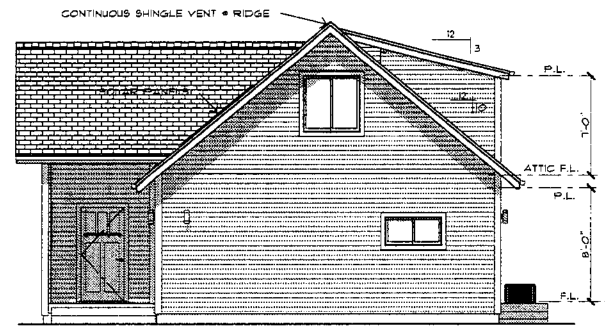
BY | DATE | REVISION

SHEET 1 OF 4 SHEETS



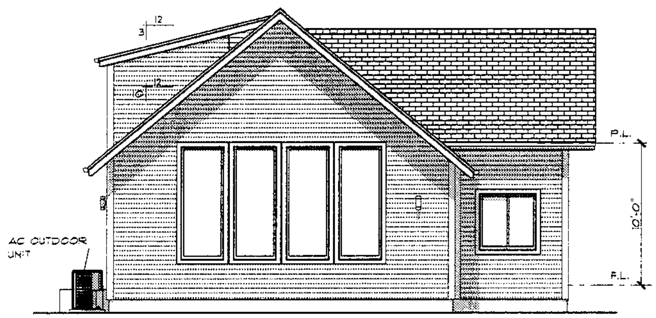
SOUTHWEST ELEVATION @ 1/4" = 1'-0

LEFTSIDE



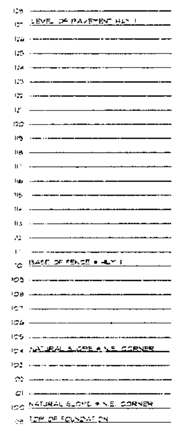
SOUTHEAST ELEVATION @ 1/4" = 1'-0

FRONT



NORTHWEST ELEVATION @ 1/4" = 1'-0

REAR



NORTHEAST ELEVATION @ 1/4" = 1'-0"

RIGHT SIDE

EXTERIOR MATERIALS
SIDING & TRIM:
HARDIE BOARD 6" REVEAL, FLAT PROFILE
COLORS: SIDING PEARL GREY TRIM: ARTIC WHITE
OUTSIDE LIGHT FIXTURES: HAMPTON BAY WALL MOUNT SCONCE
HALF CIRCLE DOWN LIGHT FLAT BLACK
EXTERIOR DOORS WHITE
WINDOWS : VINYL WHITE
ROOFING: PABCO PRODUCTS PREMIER 30 YEAR ARCHITECTURAL
PROFILE. COLOR : WEATHERED WOOD SW

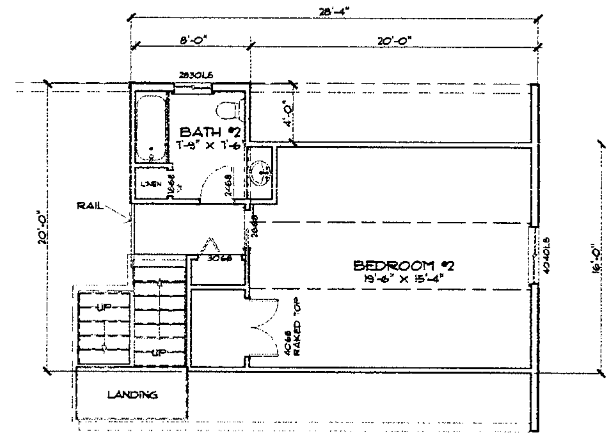
DRAWING LIST
SITE PLAN — SHEET 1
(BY: WYNN COSTAL PLANNING)
EXTERIOR ELEVATIONS - HOUSE — 2
FLOOR PLANS - HOUSE — 3
GARAGE FLOOR PLAN & ELEVATIONS — 4

REVISIONS | BY

DESIGN DRAFTING SERVICE
RESIDENTIAL COMMERCIAL INDUSTRIAL
"Serving customers since 1971"
Thomas C. Antoni
CAIBD

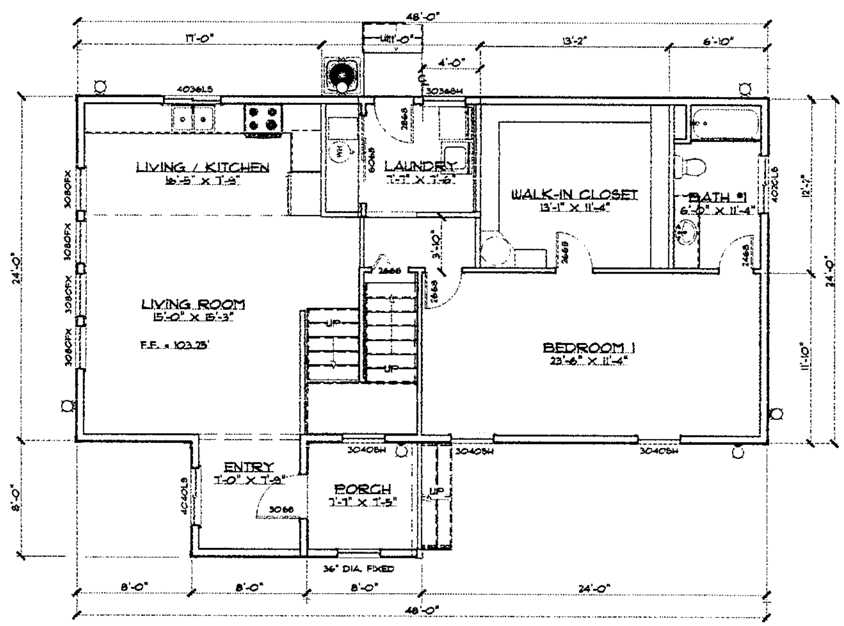
CLIENTS: TOM & DEBBIE JOHNSON
LOCATION: 15405 CASPER RD, CASPER, CA.
TITLE: EXTERIOR ELEVATIONS & DETAILS - HOUSE

DRAWN: TC ANTONI
CHECKED: TCA
DATE: 08-22-2022
SCALE: AS NOTED
JOB NO.: 2486
SHEET: 2
2 OF 4 SHEETS



ATTIC FLOOR PLAN @ 1/4" = 1'-0"

CONDITIONED FLOOR AREA 416 SQ. FT.



GROUND FLOOR PLAN @ 1/4" = 1'-0"

GROUND FLOOR AREA 1,216 SQ. FT.
COVERED PORCH 64 SQ. FT.

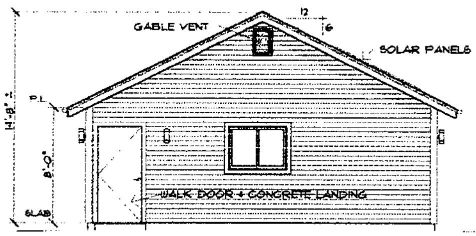
REVISIONS	BY
REVISED PER CUST. COMMENTS	TCA 8-8-22
REVISED PER CUST. COMMENTS	TCA 8-12-22

DESIGN DRAFTING SERVICE
RESIDENTIAL COMMERCIAL INDUSTRIAL
"Serving customers since 1971"
Thomas C. Antoni

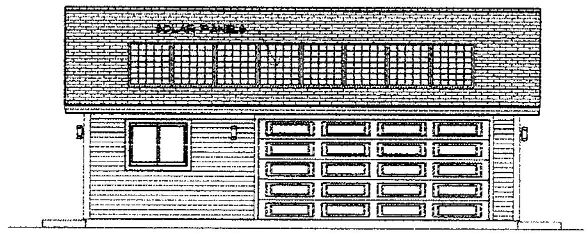
A | D
B | D
CAIBD

CLIENTS: TOM & DEBBIE JOHNSON
LOCATION: 15405 CASPER RD, CASPER, CA.
TITLE: FLOOR PLANS & DETAILS
HOME

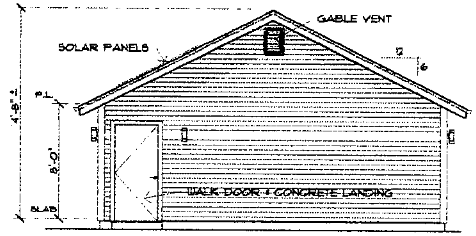
DRAWN: TC ANTONI
CHECKED: TCA
DATE: 08-01-2022
SCALE: AS NOTED
JOB NO.: 2486
SHEET: 3
3 OF 4 SHEETS



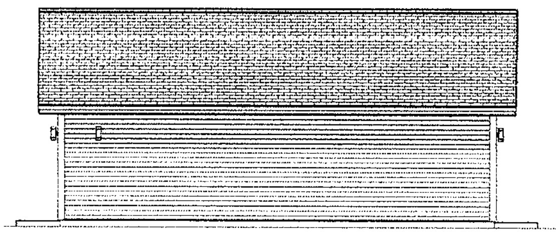
NORTHWEST ELEVATION @ 1/4" = 1'-0"
LEFT SIDE



SOUTHWEST ELEVATION @ 1/4" = 1'-0
FRONT



SOUTHEAST ELEVATION @ 1/4" = 1'-0
RIGHT SIDE



NORTHEAST ELEVATION @ 1/4" = 1'-0
REAR

EXTERIOR MATERIALS
SIDING & TRIM:
HARDIE BOARD 6" REVEAL, FLAT PROFILE
COLORS: SIDING PEARL GREY TRIM: ARTIC WHITE
OUTSIDE LIGHT FIXTURES: HAMPTON BAY WALL MOUNT SCONCE
HALF CIRCLE DOWN LIGHT FLAT BLACK
EXTERIOR DOORS WHITE
WINDOWS : VINYL WHITE
ROOFING: PABCO PRODUCTS PREMIER 30 YEAR ARCHITECTURAL
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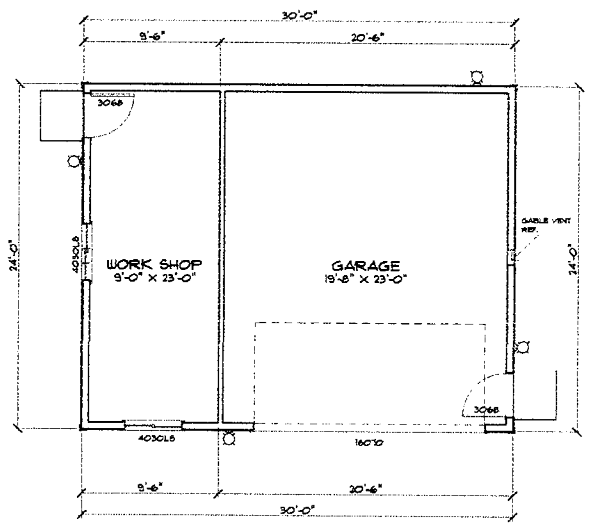


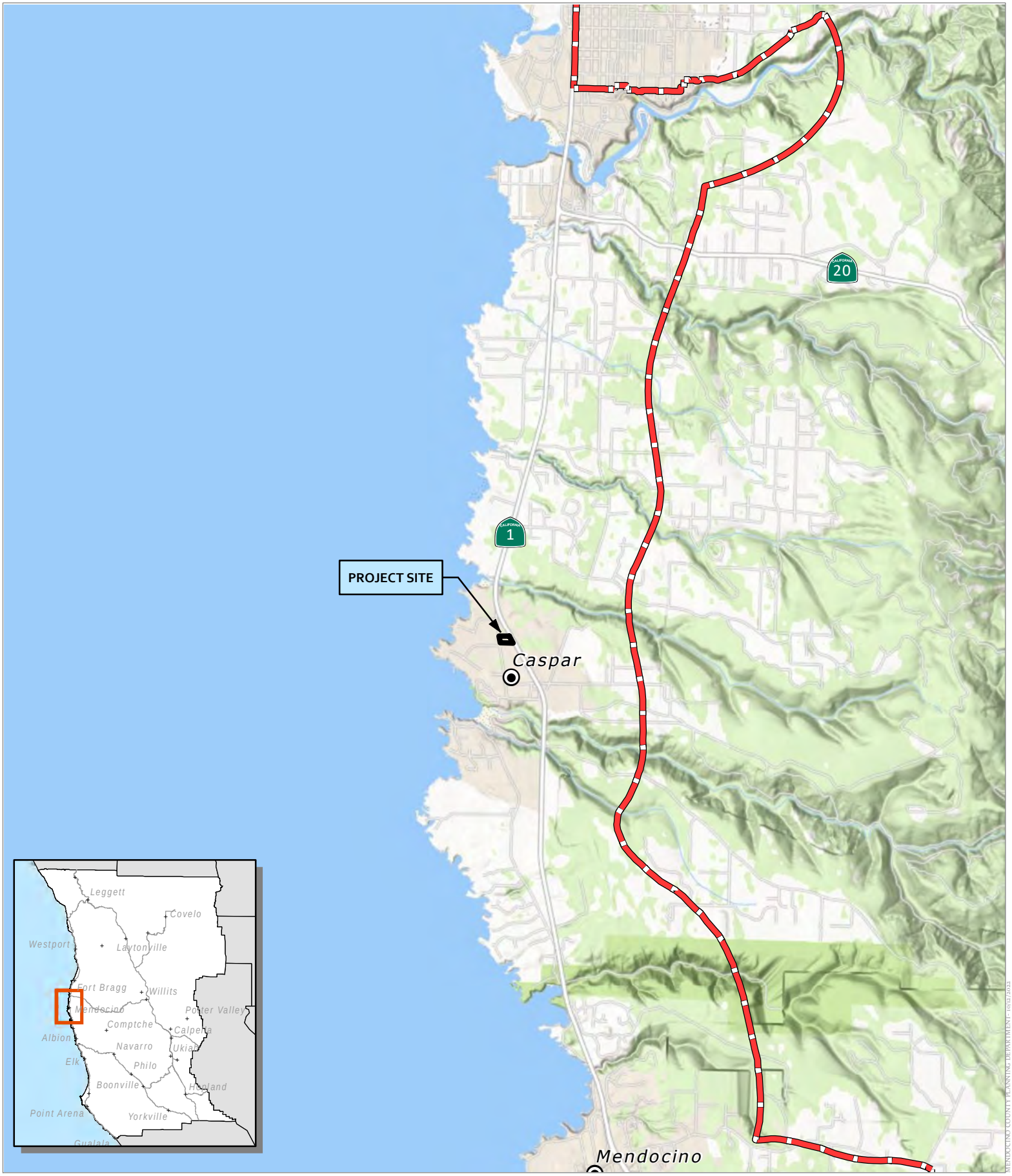
FLOOR PLAN @ 1/4" = 1'-0"
FLOOR AREA = 720 SQ. FT.

REVISIONS	BY
REVISED PER CUST. COMMENTS	TCA 8-12-22

DESIGN DRAFTING SERVICE
RESIDENTIAL COMMERCIAL INDUSTRIAL
Thomas C. Antoni
"Serving customers since 1971"
A|D B|D
CAIBD

CLIENTS: TOM & DEBBIE JOHNSON
LOCATION: 15405 CASPER RD, CASPER, CA.
TITLE: GARAGE
FLOOR PLAN & EXT. ELEVATIONS

DRAWN: TC ANTONI
CHECKED: TCA
DATE: 08-22-2022
SCALE: AS NOTED
JOB NO.: 2486
SHEET: 4
4 OF 4 SHEETS



CASE: CDP 2022-0034
OWNER: JOHNSON, Thomas F. & Debora A.
APN: 118-020-18
APLCT: Thomas & Debora Johnson
AGENT: Thomas & Debora Johnson
ADDRESS: 15350 North Highway 1, Caspar

Major Towns & Places

Coastal Zone Boundary

0 2,550 5,100 Feet

0 0.5 1 Miles

1:63,360

LOCATION

CASE: CDP 2022-0034
OWNER: JOHNSON, Thomas F. & Debora A.
APN: 118-020-18
APLCT: Thomas & Debora Johnson
AGENT: Thomas & Debora Johnson
ADDRESS: 15350 North Highway 1, Caspar

0 65 130 Feet
0 0.01 0.02 Miles
1:1,551

AERIAL IMAGERY

MENDOCINO COUNTY PLANNING DEPARTMENT - 120 W. FIR ST. FORT BRAGG, CA 95437

Lands of Johnson
Section 1, Township 17 North,
Range 18 West, Mount Diablo Meridian
Mendocino County, CA

General Notes

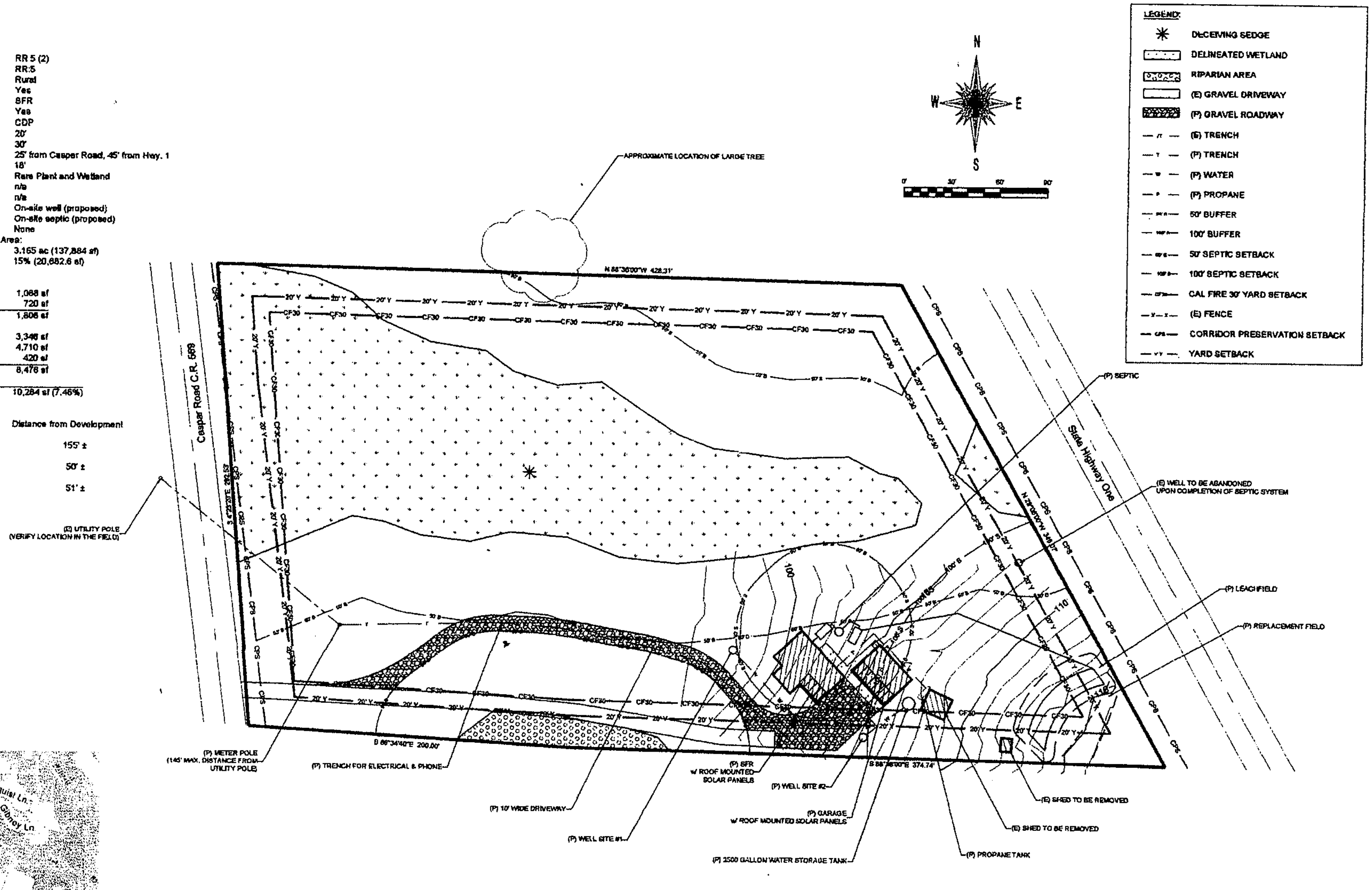
General Plan Designation:	RR 5 (2)
Zoning District:	RR:5
Urban/Rural:	Rural
Highly Scenic Area:	Yes
Proposed Land Use:	SFR
Appealable to Coastal Commission:	Yes
Entitlement Permit Type:	CDP
Yard Setbacks:	20'
CalFire Setbacks:	30'
Corridor Preservation Setback:	25' from Caspar Road, 45' from Hwy. 1
Height Limit:	18'
Environmental Constraints:	Rare Plant and Wetland
Potential Geologic Hazards:	n/a
Landscaping:	n/a
Water Source.	On-site well (proposed)
Wastewater Disposal:	On-site septic (proposed)
Tree Removal:	None
CDP Lot Coverage Tabulation Gross Site Area:	
Gross Site Area:	3.165 ac (137,884 sf)
Maximum allowable lot coverage:	15% (20,682.6 sf)

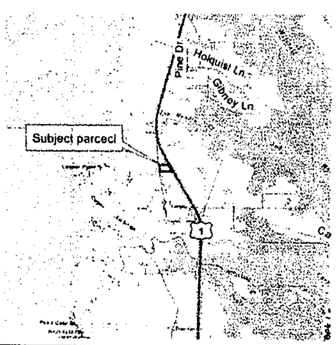
Lot Coverage:

(P) Footprint - Residence:	1,088 sf
(P) Footprint - Garage:	720 sf
Proposed Total Building Footprint:	1,808 sf
(E) Driveway & Parking:	3,346 sf
(P) Driveway & Parking:	4,710 sf
(P) Concrete Walk:	420 sf
Total Driveway, Parking & Walk:	8,476 sf
Total Lot Coverage (Footprint):	10,284 sf (7.46%)

Sensitive Resources:

Legend	Type	Distance from Development
✳	DECEIVING SEDGE	155' ±
(dotted box)	DELINEATED WETLAND	50' ±
(pattern box)	RIPARIAN AREA	51' ±





DRAWING LIST

SITE PLAN	SHEET 1
EXTERIOR ELEVATIONS - HOUSE	2
FLOOR PLANS - HOUSE	3
GARAGE FLOOR PLAN & ELEVATIONS	4

NOTE:
THE PORTION OF THE EXISTING DRIVEWAY WITHIN THE 50' ESHA BUFFER WILL NOT BE IMPROVED.

SITE PLAN 1 : 30 1

Design review, not meant for construction.

Based on a Map Prepared by:
Richard A. Seale L.S. 4455
420 E. Redwood Ave.
Fort Bragg, CA 95437

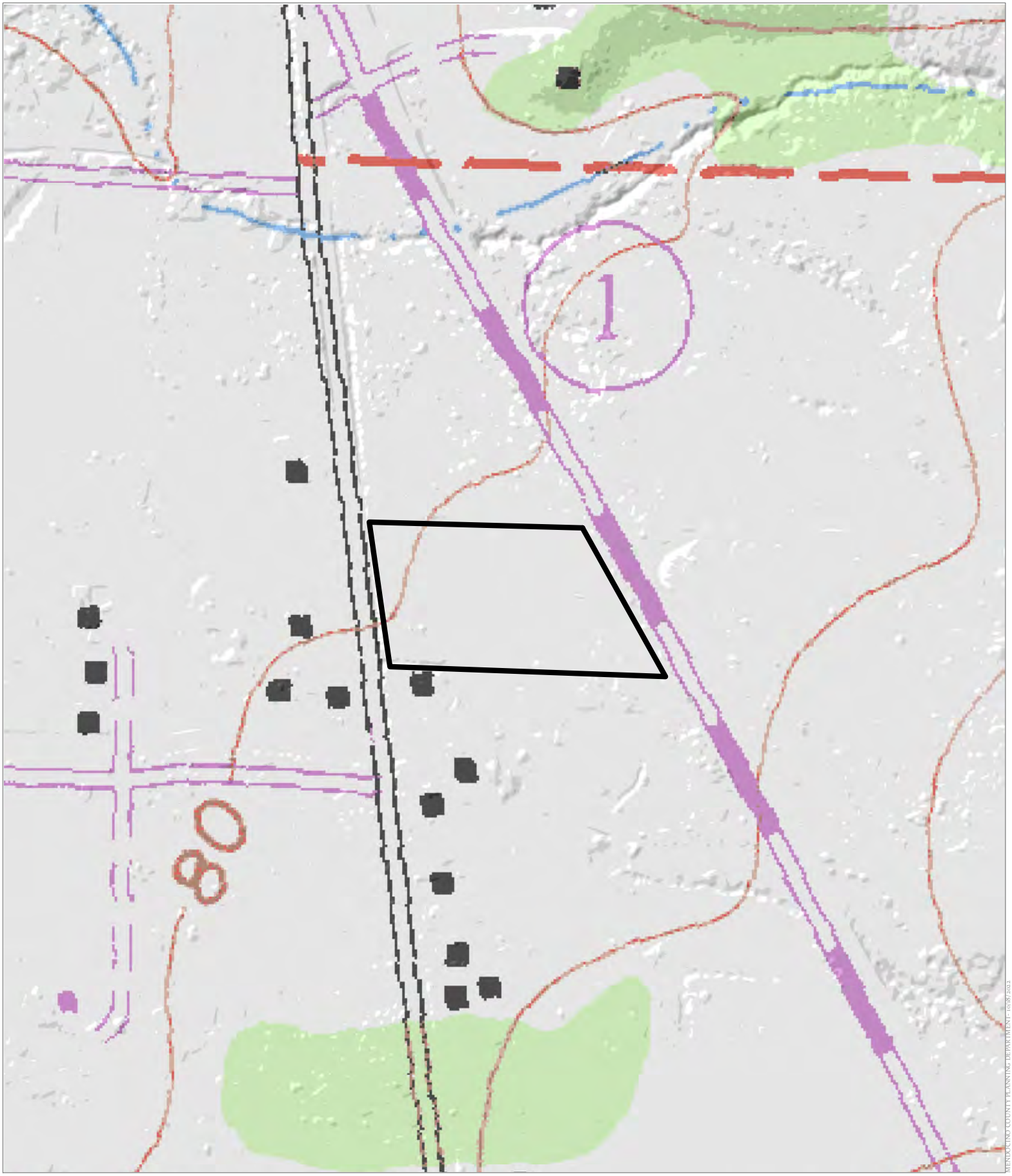
Wynn Coastal Planning & Biology

JOHNSON
15405 Caspar Road
(formerly 15350 N. Highway 1)
Caspar, CA 95420

APN: 118-020-15-00
DRAWN BY: TH
DATE:
SCALE: AS SHOWN

REVISION | BY | DATE

SHEET 1 OF 1 SHEETS



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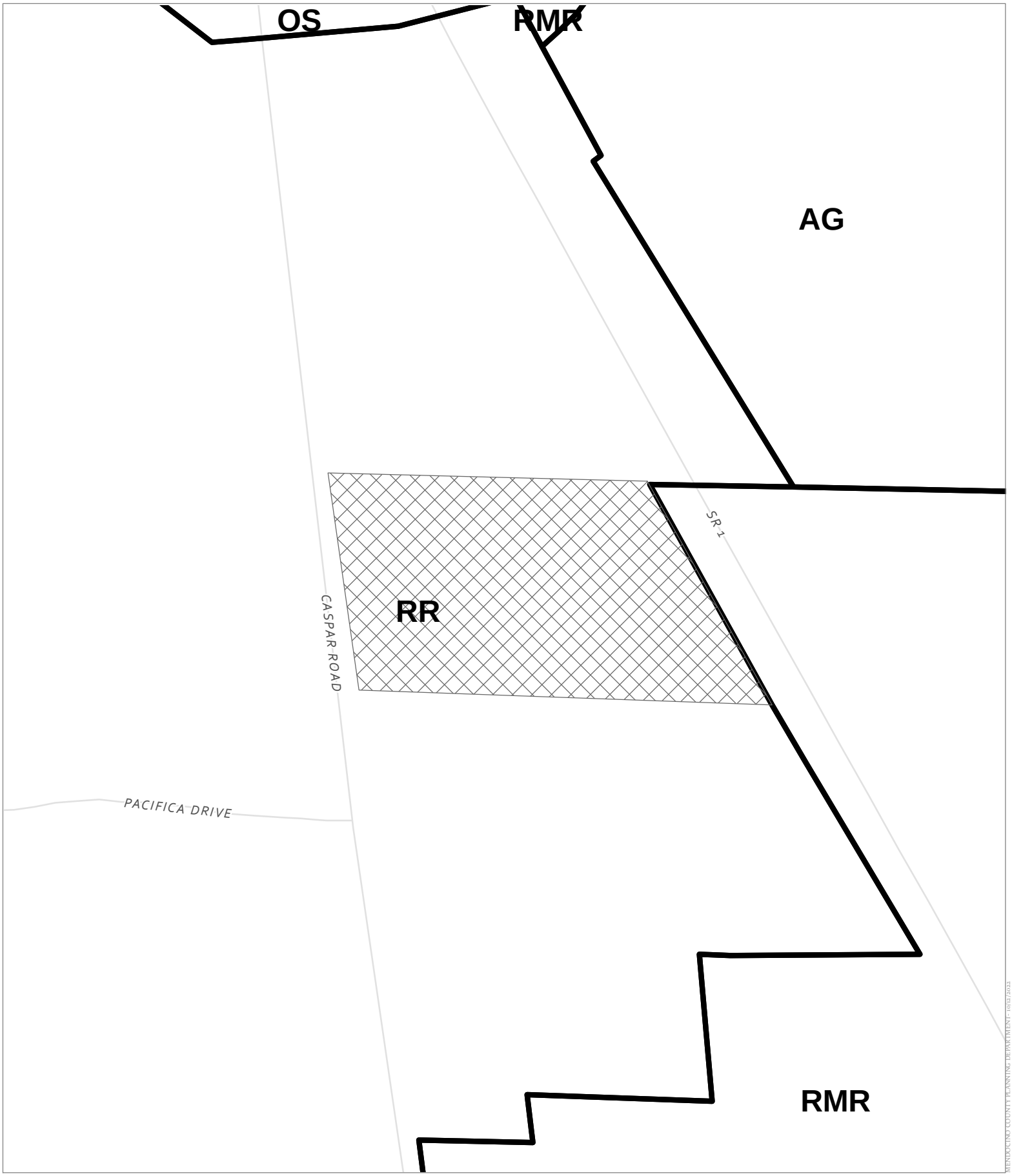
0 125 250 Feet
0 0.02 0.04 Miles
1:3,000

N W E S

TOPOGRAPHIC MAP
CONTOUR INTERVAL IS 40 FEET

MENDOCINO COUNTY PLANNING DEPARTMENT - 10/05/2022



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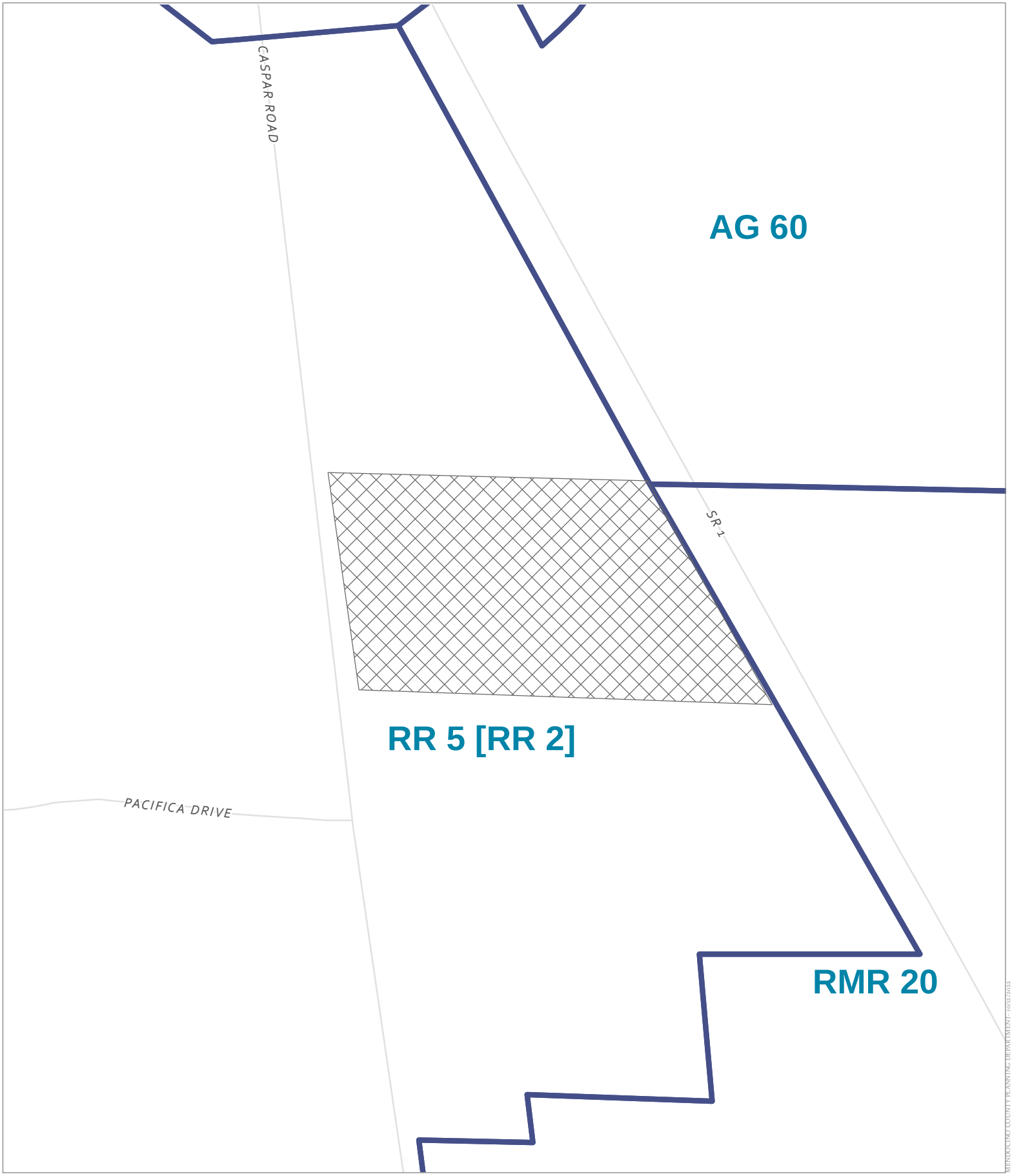
Zoning Districts
Public Roads

0 80 160 Feet
0 0.0125 0.025 Miles
1:2,000

ZONING



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General Plan Classes

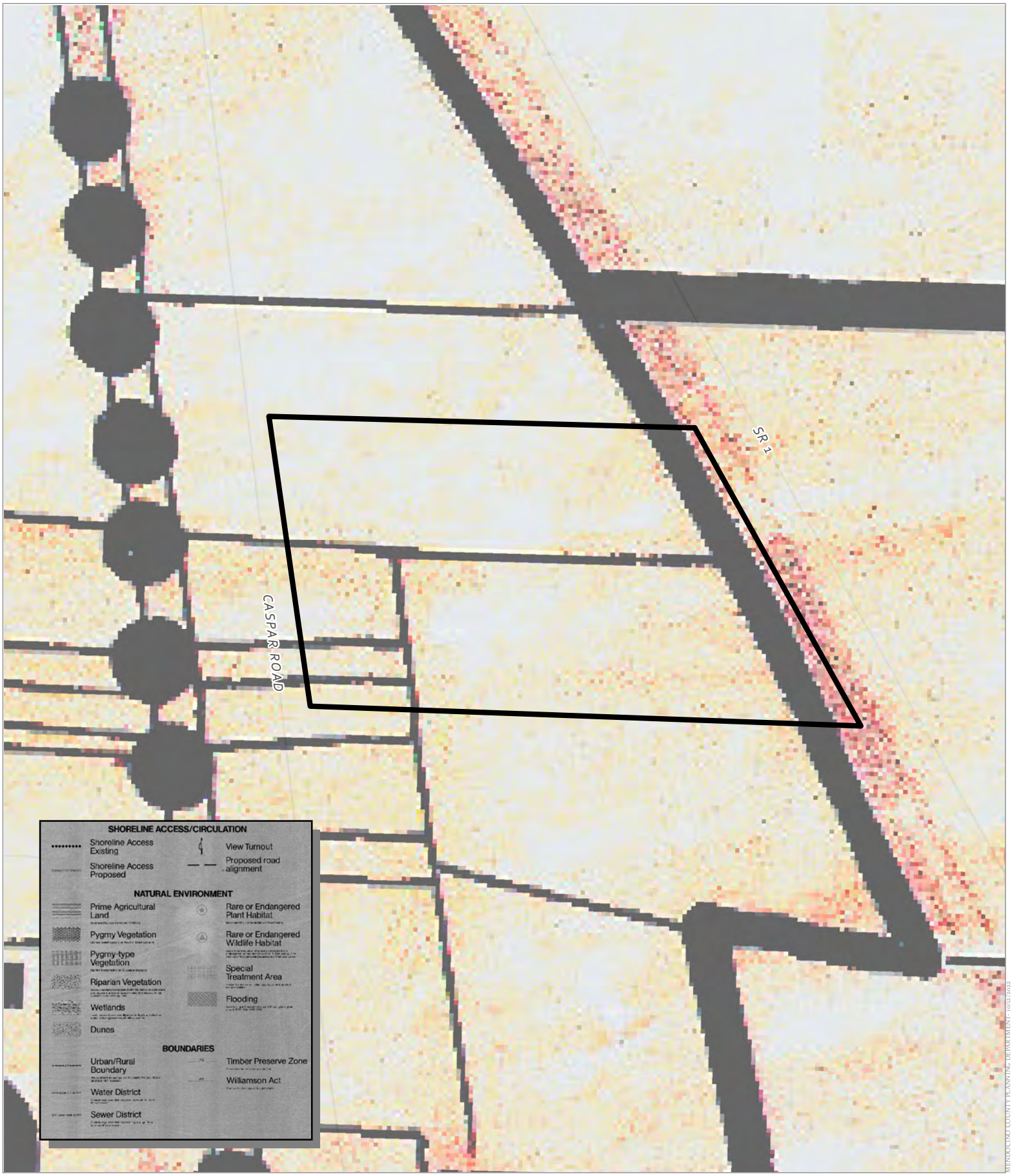
Public Roads

0 80 160 Feet

0 0.0125 0.025 Miles

1:2,000

GENERAL PLAN



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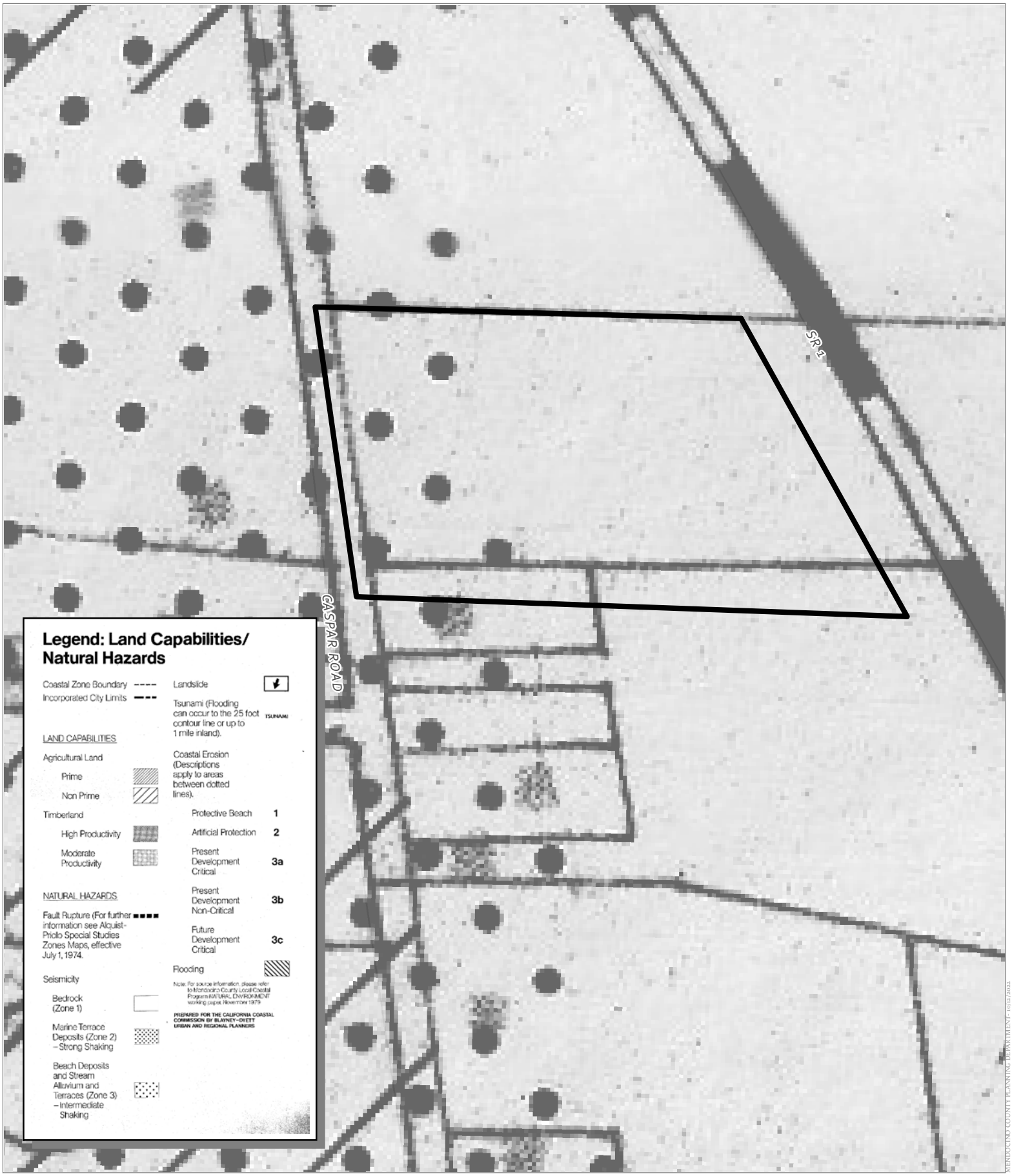
Public Roads

0 62.5 125 Feet
0 0.01 0.02 Miles
1:1,500

N W E S

LCP LAND USE MAP 15: CASPAR

MENDOCINO COUNTY PLANNING DEPARTMENT - 10/6/2022



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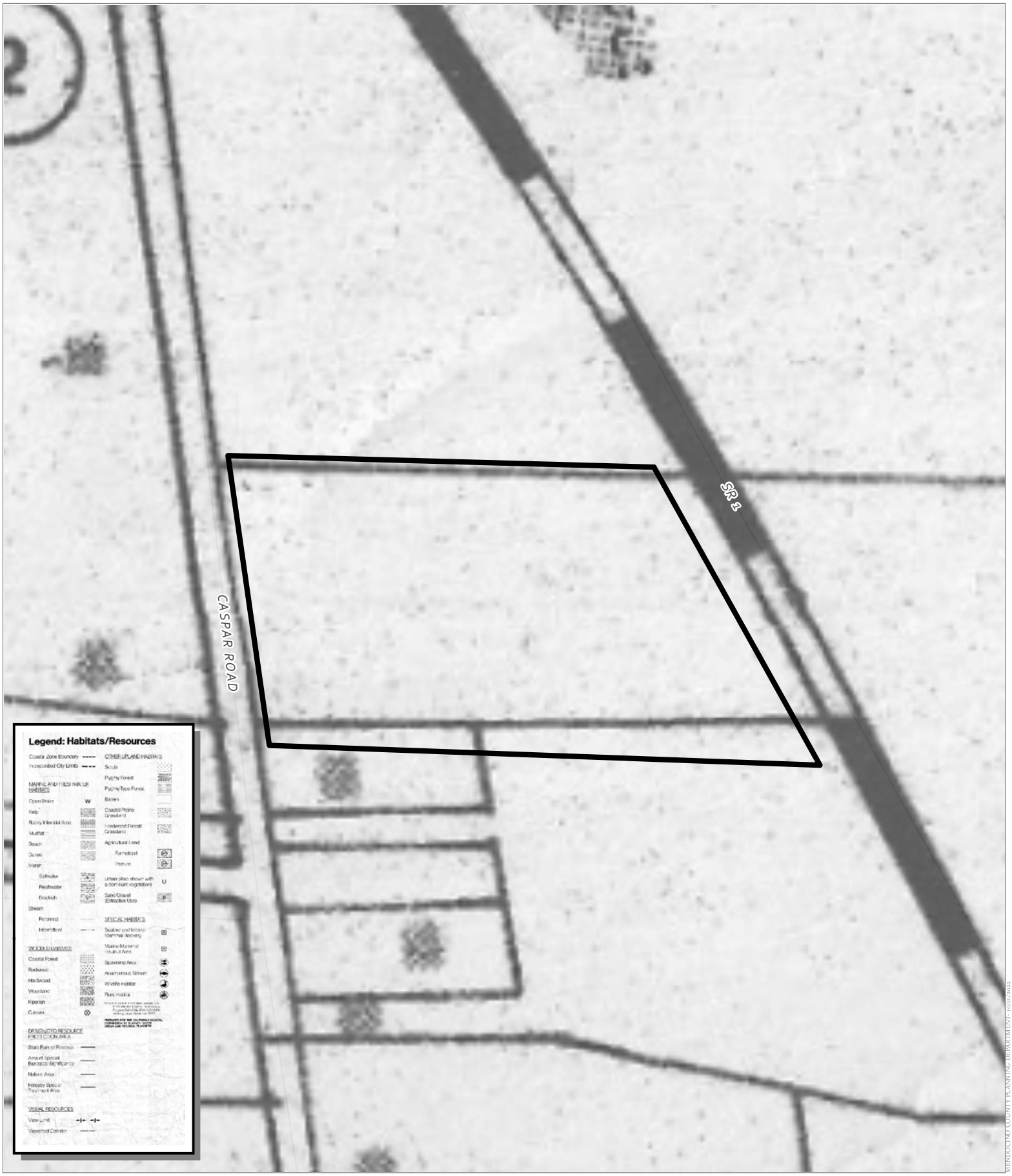
Public Roads

0 62.5 125 Feet
0 0.01 0.02 Miles
1:1,500

LCP LAND CAPABILITIES & NATURAL HAZARDS



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Public Roads

0 62.5 125 Feet
0 0.01 0.02 Miles
1:1,500

LCP HABITATS & RESOURCES

CASE: CDP 2022-0034
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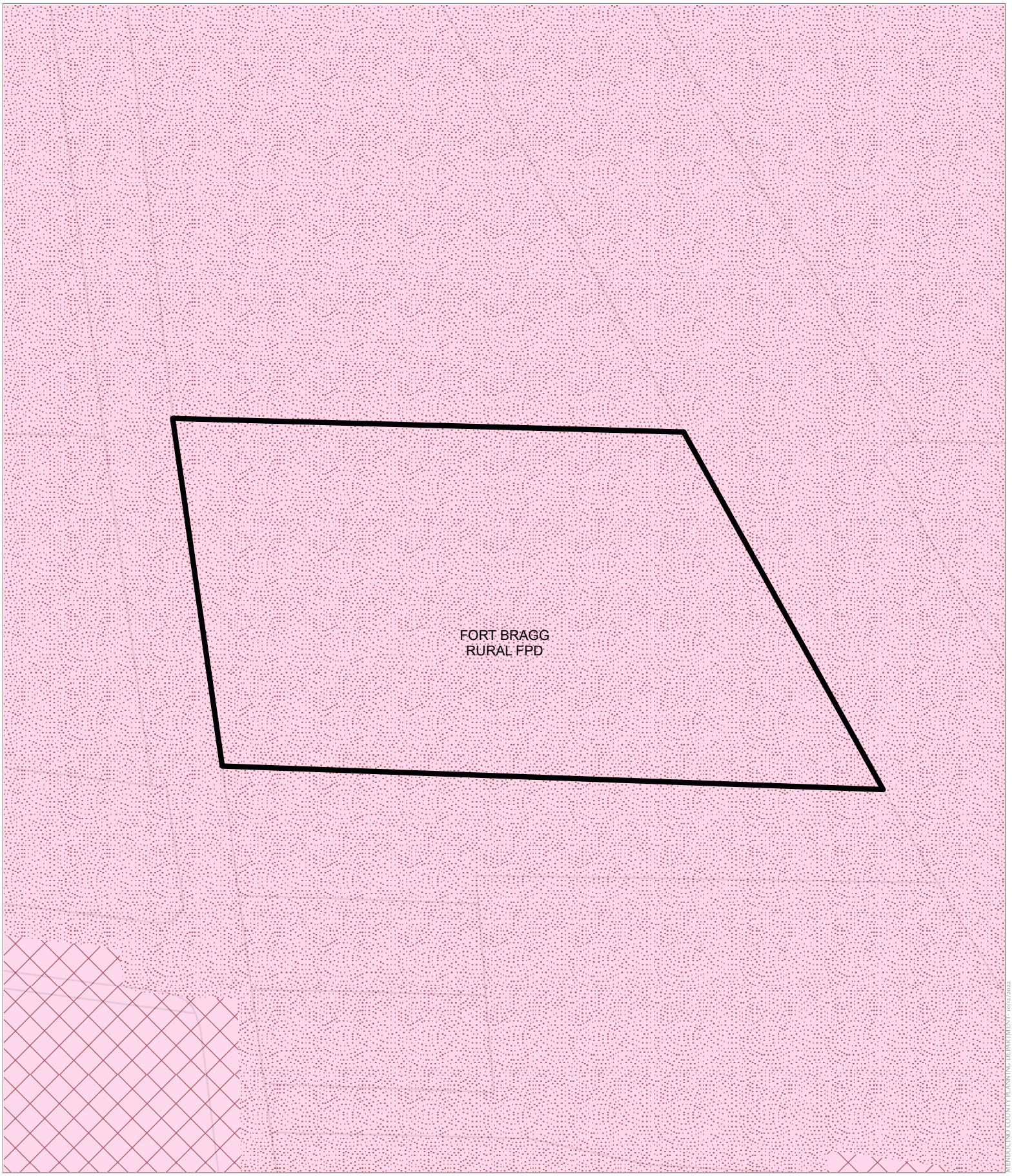
Public Roads

0 62.5 125 Feet
0 0.01 0.02 Miles
1:1,500

POST LCP CERTIFICATION & APPEAL JURISDICTION



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Very High Fire Hazard
High Fire Hazard
County Fire Districts

0 50 100 Feet
0 0.0075 0.015 Miles
1:1,250

FIRE HAZARD ZONES & RESPONSIBILITY AREAS
STATE RESPONSIBILITY AREA

CASE: CDP 2022-0034
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0 50 100 Feet
0 0.0075 0.015 Miles
N W E S
1:1,250

WILDLAND-URBAN INTERFACE

CASE: CDP 2022-0034
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APN: 118-020-18
APLCT: Thomas & Debora Johnson
AGENT: Thomas & Debora Johnson
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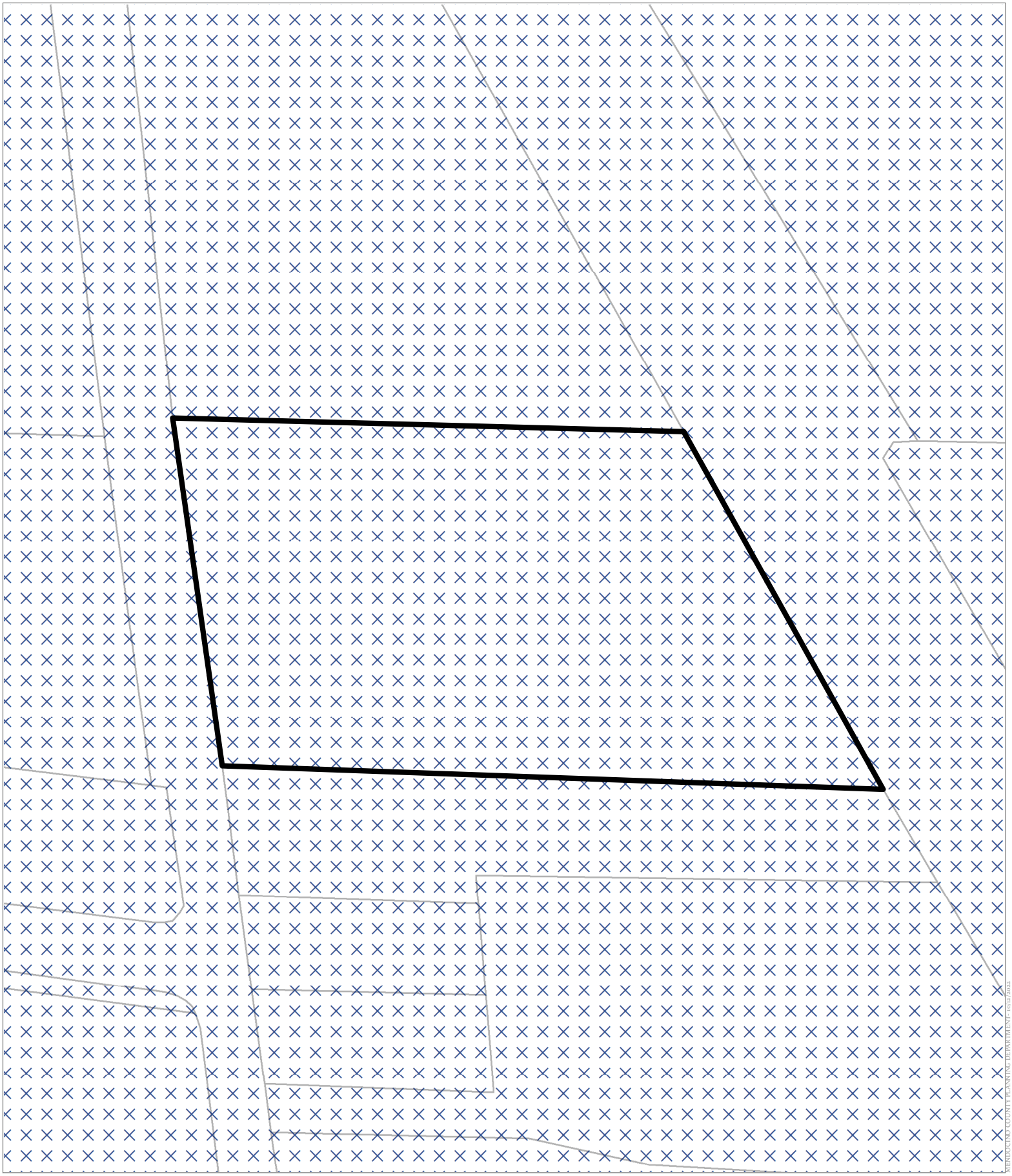
0 50 100 Feet
0 0.0075 0.015 Miles
1:1,250

WETLANDS



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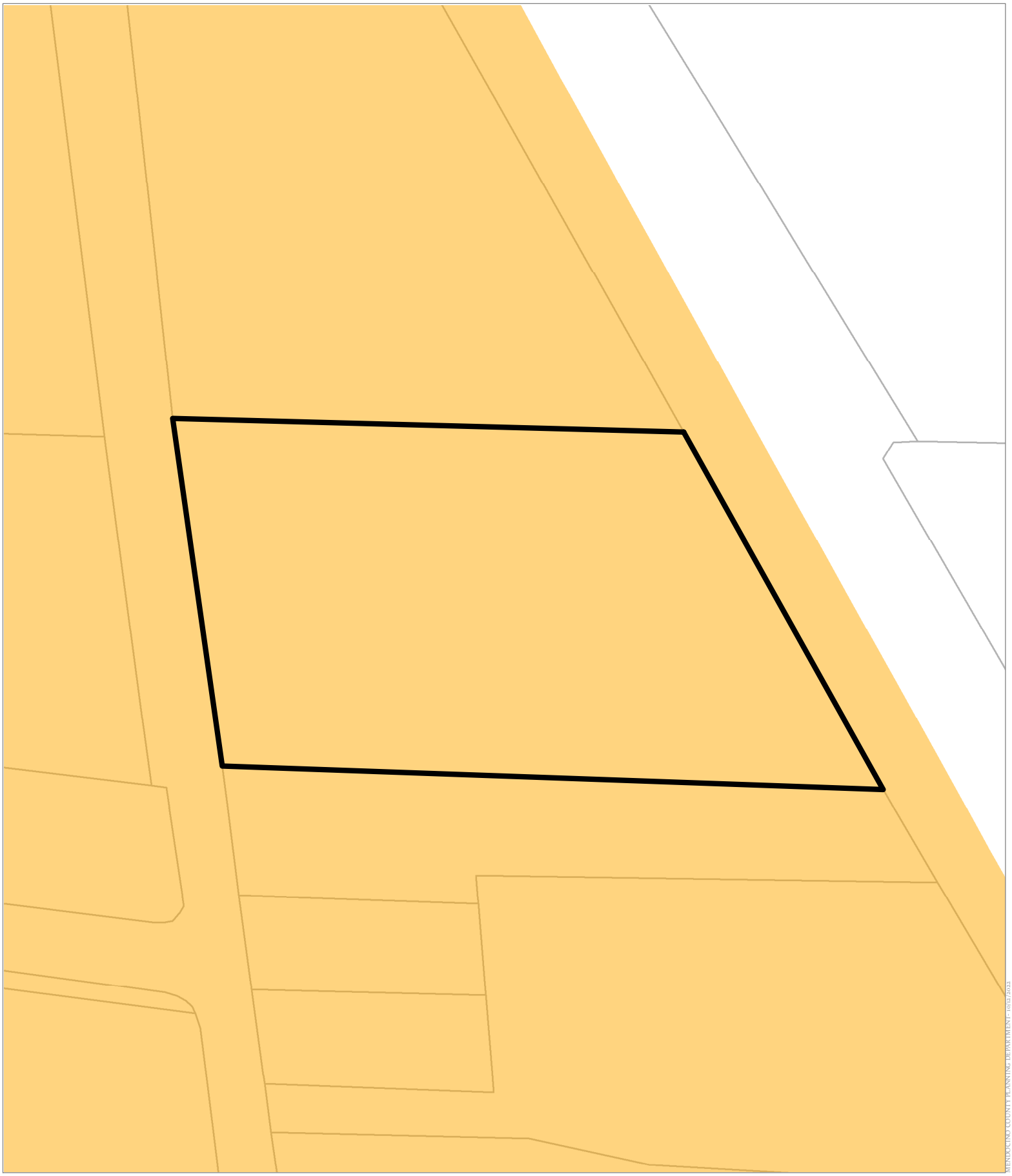
Critical Water Resources

0 50 100 Feet
0 0.0075 0.015 Miles
1:1,250

COASTAL GROUND WATER RESOURCE



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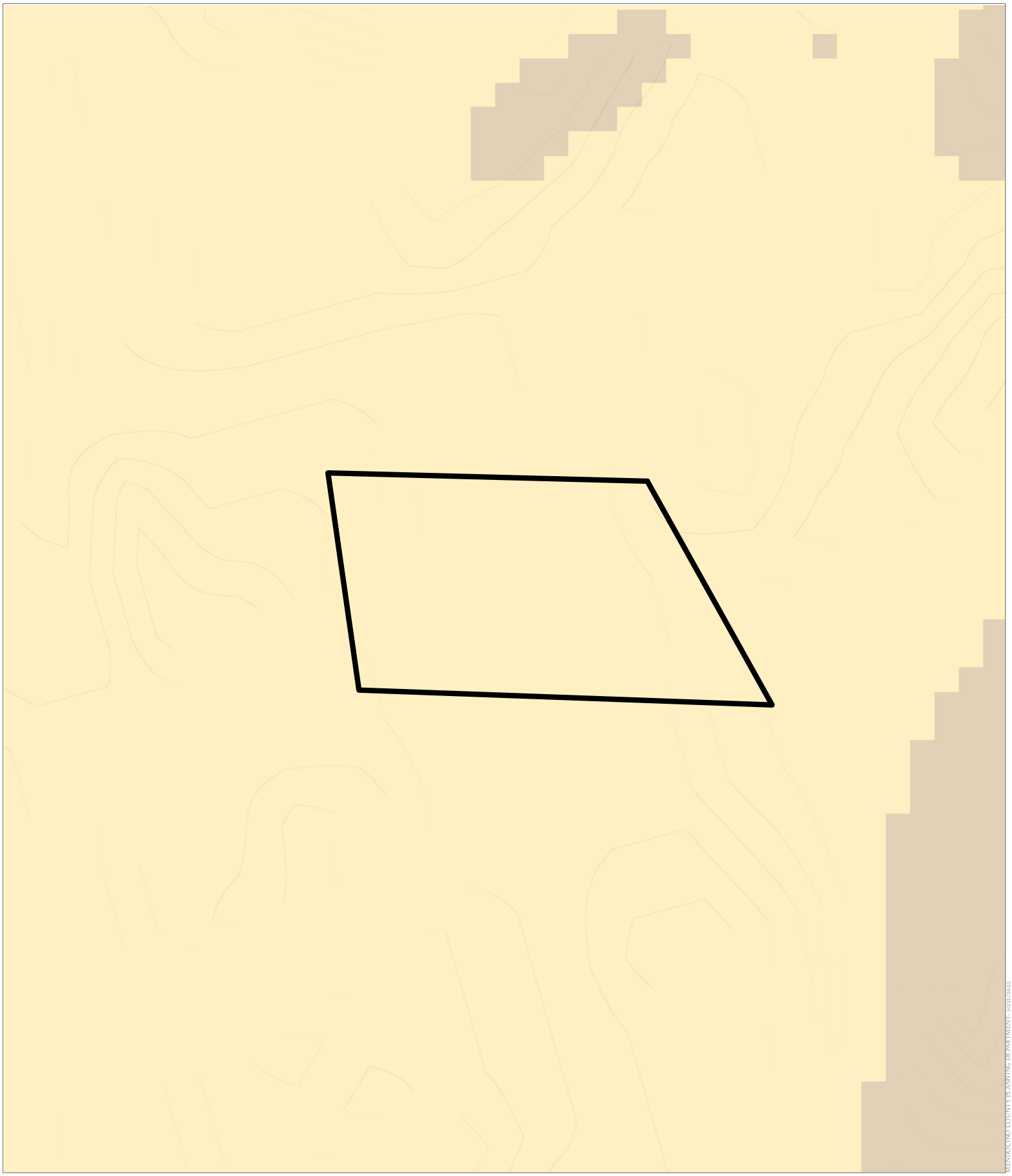
Highly Scenic Area

0 50 100 Feet
0 0.0075 0.015 Miles
1:1,250

HIGHLY SCENIC AREA

MENDOCINO COUNTY PLANNING DEPARTMENT - 10/6/2022



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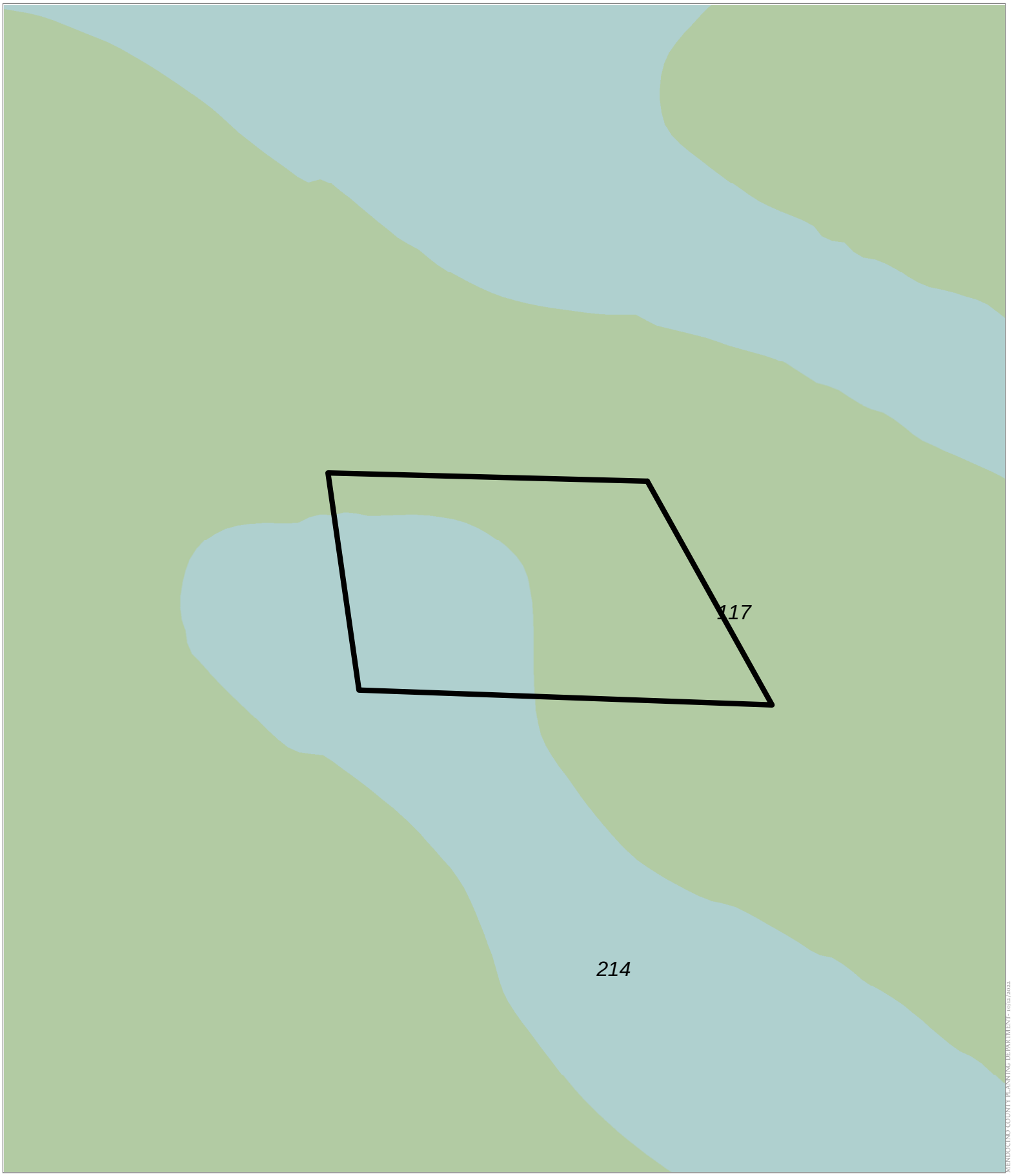
0° - 14°
15° - 32°

0 80 160 Feet
0 0.0125 0.025 Miles
1:2,000

ESTIMATED SLOPE



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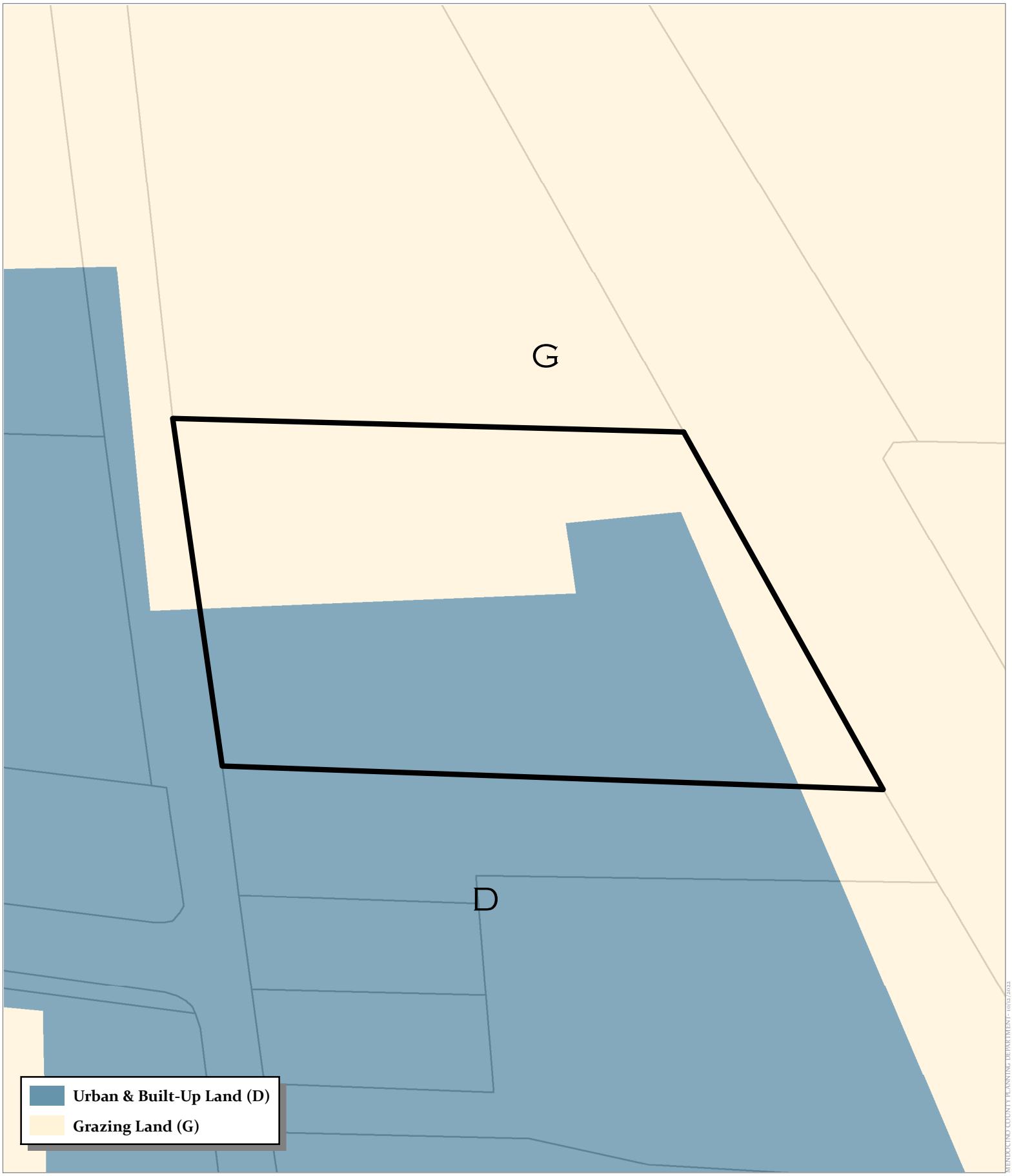
0 80 160 Feet
0 0.0125 0.025 Miles
N W E S
1:2,000

WESTERN SOIL CLASSIFICATIONS



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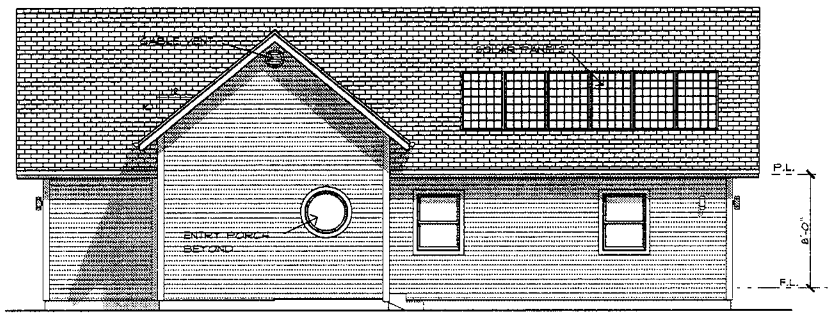
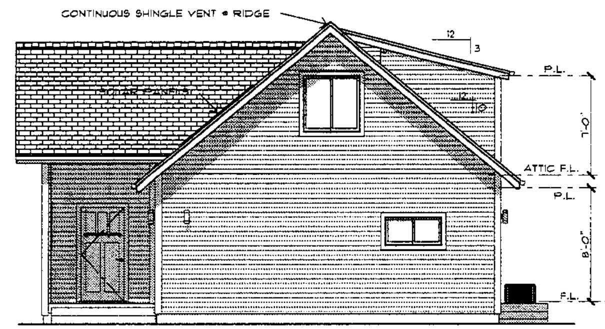
0 50 100 Feet
0 0.0075 0.015 Miles
1:1,250

FARMLANDS



SOUTHWEST ELEVATION @ 1/4" = 1'-0

LEFTSIDE



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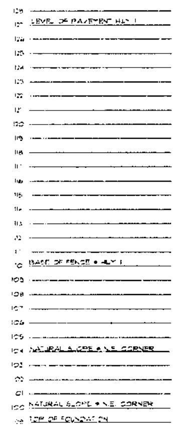
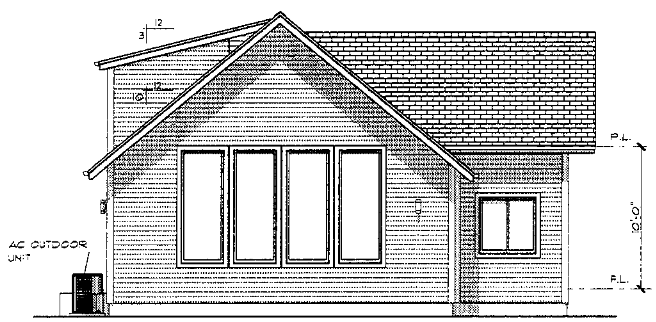
FRONT





NORTHWEST ELEVATION @ 1/4" = 1'-0

REAR

NORTHEAST ELEVATION @ 1/4" = 1'-0"

RIGHT SIDE

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DRAWING LIST
SITE PLAN — SHEET 1
(BY: WYNN COSTAL PLANNING)
EXTERIOR ELEVATIONS - HOUSE — 2
FLOOR PLANS - HOUSE — 3
GARAGE FLOOR PLAN & ELEVATIONS — 4

REVISIONS	BY
ADDED ELEVATION SCALE, PLATE LINE ELEVATIONS	TCA

DESIGN DRAFTING SERVICE
RESIDENTIAL, COMMERCIAL, INDUSTRIAL
Thomas C. Antoni
"Serving customers since 1971"
CAIBD

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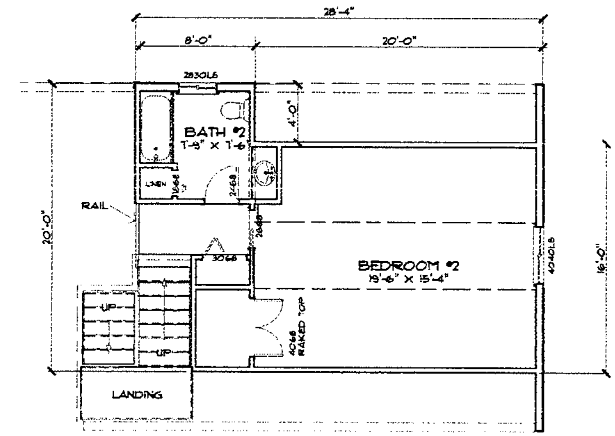

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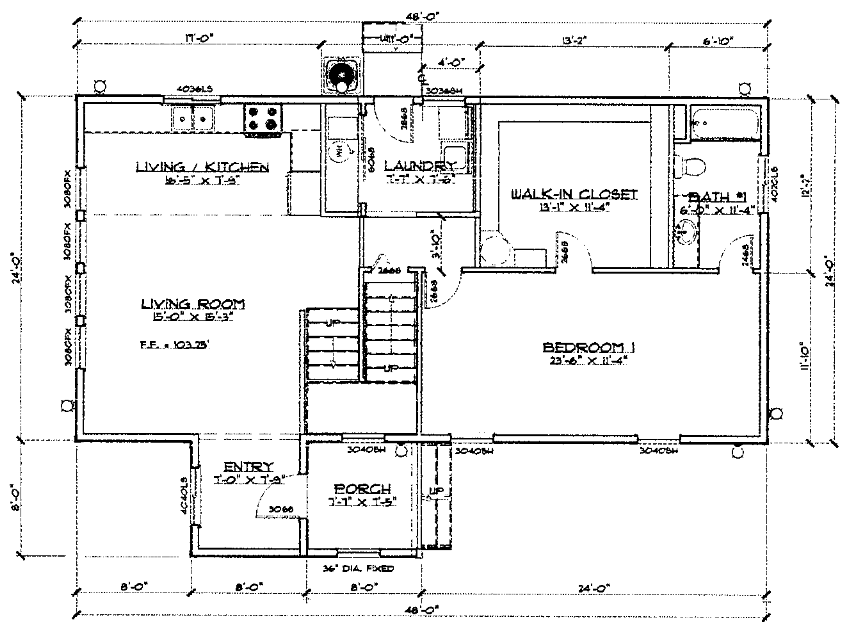
CONDITIONED FLOOR AREA 416 SQ. FT.



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CLIENTS: TOM & DEBBIE JOHNSON
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HOME

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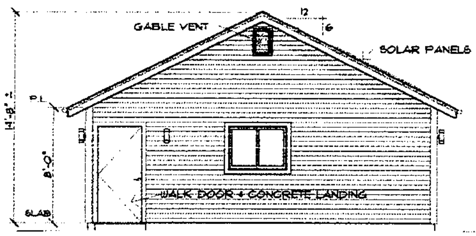
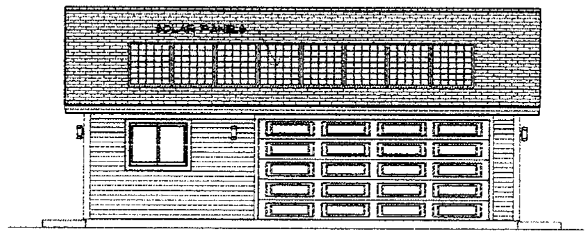


NORTHWEST ELEVATION @ 1/4" = 1'-0"

LEFT SIDE



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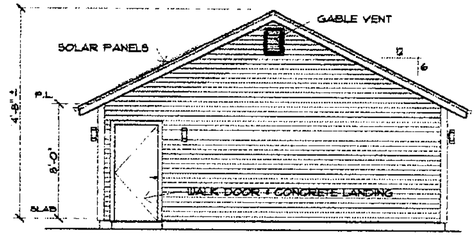
FRONT



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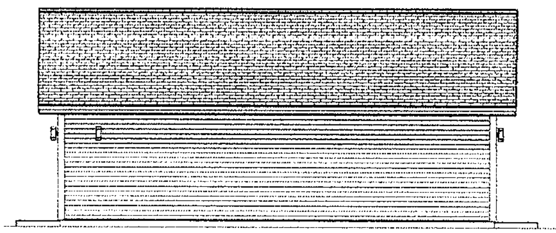

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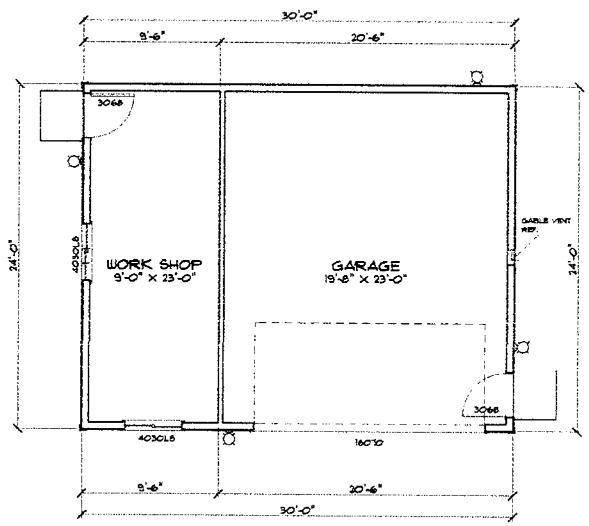
SIDING & TRIM:
HARDIE BOARD 6" REVEAL, FLAT PROFILE
COLORS: SIDING PEARL GREY TRIM: ARTIC WHITE
OUTSIDE LIGHT FIXTURES: HAMPTON BAY WALL MOUNT SCONCE
HALF CIRCLE DOWN LIGHT FLAT BLACK
EXTERIOR DOORS WHITE
WINDOWS : VINYL WHITE
ROOFING: PABCO PRODUCTS PREMIER 30 YEAR ARCHITECTURAL
PROFILE. COLOR : WEATHERED WOOD 8W



FLOOR PLAN @ 1/4" = 1'-0"

FLOOR AREA = 720 SQ. FT.

REVISIONS	BY
REVISED PER CUST. COMMENTS	TCA 8-12-22

DESIGN DRAFTING SERVICE
RESIDENTIAL COMMERCIAL INDUSTRIAL

Thomas C. Antoni

"Serving customers since 1971"

A|D
B|D

CAIBD

CLIENTS: TOM & DEBBIE JOHNSON
LOCATION: 15405 CASPER RD, CASPER, CA.
TITLE: GARAGE
FLOOR PLAN & EXT. ELEVATIONS

DRAWN: TC ANTONI
CHECKED: TCA
DATE: 08-22-2022
SCALE: AS NOTED
JOB NO.: 2486
SHEET: 4
4 OF 4 SHEETS

BIOLOGICAL SCOPING, WETLAND DELINEATION, & BOTANICAL SURVEY REPORT

for

15405 Caspar Road
Caspar, CA 95420
APN 118-020-18-00
Mendocino County

Property Owners:
Tom & Deborah Johnson
251 Forsythe Drive
Redwood Valley, CA 95470

Report Prepared By:
Asa Spade, Senior Biologist
Nicole Bejar, Biologist
Wyatt Dooley, Biologist

December 10, 2021

Wynn Coastal Planning & Biology
703 North Main Street, Fort Bragg CA 95437
ph: 707-964-2537 fx: 707-964-2622
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1. PROJECT SUMMARY

A biological survey and wetland delineation was conducted on parcel APN 118-020-18-00 by Wynn Coastal Planning & Biology (WCPB) to locate potential Environmentally Sensitive Habitat Areas (ESHAs) - special status plants and communities, wetlands and riparian areas, and special status animals and/or their habitats and to determine if they would be directly or indirectly impacted by the proposed development. The proposed development consists of:

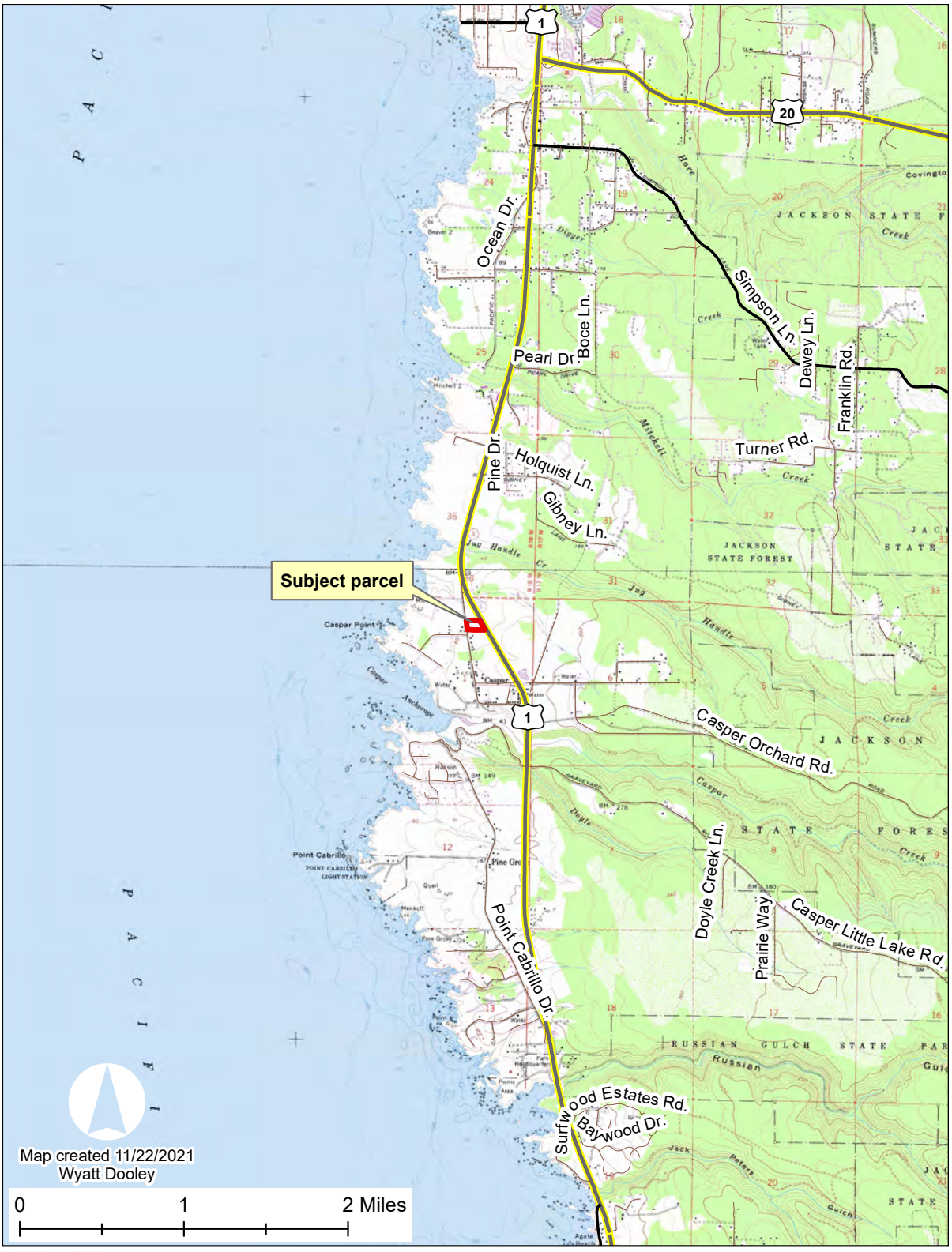
Building a single-family residence with roof mounted solar panels and a detached garage with roof mounted solar panels. This also includes associated infrastructure including a new driveway and parking area, a new well to serve the residence, a 2,500-gallon storage tank, septic system with primary and secondary leach fields, and connection to utilities. Two existing small, dilapidated sheds are proposed to be removed.

The study area (**Figure 1**) is located 5.5 miles south of Fort Bragg within the town of Caspar. Located on a marine terrace, the 3.3-acres property is accessed from the western end of the parcel via Caspar Road.

WCPB staff biologists conducted floristic and ESHA surveys on May 11, June 14, June 20, and July 24, 2019, and June 4, 2021, for a total of 16.25 person hours. Three types of presumed ESHA were identified within the study area according to the definitions by the California Coastal Act (CCA) and Mendocino County Local Coastal Plan (LCP) (**Figure 2**).

> **Delineated Wetland ESHA** – A wetland flows through parts of the property from east to west before draining to a culvert along Caspar Road. The wetland was delineated using the ACOE protocol and totaled approximately 1.12 acres.
>
> **Riparian ESHA** – Several presumed riparian areas were observed within 100ft of the parcel boundary and totaled approximately 0.25 acres.
>
> **Special Status Plant ESHA-** One special status plant species was identified on the property: **deceiving sedge** (*Carex saliniformis* CRPR 1B.2).

This analysis has been performed by WCPB and is the culmination of our professional opinion, research, and data collection. The County of Mendocino (County), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS) should also be consulted regarding this project to obtain all necessary permits and obtain their concurrence with our findings and recommendations, and to make recommendations of their own, including concurrence of the boundaries of the sensitive areas and appropriate avoidance and protective measures.



OWNER: Johnson, Tom
APN: 118-020-18
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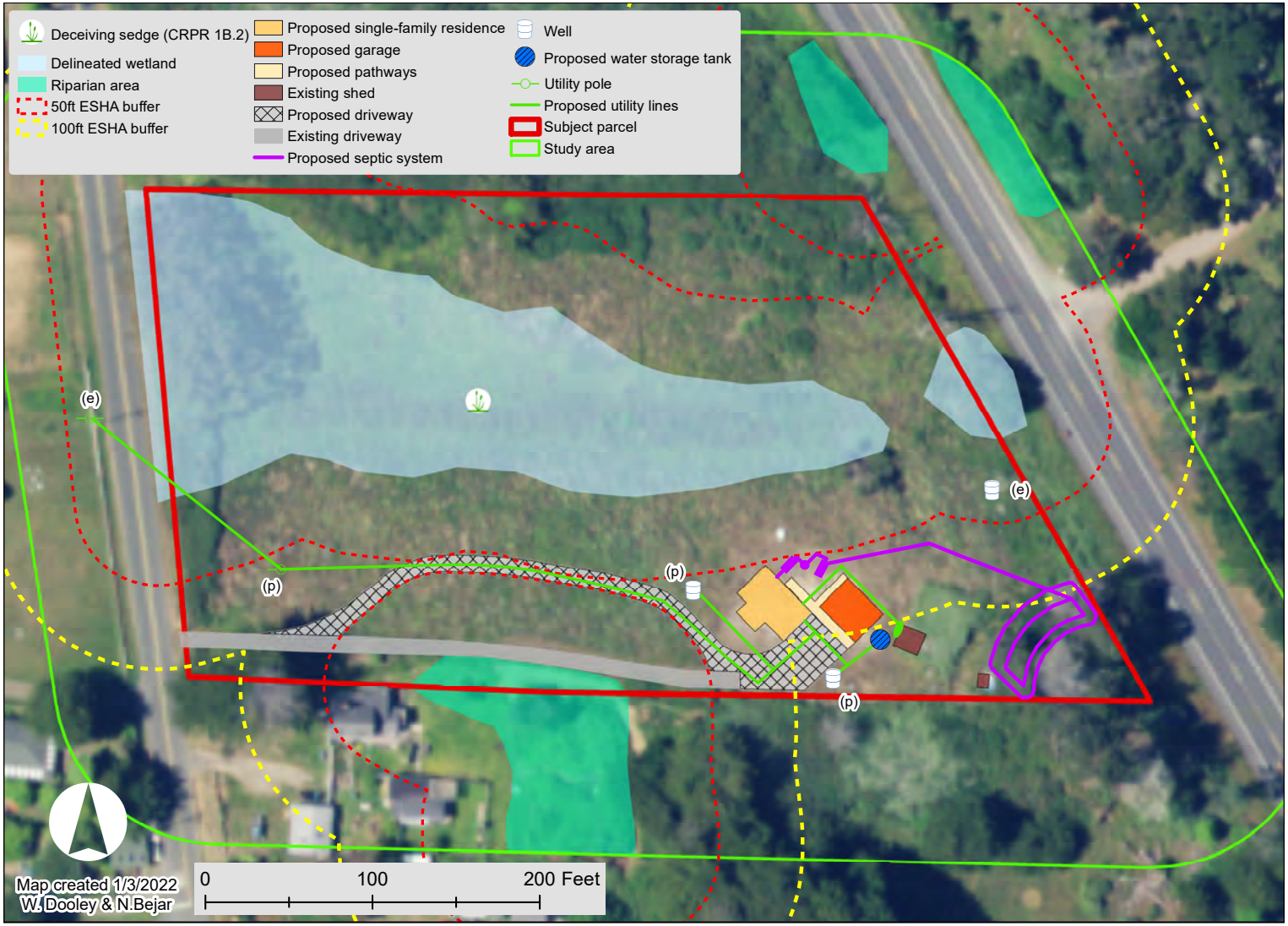
Location Map

Figure 1. Location of Johnson parcel.



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Presumed ESHA & Development Map

Note: Areas accessed only where legally and safely to do so.

Figure 2. Proposed and existing development and presumed Environmentally Sensitive Habitat Areas (ESHAs) identified in the study area and their recommended buffers.

2. PROJECT DESCRIPTION

The proposed development is to build a single-family residence with roof mounted solar panels and a detached garage with roof mounted solar panels. This also includes associated infrastructure including a new driveway and parking area, a new well to serve the residence, a 2,500-gallon storage tank, septic system with primary and secondary leach fields, and connection to utilities. Two existing small, dilapidated sheds are proposed to be removed. **Figure 2** shows the footprint of the proposed and existing development.

3. STUDY AREA DESCRIPTION

3.1. General Site Description

The parcel is approximately 3.3-acres in size and is located approximately 5.5 miles south of the City of Fort Bragg in the town of Caspar and just west of Highway One. The property is located on a large terrace where the eastern property boundary is approximately 125ft above sea level and dips northwest to an elevation of 90ft. The parcel is slightly concave through the center of the parcel. The concave feature diverts water to the center of the property which surveyors delineated as a wetland. The wetland then flowed offsite into a culvert at Caspar Road where the water makes its way toward the ocean. The majority of the vegetation outside of the property boundary was gorse (*Ulex europaeus*). The property also had a large barren area on the southeast side of the property. This barren area was where the previous owners kept farm animals for many years. A remnant paddock and shed were still onsite at the time of surveying.

3.2. Land-Use History

The previous property owner kept horses and other farm animals on the property which is apparent from archival photographs (**Figure 3** & **Figure 4**). Two barns and fencing are still present on the property from this time. An aerial photo from 1998 (**Figure 5**) shows that the parcel has stayed relatively the same over time. The existing road is apparent along the southern property line as well as the cleared area in the southeast corner of the property where the existing sheds are located and where the proposed development will be situated. The wetland and soft rush marsh are apparent as the dark line running horizontally across the center of the property.

Figure 3. Archival imagery of the driveway entrance from Caspar Road (Google Maps 2012).

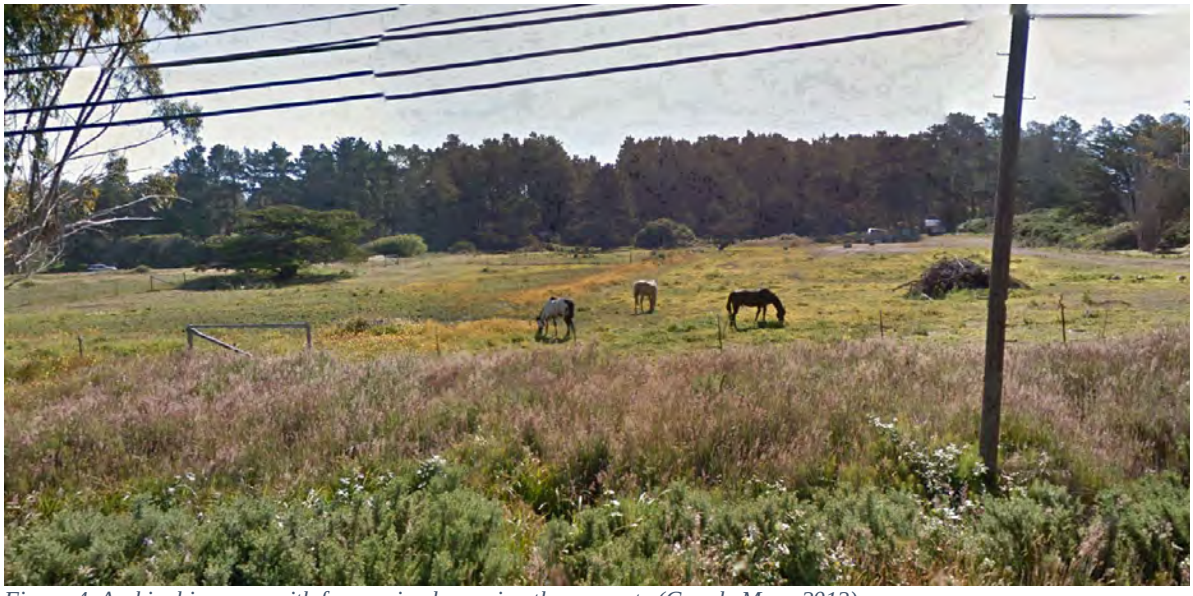

Figure 4. Archival imagery with farm animals grazing the property (Google Maps 2012).

Figure 5. Historical Google Earth imagery from 1998 with subject parcel and study area roughly overlaid.

3.3. Topography and Soils

The elevation of the study area is between 90 and 125 feet above sea level. Two types of soil have been mapped by the Natural Resource Conservation Service in the study area: Cabrillo-Heeser complex, 0 to 5% slopes, Tropaquepts, 0 to 15% slopes.

Cabrillo-Heeser complex, 0 to 5% slopes is included on the hydric soils list due to the inclusion of 3% Tropaquepts soils within the complex. “This map unit is on marine terraces. The vegetation is mainly perennial grasses and forbs. The Cabrillo soil is very deep and is somewhat poorly drained. It formed in marine sediments.” “The Heeser soil is very deep and is somewhat excessively drained. It formed in eolian sands.” “The Cabrillo and Heeser soils occur as areas so intricately intermingled that it was not practical to map them separately at the scale used.” (Rittiman 2006)

Tropaquepts, 0 to 15% slopes, also listed on the hydric soils lists due to the inclusion of Tregoning and Tropaquepts soils. “These very deep, very poorly drained soils are on marine terraces at the heads of drainageways, along drainageways, or in shallow depressions. They formed in marine sediments. In some areas the vegetation is mainly dense stands of Mendocino cypress and Labrador tea. In other areas it is mainly perennial grasses, sedges, and wax myrtle.” (Rittiman 2006)

Both soil types within the study area meet hydric soil criteria (USDA Natural Resource Conservation Service, 2001; **Appendix A**). It should be noted that when a given soil is listed on the National Hydric Soils List as a hydric soil, that does not necessarily mean a wetland is present. Soil complexes are mapped at a coarse resolution and contain a number of components, any one of which may or may not be hydric, and may or may not be present in the particular mapped location.

3.4. Climate and Hydrology

The Mendocino Coast has a Mediterranean climate with average annual precipitation of 40.24 inches (WRCC, Station Fort Bragg 5N, average for years 1895-2016), with the majority of rain occurring in winter months (November through March).

The USFWS National Wetlands Inventory map was consulted and shows a freshwater emergent wetland along the southern property boundary (**Appendix B**). Ground surveys confirmed the presence of the wetland and the surrounding vegetation influenced by the wetland are referred to as a riparian area for the purposes of this report. A ditch drains the riparian area towards Caspar Road along the southern property line.

3.5. Vegetation and Natural Communities

After the Johnson’s acquired the parcel, it returned to a more natural state with the absence of grazing. Since grazing has stopped, the majority of the parcel has become dominated by a non-native common velvet grass meadow. The area mapped as wetland did have a higher presence of native plant species including an area which is mapped as soft rush marsh. The perimeter of the parcel was dominated by gorse which is beginning to encroach onto the parcel. The southern riparian area is vegetated with twinberry thickets and the northeastern riparian area is vegetated with arroyo willow thickets. Non-native trees such as eucalyptus, Monterey pine, and Monterey cypress trees were present along the borders of the parcel.

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Caspar, CA

Plant Communities & Vegetation

Note: Areas accessed only where legally and safely to do so.

Figure 6. Plant communities and vegetation map.

3.6. Adjacent Lands

Lands surrounding the study area include rural residential parcels to the south, east, and west, Fortunate Farm across the highway to the east, undeveloped residential parcels to the north, and Jughandle State park approximately a quarter mile to the northeast.

3.7. Existing Development

Metal fencing surrounds the perimeter of the parcel with some fencing located within the interior of the parcel that was presumably used to create paddocks. At the southeastern corner of the parcel a metal farm gate and a gravel driveway lead to an abandoned farm structure at the southeastern property corner. An existing well was also present on the property.

4. SURVEY METHODOLOGY

4.1. Scoping Tables

Scoping tables were created for the special-status plant species and wildlife with the potential to occur in the study area by reviewing the most up-to-date species lists for the California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS).

For purposes of this evaluation, special-status plant species are vascular plants that are (1) designated as rare, threatened, or endangered by the state or federal governments; or (2) are proposed for rare, threatened, or endangered status; and/or (3) are state or federal candidate species, and/or (4) considered species of concern by the USFWS and/or (5) are included on the California Rare Plant Rank (CRPR) List 1A, 1B, & 2.

Maps were created using the California Natural Diversity Database CNDDB for records within 1 mile of the study area **(Figure 7 and Figure 8)**. The CNDDB is a database consisting of historical observations of special-status plant species, wildlife species, and natural plant communities. CNDDB was used to help compile a list of special status plants and animals with potential to occur in the study area. This list was not limited to species presented in the maps, it includes all species indicated by a search of all quads with similar geology, habitats, and vegetation to those found in the project area. Because the CNDDB is limited to reported sightings, it is not a comprehensive list of plant species that may occur in a particular area. However, it is useful in refining the list of special-status plant species that have the potential to occur on a particular site.

A database search was performed using the CNPS *Electronic Inventory*, which allows users to query the *Inventory of Rare and Endangered Plants of California* using a set of search criteria (e.g., quad name, habitat type). A target list of special-status plant species with the potential to occur on the site was developed through interpretation of the CNDDB and CNPS query results. The biological scoping tables with special status resources potential occurrences in the study area are presented in **Appendix C: Tables 1, 2, and 3.** While directed by query results, surveys were not restricted only to those species indicated by this literature review. Field surveys and subsequent reporting were comprehensive and floristic in nature.

Additional information, (e.g. morphological characteristics, range, habitat and bloom period) was collected for each of the special-status plant species that had the potential to occur within the study area. WCPB staff botanists reviewed these characteristics for each of the plants on the target list prior to initiating fieldwork.

The botanical survey of the study area was conducted primarily adhering to the protocol described by the California Department of Fish and Wildlife in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (2018).*

Additional database review was conducted to assess the potential for wetlands to occur in the area prior to field work. Aerial photography was assessed for features with “wet” characteristics and the Inventory of National Wetlands database was viewed with the subject parcel boundaries to see if any

predetermined wetlands occur in the study area.

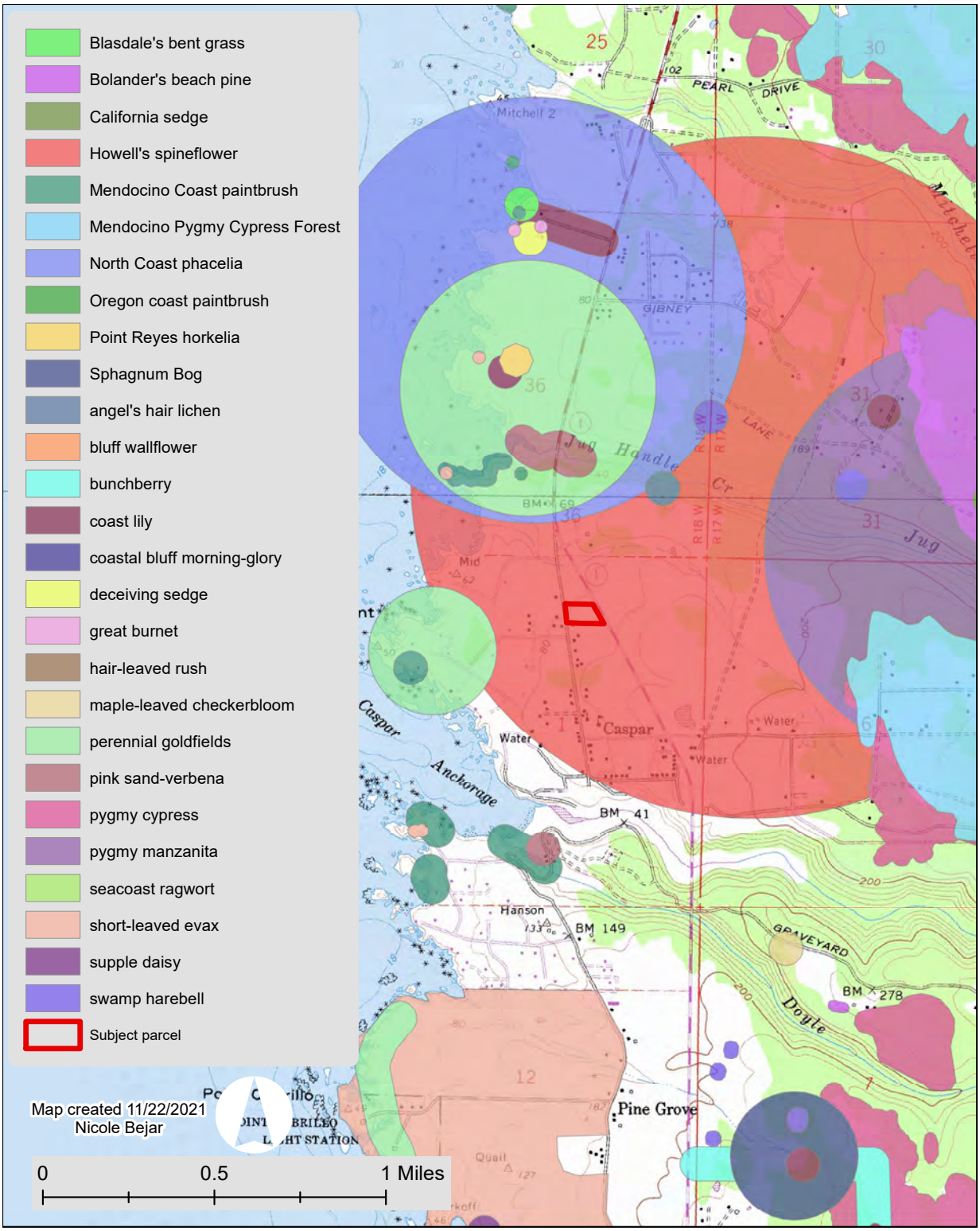
4.2. Field Surveys

WCPB staff biologists conducted surveys on May 11, June 14, June 20, and July 24, 2019, and June 4, 2021, for a total of 16.25 person hours, to compile a full floristic list of plants occurring in the study area and to identify any rare resources having the potential to meet the LCP ESHA definitions. To ensure potential ESHA plants were evident and identifiable, offsite **reference plant populations** were visited prior to the project field surveys. Verified offsite reference site plants observed by WCPB staff during the 2019 and 2020 floristic seasons included: short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*), Mendocino coast paintbrush (*Castilleja mendocinensis*), harlequin lotus (*Hosackia gracilis*), headland wallflower (*Erysimum concinnum*), Menzies' wallflower (*Erysimum menziesii*), coastal bluff morning glory (*Calystegia purpurata* ssp. *saxicola*), Blasdale's bent grass *(Agrostis blasdalei*), Point Reyes blennosperma (*Blennosperma nanum* var. *robustum*), coast lily (*Lilium maritimum*), deceiving sedge (*Carex saliniformis*), Maple-leaved checkerbloom (*Sidalcea malachroides*), Howell's spineflower (*Chorizanthe howellii*), round-headed Chinese houses (*Collinsia corymbosa*), hair-leaved rush (*Juncus supiniformis*), swamp harebell (*Campanula californica),* Point Reyes horkelia (*Horkelia marinensis*), thin-lobed horkelia (*Horkelia tenuiloba*), perennial goldfields (*Lasthenia californica* ssp. *macrantha*), great burnet (*Sanguisorba officinalis*), early blue violet (*Viola adunca*), nodding-semaphore grass (*Pleuropogon refractus*), stag's-horn clubmoss (*Lycopodium clavatum*), north coast semaphore grass (*Pleuropogon hooverianus*), Canadian bunchberry (*Cornus canadensis*), Pacific blue field gilia (*Gilia capitata* ssp. *pacifica*), redwood lily (*Lily rubescens*), pygmy manzanita (*Arctostaphylos nummularia* ssp. *mendocinoensis*), manyleaf gilia (*Gilia millefoliata*), Bolander pine (*Pinus contorta* ssp. *bolanderi*), Mendocino cypress (*Hesperocyparis pygmaea*), leafy Bishop's cap (*Mitella caulescens*), Bolander's reed grass (*Calamagrostis bolanderi*), pink sand verbena (*Abronia umbellata* var. *beviflora),* Lyngbye's sedge (*Carex lyngbyei*), white beak sedge (*Rhynchospora alba*), Oregon goldthread (*Coptis laciniata*), Point Reyes sidalcea (*Sidalcea calycosa* ssp. *rhizomata*), Gairdner's yampah (*Perideridia gairdneri*), and corn lily *(Veratrum fimbriatum*).

All identifiable plant species located during the surveys were identified to the lowest taxonomic level necessary to determine the presence of special status plant species and are listed in **Table 1 (Appendix C**). *The Jepson Manual: Vascular Plants of California* (Baldwin 2012) was used to determine the taxonomic nomenclature. *A Manual of California Vegetation Second Edition* (Sawyer 2009), *Classification of the Vegetation Alliances and Associations of Sonoma County, CA, V. 2* (Klein 2015) and the *List of Vegetation Alliances and Associations* (CDFW 2010) were used to classify and describe representative plant communities present. A potential for false negative survey results exists. For example, a rare plant could be eaten by deer around the time when they would have been evident and identifiable and therefore not be detected during surveys. Some plants remain dormant and do not become evident and identifiable every year. Climatic conditions are different each year and may have unpredictable effects on the bloom windows of each species. Heavy rains, for example, may cause one species to bloom early and another species to bloom later than in normal years. Well timed site visits and frequent observations at known reference sites reduce the chance of error.

4.3. Wetland and Riparian Delineation

Wetland delineation field work began with examination of the topography and searching for surface hydrology and hydrophytic plants. Further analyses were performed at five sample points where wetland soils, hydrophytic vegetation, and hydrology were inspected according to the US Army Corp of Engineers (ACOE) methodology for: Western Mountains, Valleys, and Coast Region (Version 2.0). Wetland data sheets for these sample points are presented in **Appendix D.** Sampling points are marked in the field with 24-inch wooden stakes with colored flagging and labeled in Sharpie marker. Locations of sampling points are depicted on the Wetland Delineation Map in **Figure 23**. The ACOE recognizes wetlands where hydrophytic vegetation, hydric soils, and hydrology are all present. In the California Coastal Zone, wetlands are recognized if any one of the three ACOE parameters (hydrophytic vegetation, hydric soils, or hydrology) is present. Wetlands reported and mapped in this report are Coastal Act wetlands and may or may not be Army Corps wetlands; a distinction is made where important.



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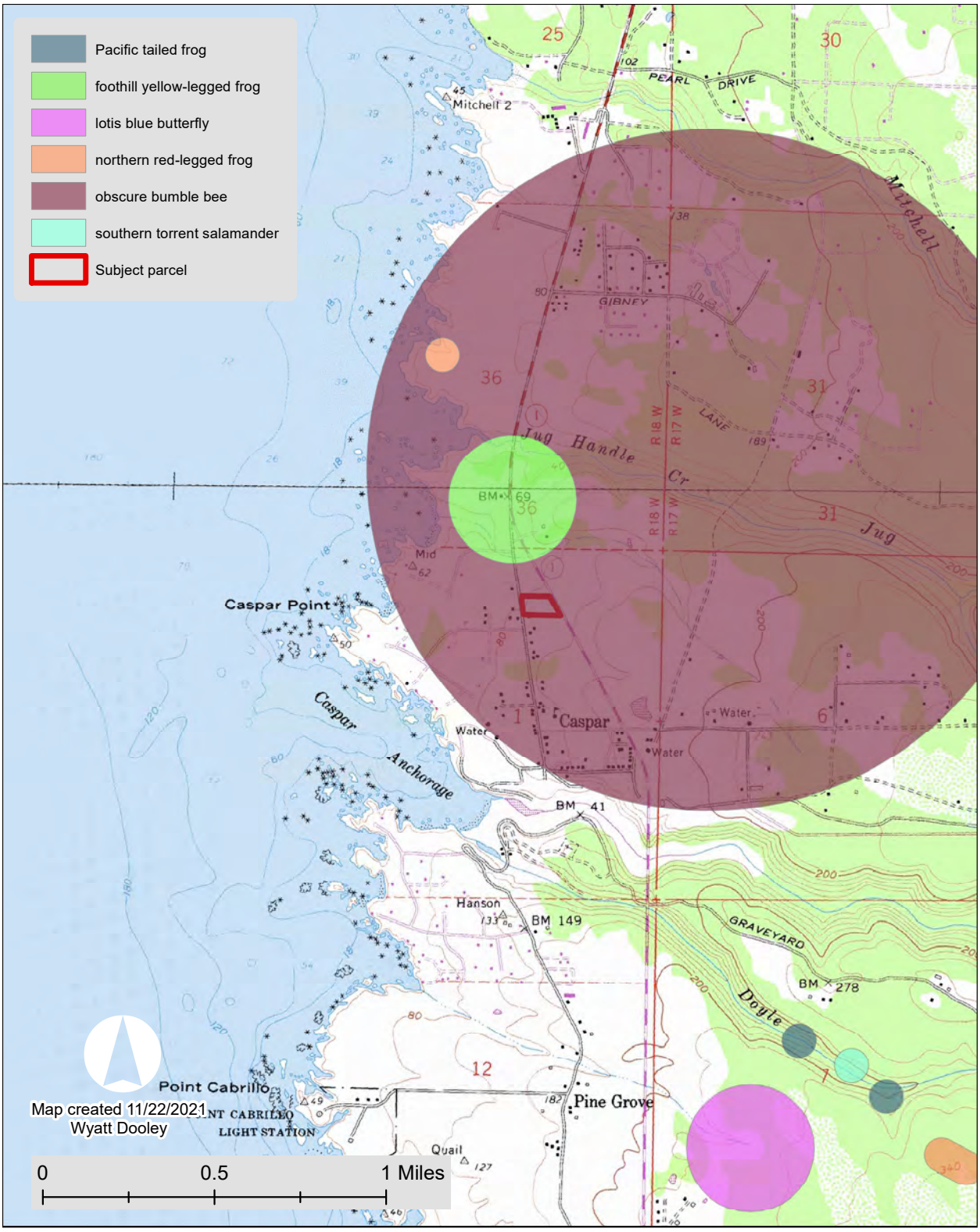
CNDDB Flora

Figure 7. Rare flora reported to CDFW in the proximity of the study area and recorded in the CNDDB database.



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CNDDB Fauna

Figure 8. Rare fauna reported to CDFW in the proximity of the study area and recorded in the CNDDB database.

5. SURVEY RESULTS

Biological field surveys were performed that identified the following: plants, plant communities, wetlands, special status animals, and animal habitat in the study area.

5.1. Plants – Presumed ESHAs observed

The CDFW's California Native Diversity Database (CNDDB) BIOS, *Version 5* (2016), was used to inform the search on special status flora previously reported in the vicinity of the project area. One hundred and three species of herbs, grasses, sedges, rushes, ferns, shrubs, and trees were identified in the study area and are listed in **Appendix E**. One special status plant species was observed during the floristic surveys - **deceiving sedge** (*Carex saliniformis* CRPR 1B.2). Locations where the special status plant was observed are mapped in **Figure 2**.

5.1.1. Deceiving sedge (*Carex saliniformis* CRPR 1B.2)

Deceiving sedge is a perennial grasslike herb that is endemic to California. This special status sedge is a facultative wetland plant and therefore, usually occurs in wetlands. Several deceiving sedge individuals were observed in the center of the soft rush marsh delineated wetland (**Figure 2**). WCPB biologists have only observed this plant growing in wetlands.

Figure 9. Deceiving sedge occurring within the study area.

5.2. Plant Communities Observed

Some vegetation mapped in **Figure 6** does not conform to the mapping and classifications standards in the Manual of California Vegetation and cannot be described as a plant community. Areas such as these are generally single plant specimens or a cluster of a few trees or shrubs, they are mapped separately rather than lumped in with disparate adjacent communities. These mapped areas that do not make a plant community are Monterey cypress trees (*Hesperocyparis macrocarpa*), wax myrtle shrubs (*Morella californica*), redwood tree (*Sequoia sempervirens*), and mowed lawn between classified and mapped plant communities.

5.2.1. Common velvet grass meadow (*Holcus lanatus* Herbaceous Semi-Natural Association)

The common velvet grass (*Holcus lanatus*) meadow was the most extensive plant community on the subject parcel. The grassland was approximately two to four feet tall, extremely dense in most areas, and dominated by common velvet grass (**Figure 10**). The density of the grass caused the biodiversity of upland areas to be very low.

Areas that were mapped as wetland had less dominant common velvet grass which increased the plant biodiversity. Areas mapped as wetland had a high percentage of creeping buttercup (*Ranunculus repens*) along with other species such as seep monkey flower (*Erythranthe guttata*), coastal hedge nettle (*Stachys chamissonis*), willowherb (*Epilobium* sp.), springbank clover (*Trifolium wormskioldii*), bog St. John's wort (*Hypericum anagalloides*), irisleaf rush (*Juncus xiphioides*), Bolander's rush (*Juncus bolanderi*), and Harford's sedge (*Carex harfordii*). Another area where the biodiversity increased was along the driveway located at the southern property boundary. The driveway contained similar ruderal habitat described above which in turn was not conducive to tall and dense common velvet grass.

The areas mapped as common velvet grass meadows within the mapped wetland had a native plant cover greater than 10% which would classify it as a native grassland alliance. However, common velvet grass was the dominant species, and therefore does not make sense to map it as another association or alliance. The common velvet grass meadow outside of the wetland did not have a component of native plants greater than 10% cover that would qualify them for classification as a native grassland alliance.

Figure 10. Common velvet grass meadow looking north. Photo taken from southern property boundary.

Figure 11. Common velvet grass meadow with co-dominant creeping buttercup. Photo taken near northern property boundary within the mapped wetland looking west. Note that this photo was taken earlier in the growing season than the photo above it, in this photo common velvet grass is clearly dominant but is not yet in bloom.

5.2.2. Gorse Patch (*Ulex europaeus* Shrubland Semi-Natural Association)

Gorse was the second most extensive plant community within the study area (**Figure 12 & Figure 13**). Due the density and speed that the shrub grows, it quickly outcompetes all other species. Gorse was cleared on the neighboring parcel to the north prior to 2009. It has since come back due to its persistent nature and has created a monoculture. It is now spreading from offsite onto the subject parcel. Recent efforts in 2020 have been made on the neighboring parcel and throughout the town of Caspar to eradicate gorse through grant-funded efforts.

Figure 12. Gorse community spreading onto the northern property boundary.

Figure 13. Gorse observed on the southern property boundary. Photo taken from beneath Monterey pine trees.

5.2.3. Eucalyptus Grove (*Eucalyptus globulus* Woodland Semi-Natural Association)

Two mature blue gum eucalyptus trees (*Eucalyptus globulus*) were observed on the western parcel boundary (**Figure 14** & **Figure 15**). Within the trees, common ivy (*Hedera helix*) was beginning to climb up the trunks. The ground within the understory of the trees was soggy throughout the survey period. This allowed many plants observed typical of a wetland to persist. The shrub layer was sparse but non-native gorse (*Ulex europaeus*) was beginning to spread. Other plants characteristic of this plant community were: common velvet grass, three-cornered garlic (*Allium triquetrum*), bracken fern (*Pteridium aquilinum*), panicled bulrush (*Scirpus microcarpus*), Himalayan blackberry (*Rubus armeniacus*), pampas grass (*Cortaderia jubata*), horsetail (*Equisetum telmateia*), and water parsley (*Oenanthe sarmentosa*).

Figure 14. Eucalyptus tree understory.

Figure 15. Eucalyptus trees observed along the roadside.

5.2.4. Twinberry Thicket (*Lonicera involucrata* Shrubland Association)

A large patch of twinberry was observed on the neighboring parcel to the south (**Figure 16**). The twinberry was dominant and surrounded by plants observed within the understory of the eucalyptus trees described above. Since twinberry is not described as a plant community within the *Manual of California Vegetation* this community was given a name by WCPB for the purpose of this report. The twinberry thicket was mapped as riparian and is surrounded by presumed wetland.

Figure 16. Photo centered on the twinberry thicket with surrounding wetland vegetation.

5.2.5. Soft Rush Marsh (*Juncus effusus* Herbaceous Association G4 S4?)

At the center of the parcel is a swale that drains from east to west. At the eastern end of the parcel, the "neck" of the swale is narrow where it widens the further it travels west until it empties into a culvert along Caspar Road. At the center of this swale was a narrow band of soft rush (*Juncus effusus*) (**Figure 19**). Large clumps of this plant were interspersed with common velvet grass. Other species characteristic of this plant community were: water parsley, creeping buttercup (*Ranunculus repens*), lady fern (*Athyrium filix-femina*), seep monkey flower (*Erythranthe guttata*), pampas grass (*Cortaderia jubata*), and Harford's sedge (*Carex harfordii*).

Figure 17. The narrow band of soft rush located in the center of the swale. Photo taken at the center of the soft rush patch looking east.

5.2.6. Monterey Pine Stand (*Pinus radiata* Semi-Natural Association)

A small stand of Monterey pine trees (*Pinus radiata*) was observed at the southeastern property boundary and across Highway One to the east (**Figure 18**). The trees were approximately 60-80ft tall with some of them were beginning to die. The Monterey pine trees were dominant in the overstory with several Bishop pine trees also sharing the tree canopy. This stand of Monterey pine also continued on the eastern side of Highway One. The understory was shared by common velvet grass, Himalayan blackberry, and orchard grass (*Dactylis glomerata*).

Figure 18. Monterey pine trees observed at the southeastern property boundary. The larger Monterey pine trees further in the background were located east of Highway One. Photo taken looking east.

5.2.7. Himalayan Blackberry Scrub (*Rubus armeniacus* Shrubland Semi-Natural Association)

A remnant fenced in paddock was located on the southeastern property boundary and adjacent to the Monterey pine tree stand (**Figure 19**). It has since been invaded by invasive Himalayan blackberry brambles that were approximately 10ft tall. At the time of surveying the brambles were beginning to spill out of the confines of the paddock and spread outwards. Along the eastern property boundary another area (**Figure 20**) of Himalayan blackberry scrub was present along the highway.

Figure 19. Himalayan blackberry growing within paddock.

Figure 20. Himalayan blackberry brambles with Monterey cypress stand east of Highway One. Photo taken looking south.

5.2.8. Arroyo willow thickets (*Salix lasiolepis* Shrubland Association G4 S4)

Arroyo willow thickets were observed off property in the northeastern corner of the study area (**Figure 21**). This community was observed adjacent to Highway One growing along the road ditch. Arroyo willow dominated the vegetation in these areas with wax myrtle sporadically growing in between. The association is not rated in CDFW's Natural Community List; however, it is listed as a sensitive community. The G4 S4 ranking listed in this report is taken from the Alliance ranking. Arroyo willow is a facultative wetland plant and therefore usually occurs in wetlands. For the purposes of this report, the community in itself will not be considered a presumed ESHA, however, will still be protected with its riparian designation.

Figure 21. Arroyo willow adjacent to Highway One.

5.2.9. Ruderal habitat

The ruderal habitat mapped has limited vegetation or species that are better adapted to survive in compacted areas (**Figure 22**). This ruderal area is likely where farm animals were kept for

prolonged periods of time. This created a compacted area where top soil has since washed away. At the time of surveying the ruderal area was bare earth where plants were beginning to emerge in the surface cracks. The two dominant species in the ruderal areas were common velvet grass and rough cat's ear. Other species present included: Jersey cudweed (*Pseudognaphalium luteoalbum*), scarlet pimpernel (*Lysimachia arvensis*), bird's foot trefoil (*Lotus corniculatus*), rat's tail fescue (*Vulpia myuros*), and old field panic grass (*Panicum acuminatum*).

Figure 22. The ruderal habitat onsite while looking west.

5.3. Wetland Delineation – Coastal Act Wetland and riparian presumed ESHAs

On June 20th, 2019 a routine level study of hydrology, soils, and vegetation indicators was conducted within the study area. The results were recorded from sampling points on data sheets (**Appendix D**) from the Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). Locations of sampling points are depicted on the Wetland Delineation Map (**Figure 23**). The wetland hydrology, hydric soils, and hydrophytic vegetation indicators used to make wetland determinations are summarized below. Sampling points are marked in the field with 24-inch wooden stakes with colored flagging and labeled in a Sharpie marker. A 30-foot plot size was studied for trees present, a 20-foot radius for shrubs present, a 10-foot radius for herbs present, and a 10-foot radius for vines present. **Sample Point SP01, SP04, SP05, SP07,** and **SP09 were determined by the surveyors to be upland** as no hydric soil, hydrology, or hydrophytic vegetation was observed. **Sample Points SP02, SP03, SP06, and SP08 were determined to be within a Coastal Act wetland. SP02 occurred within an ACOE three-parameter defined wetland**. Protocol level sample points were only conducted in those areas that both showed a potential for being wetland, and occurring in locations with the potential to affect the project proposal.

5.3.1. Sampling Point SP01 – Upland

SP01 was chosen based upon the location being outside of the linear wet feature and within common velvet grass (*Holcus lanatus*) dominated area. Dominant vegetation species included: Bishop pine (*Pinus muricata* NI) and common velvet grass (*Holcus lanatus* FAC). On the Mendocino coast, common velvet grass can survive from coastal fog and therefore is not a strong

wetland indicator. Surveyors did not consider SP01 to have any hydrophytic vegetation indicators. A soil pit was dug to 20" and no hydric soil indicators were present. No hydrology indicators were observed. *As no wetland parameters were observed, Sample Point SP01 was determined to be upland.*

5.3.2. Sampling Point SP02 – ACOE Wetland ESHA

SP02 was paired with SP01 and approximately 20ft to the north in a presumed wetland area. Dominant vegetation species included: common velvet grass (FAC) and panicle bulrush (*Scirpus microcarpus* OBL). The hydrophytic vegetation parameter was met based upon the dominance test. A soil pit was dug to 24" and the upper 12" had high organic matter. The hydric soil parameter was met based upon the hydrogen sulfide indicator. The hydrologic parameter was also met based upon the observation of surface water at 0". *Sample Point SP02 determined by the surveyors to occur within an ACOE wetland because it met all three parameters.*

5.3.3. Sampling Point SP03 – Presumed Coastal Act Wetland ESHA

SP03 was chosen east of but in line with the wet linear feature to the west. SP03 was chosen based upon the presence of wax myrtle (*Morella californica*) and rushes (*Juncus* sp.). Dominant vegetation species included: gorse (*Ulex europaeus* FACU) and common velvet grass (FAC). No hydrophytic vegetation indicators were observed at SP03. The hydric soil parameter was met based upon redox dark surface. Saturation and a water table was present at 19" but did not meet any of the hydrology indicators. Since one of the three parameters was observed, *Sample Point SP03 was determined by the surveyors to occur within a Coastal Act definition wetland.*

5.3.4. Sampling Point SP04 – Upland

SP04 was chosen based on the location being east and what was thought to be an upland area based on apparent hydrophytic vegetation 10ft west. Dominant vegetation species included: common velvet grass (FAC). Surveyors used the same reasoning for SP04 not having hydrophytic vegetation as SP01. A soil pit was dug to 24" and no hydric soil indicators were observed. Saturation and a water table was present at 22" but did not meet any of the hydrology indicators. *As no wetland parameters were met, Sample Point SP04 was determined to be upland.*

5.3.5. Sampling Point SP05 – Upland

SP05 was paired and located north of SP02. SP05 was chosen based on the presumption it was in an upland location as the wet feature with apparent hydrophytic vegetation was directly to the south. Dominant vegetation species included: gorse (FACU) and common velvet grass (FAC). No hydrophytic vegetation indicators were observed. A soil pit was dug to 22" and no hydric soil or hydrology indicators were observed. *As no wetland parameters were met, Sample Point SP05 was determined to be upland.*

5.3.6. Sampling Point SP06 - Presumed Coastal Act Wetland ESHA

The location for SP06 was chosen north of the linear wetland feature and just outside of the area where surface water was present. Since the area surrounding SP06 was dominated by common velvet grass, vegetation was not examined. When a soil pit was dug to 22" no hydric soil indicators were observed. The water table and saturation was present at 7". The wetland hydrology parameter was met. Since one of the three parameters was observed, *Sample Point SP06 was determined by the surveyors to occur within a Coastal Act definition wetland.*

5.3.7. Sampling Point SP07 – Upland

The location for SP07 was chosen 20ft north of SP06 and near coyote brush (*Baccharis pilularis*) which prefers upland locations. Dominant vegetation species included: coyote brush (*Baccharis pilularis* NI*)* and common velvet grass (FAC). No hydrophytic vegetation indicators were observed. A soil pit was dug to 24" and no hydric soil indicators were observed. A water table and saturation was present at 19" but no wetland hydrology indicators were observed. *As no wetland parameters were observed, Sample Point SP05 was determined to be upland.*

5.3.8. Sampling Point SP08 – Presumed Coastal Act Wetland ESHA

SP08 was chosen just south of the linear wetland feature. The vegetation in the surrounding area was dominated by common velvet grass. SP08 was not fully examined as hydric soils were observed based upon prominent redox concentrations within a dark matrix. The hydric soil indicator was observed based upon the redox dark surface indicator. The soil pit was dug to 22" and no wetland hydrology was observed. Since one of the three parameters was observed, *Sample point SP08 was determined by the surveyors to occur within a Coastal Act definition wetland.*

5.3.9. Sampling Point SP09 – Upland

SP09 was paired and located south of SP08. Test pits were dug between SP08 and SP09 to determine when the prominent redox concentrations were no longer apparent. Common velvet grass (FAC) was the dominant vegetation species. Because common velvet grass is a poor indicator of hydrophytic vegetation on the Mendocino coast, surveyors determined that the hydrophytic vegetation indicator was not met. A soil pit was dug to 21" and no hydric soil or hydrology indicators were observed. *As no wetland parameters were met, Sample Point SP05 was determined to be upland.*

Three separate riparian areas were observed off property, but within the study area - two in the north eastern corner of the study area along Highway One and one area along the southern property line to the neighbor's property to the south. Riparian areas were determined based on the presence of hydrophytic vegetation that usually occurs riparian communities. The riparian areas in the northeastern corner were along road ditches and the vegetation was dominated by arroyo willow (*Salix lasiolepis*). Arroyo willow is a facultative wetland plant and therefore, usually occurs in wetlands. WCPB biologists usually observe arroyo willow growing along streams and wetlands. The overstory vegetation of the southern riparian area was dominated by twinberry thickets (*Lonicera involucrata*). Twinberry is a facultative plant so it is equally likely to occur in wetlands and upland habitat. Hydrophytic vegetation in this area included panicled bulrush (*Scirpus microcarpus* OBL), giant horsetail (*Equisetum telmateia* FACW), and water parsley (*Oenanthe sarmentosa* OBL). Surface water was present in this area during the earlier season surveys.

Figure 23. Wetland delineation map depicting wetland sample points, wetlands, and riparian habitat.

5.4. Wildlife - Potential Occurrences

The California Department of Fish and Wildlife (CDFW) California Native Diversity Database (CNDDB) BIOS, Version 5 (2021), was used to inform the search on fauna previously reported in the vicinity of the project area (**Figure 8**). No special-status wildlife was observed during the field biological surveys and suitable habitat for special status wildlife species was identified. Descriptions below are for wildlife species with moderate to high potential to occur, and for State or Federally Endangered or Threatened Species with potential to occur. A complete list of special status wildlife with the potential to occur at the project site can be found in **Table 3 of Appendix C**.

5.4.1. Invertebrates

5.4.1.1. Lotis Blue butterfly (Lycaeides argyrognomon lotis) (G5TH SH)

This Federally Endangered butterfly species has not been seen since 1983, it is primarily from Mendocino County but historically recorded in northern Sonoma and possibly Marin Counties. This species inhabits wet meadows, damp coastal prairie, and potentially bogs or poorly-drained sphagnum-willow bogs where soils are waterlogged and acidic. The presumed host plant Harlequin lotus (*Hosackia gracilis*) was not observed on the property and therefore, no further studies are recommended at this time.

5.4.1.2. Western Bumblebee (*Bombus occidentalis*) (G2G3 S1)

Western bumblebee (*Bombus occidentalis*) is not a Federal or State protected species but is listed as a California Natural Diversity Database S1 species, an indication that there are limited known occurrences in California. The project area is in the former historical range of this species. Bumblebees observed during botanical surveys did not demonstrate the field markings of the western bumble bee, which include a conspicuous white tip of the abdomen. No further surveys are recommended at this time.

5.4.1.3. Obscure bumblebee (*Bombus caliginosus*) (G4 S1S2)

Obscure bumblebee (*Bombus caliginosus*) is also not a Federal or State protected species but is listed as a California Natural Diversity Database S1S2 species indicating that known occurrences are limited in California. This species is very similar to the common yellow-faced bumblebee (*Bombus vosnesenskii*) and can only be differentiated by the structure of the male genitalia. No bumblebee colonies were observed during the field surveys. No further surveys for this species are recommended.

5.4.2. Fish

5.4.2.1.

No aquatic habitat capable of supporting fish was observed within the study area.

5.4.3. Amphibians

5.4.3.1. Northern red-legged frog (*Rana aurora*) (G4 S3)

Northern red-legged frog (*Rana aurora*) is listed as a California Department of Fish and Wildlife Species of Special Concern. The range extends from the southwest British Colombia coast to central Mendocino County. Often found in woods adjacent to streams and streamsides with plant cover, northern red-legged frog breeds in permanent water sources, including lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. No breeding habitat is present on the subject parcel, however, the property has the potential for the presence of the frog during their overland movements between water sources.

Mitigation measures in Section 7 address how to minimize impacts to all potentially occurring amphibians including prohibiting sediment transport into the streams to protect potential frog and salamander habitat. It is also recommended that the contractor be trained to recognize amphibians and contact a qualified biologist if any are found onsite during construction

activities.

5.4.3.2. Southern torrent salamander (*Rhyacotriton variegatus*) (G3G4 S2S3)

This Species of Special Concern occurs primarily in cold, well-shaded permanent streams and spring seepages in redwood, Douglas fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. On land it normally occurs only within the splash zone or on moss-covered rock rubble with trickling water. The wetland areas within the study area are unlikely to be suitable habitat for this salamander as no perennial or intermittent streams are within the study area. No additional surveys for this species are recommended.

5.4.3.3. Red-bellied newt (*Taricha rivularis*) (G4 S2)

This Species of Special Concern inhabits primarily redwood forest, but also found within mixed conifer, valley-foothill woodland, montane hardwood and hardwood-conifer habitats. Rapid-flowing, permanent streams are required for breeding and larval development. No suitable breeding habitat was present within the study area. This species may range up to a mile from streams and may therefore be found in upland habitat during some times of the year. Identification and avoidance training for construction workers should include a discussion of this species.

5.4.3.4. Pacific tailed frog (*Ascaphus truei*) (G4 S2S3)

This Species of Special Concern occurs in montane hardwood-conifer, redwood, Douglas-fir, and ponderosa pine habitats. Pacific tailed frogs are found on the coast from Anchor Bay to the Oregon border. There are CNNDB records of Pacific tailed frog within Caspar Creek approximately 2 miles southeast of the study area. The species requires rocky high-gradient streams and is therefore unlikely to occur at the project site. No further surveys are recommended.

5.4.3.5. Foothill yellow-legged frog (*Rana boylii*) (G3 S3)

This Species of Special Concern is endangered in California. The foothill yellow-legged frog occurs in rocky streams and rivers with rocky substrate and open sunny banks, in forests, chaparral, and woodlands. The frog occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County. Eggs clusters are attached to rocks in flowing water near stream margins. Foothill yellow-legged frogs are rarely observed far from permanent water sources and therefore, is unlikely to be found in the project area. No further surveys are recommended.

5.4.4. Birds

5.4.4.1. Nesting birds

Resident and migratory birds that are present during the nesting season may nest in the habitat present within the study area. Nesting requirements are highly variable. Some birds nest in burrows, others on the ground, in vegetation, brush, trees, rocky outcrops, or on man-made structures. The bird nesting season typically extends from February to August. The Migratory Bird Treaty Act protects special status and common birds and their nests while they are in the process of nesting. If construction is to occur during the breeding season (February to August), a pre-construction survey is recommended to ensure that no nesting birds will be disturbed during development (**1**). No nesting surveys are recommended if activity occurs in the non-breeding season.

5.4.5. Mammals

5.4.5.1. Roosting bats

Several species of common and special status bats have the potential to be present within the study area. The abandoned farm animal structures has the potential to be bat habitat. If removal

of the farm structures are done within the bat breeding season (September to October), a pre-construction survey is recommended to ensure that no special status breeding bats will be disturbed during development (**1**). No bat surveys are recommended if activity occurs in the non-breeding season. Mitigation measures in **Section 7** detail additional recommended requirements.

6. REDUCED BUFFER ANALYSIS SUMMARY

A Reduced Buffer Analysis (**Appendix F**) was conducted to assist in the determination of suitable protection for potential sensitive species and presumed sensitive habitat in the study area. Through the Reduced Buffer Analysis process, necessary mitigation measures were created (**Section 7**) to ensure all impacts from proposed development will have a less than significant effect on sensitive resources.

As a result of the buffer analysis, we conclude that a 50ft buffer for the **wetland** and **riparian area** will sufficiently protect these resources from the potential impacts of proposed development. The proposed single-family residence and garage will be in an area that is already disturbed and mostly cleared. The proposed driveway was strategically placed between the wetland and riparian 50ft buffers to minimize impacts. The gravel driveway will slightly encroach into the 50ft wetland buffer. Development proposed within 50ft ESHA buffers sometimes warrants a Report of Compliance to confirm that development is located in the least impacting location; however, WCPB biologists do not believe a Report of Compliance is necessary in this situation due the minimal amount of driveway proposed in the buffer and the lack of feasible alternatives. The compacted gravel driveway was proposed in this location to minimize impacts to the wetland and riparian as the existing driveway is directly adjacent to the southern riparian area and dust and sediment has a higher chance of entering and negatively impacting the riparian area with the existing driveway. Mitigation measures have been developed to ensure that impacts to special status resources are less than significant.

7. MITIGATION MEASURES

The proposed project has been analyzed relative to its proximity to natural resources to determine its potential disturbance to sensitive species, utilizing the methods and results gathered above and the Reduced Buffer Analysis of the Mendocino County's Local Coastal Program (**Appendix F)**. As a result of those analyses, we believe that potential impacts to ESHA habitats (riparian and wetland) can be avoided if the project utilizes the mitigation measures we recommend below. A map depicting recommended construction fencing paired with straw wattle or silt fencing locations is presented in **Figure 24.**

The following mitigation measures are recommended to minimize impacts from development to the special status plant, wetland, and riparian ESHA. These measures will serve to prevent negative impacts to potential resources located within 100 feet of the proposed development.

7.1. Potential Impact to Birds

Construction in the study area has the potential to disturb birds during the nesting season. Removal of vegetation and construction activity near trees and vegetated areas has the potential to disturb birds' nesting process.

7.1.1. Avoidance Measure: Seasonal avoidance

No nesting bird surveys are recommended if activity occurs in the **non-breeding season** (September to January). If development is to occur during the **breeding season** (February to August), a pre-construction survey is recommended within 14 days of the onset of construction to ensure that no nesting birds will be disturbed during development (**1**).

7.1.2. Avoidance Measure: Nest Avoidance

If active special status bird nests are observed, no ground disturbance activities shall occur within a 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 disturbance.

7.1.3. Avoidance Measure: Construction activities only during daylight hours

Construction should occur during daylight hours to limit disturbing construction noise and minimize artificial lights.

7.2. Potential Impact to Bats

Construction in the study area has the potential to impact special status bat species. Bats are vulnerable when roosting for reproduction when young are not yet able to fly, and during hibernation because they can die of cold or malnutrition if hibernation is disturbed. No special features such as hollow trees, abandoned buildings, or other cave analogs, which could serve as roosting or hibernation refugium, are present; therefore, the potential for negative impacts to bats is minimal. Temperatures on the Mendocino Coast usually do not drop low enough to necessitate bat hibernation.

7.2.1. Avoidance Measure: Pre-construction surveys for bats

Construction will ideally occur between September 1st and October 31 after the young have matured and prior to the bat hibernation period. **If it is necessary to disturb potential bat roost sites between November 1 and August 31**, pre-construction surveys should be performed by a qualified biologist 14 days prior to the onset if development activities.

Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to construction 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.

Table 1. Months surveys are or are not needed for birds and bats.

Months During Which Pre-Construction Surveys Are Not Required For Birds & Bats

	January	February	March	April	May	June	July	August	September	October	November	December
Birds												
Bats												

	Pre-Construction Surveys Are NOT Needed
	Pre-Construction Surveys Are Needed

7.2.1. Avoidance Measure: Roost buffer

If active bat roosts are observed, no ground disturbance activities shall occur within a minimum 50-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 roost until all young are no longer dependent upon the roost.

7.2.2. Avoidance measure: Construction activities only during daylight hours

Construction should occur during daylight hours to limit disturbing construction noise and minimize artificial lights.

7.3. Potential Impact to Special Status Amphibians

Construction activities will involve walking across areas where amphibians may be traveling. Staging of materials and removal of construction debris could also disturb special status amphibians that may be hiding underneath these materials. To minimize impacts to amphibians, the following avoidance

measures should be followed.

7.3.1. Avoidance Measure: Contractor education

Within two weeks prior to construction activities, project contractors will be trained by a qualified biologist in the identification of the frogs and salamanders that occur along the Mendocino County coast. Workers will be trained to differentiate between special status and common species and instructed on actions and communications required to be conducted in the event that special status amphibians are observed during construction.

7.3.2. Avoidance Measure: Pre-construction search

During ground disturbing activities, construction crews will begin each day with a visual search around the staging and impact area to detect the presence of amphibians.

7.3.3. Avoidance Measure: Careful debris removal

During construction and debris removal, any wood stockpiles should be moved carefully by hand in order to avoid accidental crushing or other damage to amphibians.

7.3.4. Avoidance Measure: No construction during rain event

If a rain event occurs during the ground disturbance period, all ground disturbing activities will cease for a period of 48 hours, starting after the rain stops.

Prior to resuming construction activities, trained construction crew member(s) will examine the site for the presence of special status amphibians.

If no special status amphibians are found during inspections, ground-disturbing activities may resume.

If a special status amphibian is detected, construction crews will stop all ground disturbing work and will contact the California Department of Fish and Wildlife (CDFW) or a qualified biologist. Clearance from CDFW will then be needed prior to reinitiating work. CDFW will need to be consulted and will need to be in agreement with protective measures needed for any potential special status amphibians.

7.4. Potential Impacts to Wetlands and Riparian Areas

There is a potential for rain to carry sediment from construction areas into wetland and riparian habitats.

7.4.1. Avoidance Measure: 50ft buffer

A suitable buffer should be established between areas of wetland and riparian areas and proposed development. A Reduced Buffer Analysis has been conducted and a buffer distance of 50ft was determined to be suitable to protect the resources present. No construction or materials staging shall occur within 50ft of ESHAs. It is required that CDFW concurs that 50ft is an appropriate buffer distance.

7.4.2. Avoidance Measure: Construction fencing paired with straw wattles or silt fencing

Construction fencing paired with straw wattles or silt fencing shall be installed as close to the wetland and riparian 50ft ESHA buffers as possible. Construction fencing paired with straw wattles is more appropriate during the dry season while silt fencing is more appropriate during the wet season. Fencing shall protect the wetland/riparian areas and their buffer zones from the construction related impact area. No materials storage, heavy equipment use, or other impacts shall occur within the fenced off areas. Straw wattles shall be properly installed to intercept liquids leaving the construction area. Straw wattles/fencing shall be maintained in a functional manner throughout construction and until all disturbed soil is stabilized. Straw wattles/fencing shall be checked and appropriate maintenance shall occur weekly and after every rain event.

7.4.3. Avoidance Measure: Staging area plan

Stage all building materials and construction vehicles in upland areas greater than 50ft from all ESHAs.

7.4.4. Avoidance Measure: Employ Best Management Practices (BMPs)

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. Areas of bare soil should be seeded with native erosion control seed mix and/or covered with biodegradable erosion control materials .

7.4.5. Avoidance Measure: Clean heavy machinery

Heavy machinery such as and not limited to excavators and skid steers that may be used onsite have the potential to spread invasive plant material from use on other sites. Heavy machinery that is used in dirt needs to be power washed offsite to eliminate seeds and other propagules.

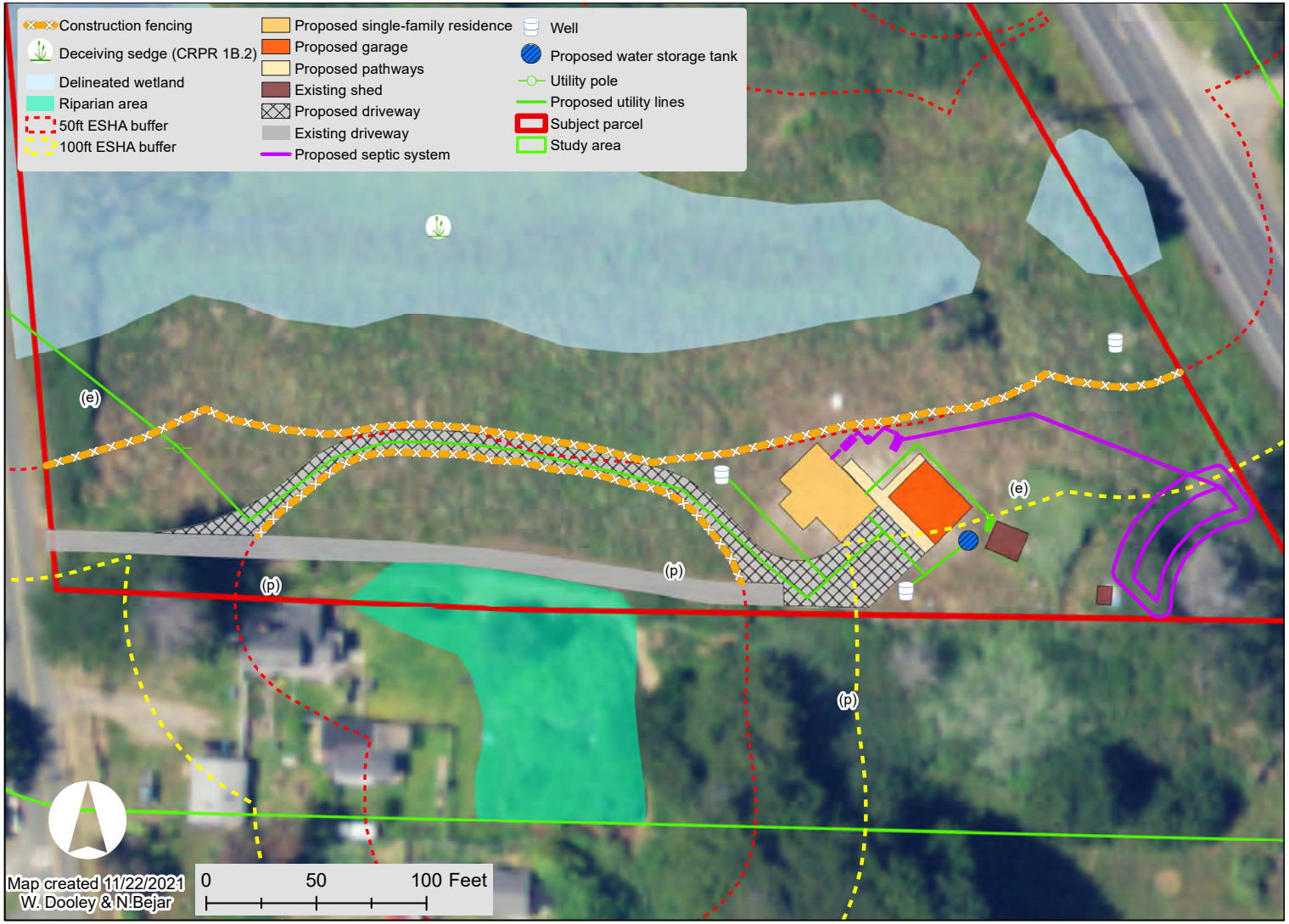

Figure 24. Recommended construction fencing paired with straw wattle or silt fencing locations for construction.

8. DISCUSSION

It is the professional opinion of the biologists at WCPB that the proposed project will not result in significant negative impact to any special status resources.

Three types of presumed ESHAs were identified within the study area:

> **Delineated Wetland ESHA** – A wetland flows through parts of the property from east to west before draining to a culvert along Caspar Road. The wetland was delineated using the ACOE protocol and totaled approximately 1.12 acres.
>
> **Riparian ESHA** – Several presumed riparian areas were observed within 100ft of the parcel boundary and totaled approximately 0.25 acres.
>
> **Special Status Plant ESHA**- One special status plant species was identified on the property: **deceiving sedge** (*Carex saliniformis* CRPR 1B.2).

A Reduced Buffer Analysis was conducted to assist in the determination of suitable protection for potential sensitive species and presumed sensitive habitat and is included as **Appendix F** of this report. The project was designed to avoid all special status resources by at least 50ft where possible. A small portion of the proposed driveway slightly encroaches into the 50ft wetland buffer as the gap between the riparian and wetland 50ft buffers is not wide enough to accommodate a standard 10ft wide driveway. WCPB determined that a Report of Compliance is not necessary for this particular project due to only a minimal portion of the driveway encroaching into the buffer and a lack of feasible alternatives. The proposed driveway was strategically placed there to avoid presumed ESHAs as much as possible. The existing driveway is directly adjacent to a wetland and riparian area so the proposed driveway will be in a less impacting location. The existing driveway will not be improved. The southern riparian area is primarily on the neighboring parcel to the south and the animals and plants that utilize this habitat are already adjusted to disturbance from humans. The single-family residence and garage are proposed in a location that is already disturbed and was cleared in the past. The septic lines were redesigned to be outside of the 50ft wetland buffer. Construction fencing paired with straw wattles or silt fencing shall be placed as close as possible to the 50ft ESHA buffer lines to prevent sediment from entering wetlands and riparian areas. If all recommended mitigation measures are followed, all potential impacts to special status resources are expected to be less than significant.

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10. INVESTIGATOR BIOGRAPHIES

Contributing Biologists

Asa B Spade graduated from Humboldt State University with a Bachelor's Degree in Environmental Science, with a concentration in Landscape Ecosystems as well as a minor in Botany. Since that time, he has been working in the natural resources field, first with Mendocino County Environmental Health and later with California State Parks and the Department of Fish and Game. He has been trained in Army Corps wetland delineation by the Coastal Training Program at Elkhorn Slough and in Advanced Wetland Delineation by the Wetland Science and Coastal Training Program. He has been trained in the environmental compliance process for wetland projects in San Francisco bay and outer coastal areas. In 2011 Asa completed training to survey for California red-legged frog held by Elkhorn Slough Coastal Program. In 2015 he attended a Townsend's big eared bat basal hollow habitat assessment and survey methods workshop taught by Michael Baker, Leila Harris, and Adam Hutchins. Asa has trained with the Carex Working Group in identifying grasses and sedges of Northern California as well as a CNPS sedge workshop taught by CA Fish and Wildlife staff biologist Gordon Leppig. In 2019, he completed a training for burrowing owls taught by Dr. Lynne Trulio through the Elkhorn Slough Coastal Training Program and completed foothill yellow legged frog training taught by David Cook and Jeff Alvarez. Asa conducted field work for the Classification and Mapping of Mendocino Cypress Woodland and Related Vegetation using CNPS/CDFW Rapid Assessment/Relevé protocol. In 2021 Asa completed training by Jeff Alverez and Jeff Wilcox on the eradication of bullfrogs within the range of California red-legged and foothill yellow legged frog. He is on the Fish and Wildlife Service approved list for Point Arena mountain beaver surveys and has done surveys for Behren's silverspot butterfly, Northern spotted owl, Sonoma tree vole, foothill yellow-legged frog and the California red-legged frog. He has contributed natural resources expertise to more than 200 coastal development projects in Mendocino County.

Nicole Bejar graduated from Gonzaga University with a Bachelor's Degree in Environmental Studies and a minor in Biology. After graduating, she worked as an intern for The Nature Conservancy conducting vegetation monitoring for the endangered golden-cheeked warbler. She served as an AmeriCorps member for the Watershed Stewards Program which aims to conserve, restore, and enhance anadromous watersheds for future generations. She worked as a fisheries technician conducting salmonid monitoring and habitat restoration for various agencies, including the California Department of Fish and Wildlife, Pacific States Marine Fisheries Commission, and the Bureau of Land Management. She also has experience planning and implementing northern spotted owl, Sonoma tree vole, and amphibian surveys. She is on the U.S. Fish and Wildlife Service's approved list for Point Arena mountain beaver and Behren's silverspot butterfly surveys. She completed the Bullfrog Control in California Field Workshop 2021 led by Jeff Alvarez and Jeff Wilcox held at a UC Berkeley Field Station.

Wyatt Dooley graduated from University of California Santa Barbara with a Bachelor's of Science in Environmental Studies and a minor in Geology. After graduating, he worked for Fish and Wildlife and Pacific States Marine Fisheries as a technician researching salmon. He has also worked abroad in New Zealand as a conservation ranger helping on restoration projects and controlling invasive species. Additionally, he has received training in Army Corp wetland delineation by San Francisco State University and the Wetland Science and Coastal Training Program, training from CNPS-CDFW on vegetation rapid assessment and relevé methods, is on the US Fish and Wildlife Service's approved list for Point Arena Mountain Beaver Surveys, and received a specialization in ArcGIS through University of California Davis. He has also received training in *Carex* keying and identification through CNPS taught by CA Fish and Wildlife staff biologist Gordon Leppig (March 2018). In October of 2019, he also completed a training through Laguna de Santa Rosa Foundation for foothill yellow legged frog taught by David Cook and Jeff Alvarez.

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

Preface

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

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

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

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

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

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

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Contents

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 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—Nov 6, 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
117	Cabrillo-Heeser complex, 0 to 5 percent slopes	13.9	75.2%
214	Tropaquepts, 0 to 15 percent slopes	4.6	24.8%
Totals for Area of Interest		**18.5**	**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

117—Cabrillo-Heeser complex, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: hmkm
Elevation: 20 to 240 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 250 to 330 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Cabrillo and similar soils: 50 percent
Heeser and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cabrillo

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 26 inches: sandy loam
H2 - 26 to 35 inches: sandy clay loam
H3 - 35 to 50 inches: sandy clay loam
H4 - 50 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 5 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 high (0.20 to 0.60 in/hr)
Depth to water table: About 30 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B
Ecological site: Sandy Loam Terrace (Perennial Grass) (R004XB060CA)
Hydric soil rating: No

Description of Heeser

Setting

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

Typical profile

H1 - 0 to 34 inches: sandy loam
H2 - 34 to 65 inches: sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: Sandy Loam Terrace (Perennial Grass) (R004XB060CA)
Hydric soil rating: No

Minor Components

Biaggi

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

Crispin

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

Sirdrak

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

Unnamed, gentler or steeper slopes

Percent of map unit: 3 percent
Hydric soil rating: No

Tropaquepts

Percent of map unit: 3 percent
Landform: Marine terraces
Hydric soil rating: Yes

214—Tropaquepts, 0 to 15 percent slopes

Map Unit Composition

Tropaquepts and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tropaquepts

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 igneous, metamorphic and sedimentary rock

Properties and qualities

Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Minor Components

Tregoning

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

Shinglemill

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

Aborigine

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

Blacklock

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

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U.S. Fish and Wildlife Service
National Wetlands Inventory

Johnson NWI Map

June 19, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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

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

Appendix C. Species Rarity Ranking System and Definitions

FED: federal status includes federally endangered (**E**), threatened (**T**), canidate (**C**), proposed endangered (**PE**), or proposed threatened (**PE**)

STATE: California state status includes federally endangered (**E**), threatened (**T**), canidate (**C**), proposed endangered (**PE**), or proposed threatened (**PE**)

CNPS Ranking: 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.

Threat Code extensions and their meanings:

.1 - Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

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

GX = presumed extinct: not located despite intensive searches and virtually no likelihood of rediscovery.

GH = possibly extinct: known from only historical occurences but still some hope of rediscovery.

G1 = critically imperiled: at very high risk of extinction due to extreme rarity (often 5 or fewer populations).

G2 = imperiled: at high risk of extinction due to very resricted range, very few populations (often 20 or fewer).

G3 = vulnerable: At moderate risk of extinction or elimination due to a restricted range, relatively few populations (often 80 or fewer).

G4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = secure: common, widespread, and abundant in the state.

GNR = unranked: global rank not yet assessed.

GU = unrankable: currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.

G#G# = range rank: a numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty about the exact status of a taxon or community.

G#T# = infraspecific taxon: the status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

? = Qualifier Inexact numeric rank: a question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.

Q = Qualifier questionable taxonomy: the distintiveness of this entity as a taxon or community at the current level is questionable.

C = Qualifer captive or cultivated only: the taxon or community at present is presumed or possibly extinct or eliminated in the wild across its entire native range but is extant in cultivation, in captivity, as a naturalized population outstide its native range.

S-RANK: STATE RANKING - The state rank (S-rank) is assigned much the same way as the global rank.

SX = presumed extirpated: species or community is believed to be extirpated from the state.

SH = possibly extirpated (historical): species or community occurred historically in state and there is some possibility it may be rediscovered.

S1 = critically imperiled: critically imperiled in state because of extreme rarity (often 5 or fewer occurrences).

S2 = imperiled: imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer).

S3 = vulnerable: vulnerable in the state due to a restricted range, relatively few populations (80 or fewer), recent and widespread declines.

S4 = apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 = secure: common, widespread, and abundant in the state.

SNR = unranked: state conservation status not yet assessed.

SU = unrankable: currently unrankable due to a lack of information or due to substantially conflicting information about status or trends.

S#S# = Range Rank: a numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community.

? = Qualifier Inexact or Uncertain: a question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.

Note: Older ranks, which need to be updated, may still contain a decimal "threat" rank of .1, .2, or .3, where .1 indicated a verty threatened status, .2 indicates moderate threat, and .3 indicates few or no current known threats.

XERCES Society

CI = critically imperiled

IM = imperiled

VU = vulnerable

DD = data deficient

Appendix C. Species Rarity Ranking System and Definitions

IUCN - International Union for the Conservation of Nature
CD = conservation dependent
CR - critically endangered
DD - data deficient
EN - endangered
EW - extinct in the wild
EX - extinct
LC - least concern
NE - not evaluated
NT - near threatened
VU - vulnerable

Note:
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.

Johnson Appendix C. Table 1. Rare plant scoping list.

Scientific Name (Synonyms) Common Name	Habitat found	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Observed?
Abronia umbellata var.breviflora Pink sand-verbena	Coastal dunes	Jun-Oct	1B.1	N	N	S1	G4G5T	No
Agrostis blasdalei Blasdale's bent grass	Coastal dunes, coastal bluff scrub, coastal prairie.	May- Jul	1B.2	N	N	S2	G2	No
Arctostaphylos nummularia ssp. Mendocinoensis Pygmy manzanita	Closed-cone coniferous forest. Acidic sandy-clay soils in dwarfed coniferous forest.	Jan	1B.2	N	N	SH	G3?THQ	No
Astragalus agnicidus Humboldt milk- vetch	Openings, disturbed areas, roadsides,broadleafed upland forest, North coast coniferous forest	Apr-Sep	1B.1	N	CE	S3	G3	No
Astragalus pycnostachyus var. pyncnostachyus Coastal marsh milk-vetch	Coastal dunes (mesic), coastal scrub, coastal salt marshes and swamps, and streamsides	Apr-Oct	1B.2	N	N	S2	G2T2	No
Blennosperma nanum var.robustum Point Reyes blennosperma	Coastal prairie, coastal scrub	Feb-Apr	1B.2	N	CR	S2	G4T2	No
Calamagrostis crassiglumis Thurber's reed grass	Coastal scrub (mesic), freshwater marshes and swamps.	May-Aug	2B.1	N	N	S2	G3Q	No
Calystegia purpurata ssp. saxicola Coastal bluff morning-glory	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest.	Mar-Sep	1B.2	N	N	S2S3	G4T2T3	No
Campanula californica Swamp harebell	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, and North Coast coniferous forests.	Jun-Oct	1B.2	N	N	S3	G3	No
Carex californica California sedge	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (often on margins or drier areas).	May-Aug	2B.3	N	N	S2	G5	No
Carex lenticularis var.limnophila Lagoon sedge	Shores, beaches, often gravelly, bogs and fens, marshes and swamps, North Coast coniferous forest.	Jun-Aug	2B.2	N	N	S1	G5T5	No
Carex livida Livid sedge	Bogs and Fens	Jun	2A	N	N	SH	G5	No
Carex lyngbyei Lyngbye's sedge	Brackish or freshwater marshes and swamps	Apr-Aug	2B.2	N	N	S3	G5	No
Carex saliniformis Deceiving sedge	Mesic sites of coastal prairie, coastal scrub, and meadows, seeps, marshes and swamps (coastal salt)	Jun-Jul	1B.2	N	N	S2	G2	Yes
Carex viridula ssp. Viridula Green yellow sedge	Bogs and fens, marshes and swamps (freshwater), north coast coniferous forest (mesic).	Jun-Nov	2B.3	N	N	S1.3	G5T5	No
Castilleja affinis ssp.litoralis Oregon coast paintbrush	Sandy sites in coastal bluff scrub and coastal scrub; coastal dunes.	Jun	2B.2	N	N	S3	G4G5T4	No
Castilleja ambigua var. humboldtiensis Humboldt Bay owl's-clover	Coastal salt marshes and swamps.	Apr-Aug	1B.2	N	N	S2	G4T2	No
Castilleja mendocinensis (Castilleja latifolia ssp. Mendocinensis) Mendocino Coast paintbrush	Coastal bluff scrub, coastal scrub, closed-cone coniferous forest, coastal dunes, coastal prairie.	Apr-Aug	1B.2	N	N	S2	G2	No

Scientific Name (Synonyms) Common Name	Habitat found	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Observed?
Chorizanthe howellii Howell's spineflower	Sandy, often disturbed, areas of coastal prairie and coastal scrub, and coastal dunes	May - Jul	1B.2	FE	CT	S1	G1	No
Clarkia amoena ssp. whitneyi Whitney's farewell-to- spring	Coastal bluff scrub, coastal scrub.	Jun-Aug	1B.1	N	N	S1	G5T1	No
Collinsia corymbosa Round-headed Chinese-houses	Coastal dunes, coastal prairie.	Apr-June	1B.2	N	N	S1	G1	No
Cornus canadensis Bunchberry	Bogs and fens, meadows and seeps, North Coast coniferous forest.	May-Jul	2B.2	N	N	S2	G5	No
Cuscuta pacifica var. papillata Mendocino dodder	Coastal dunes (interdune depressions).	Jul-Oct	1B.2	N	N	S1	G5T1	No
Erigeron supplex Supple daisy	Coastal bluff scrub, coastal prairie.	May-Jul	1B.2	N	N	S2	G2	No
Erysimum concinnum Headland wallflower	Coastal bluff scrub, coastal dunes, coastal prairie.	Feb-Jul	1B.2	N	N	S3	G3	No
Erysimum menziesii (Erysimum menziesii ssp. eurekense, Erysimum menziesii ssp. menziesii, Erysimum menziesii ssp. yadonii) Menzies' wallflower	Localized on coastal dunes and coastal strand.	Mar-Sep	1B.1	FE	CE	S1	G1	No
Erythronium revolutum Coast\Mahogany fawn lily	Mesic, streambanks. Bogs and fens; broadleafed upland forests; North Coast coniferous forest.	Mar-Aug	2B.2	N	N	S3	G4	No
Fritillaria roderickii (Fritallaria biflora var. biflora) Roderick's fritillary	Coastal bluff scrub, coastal prairie, valley and foothill grassland.	Mar-May	1B.1	N	CE	S1.1	G1Q	No
Gilia capitata ssp.chamissonis Blue coast gilia	Coastal dunes, coastal scrub.	Apr-Jul	1B.1	N	N	S2	G5T2	No
Gilia capitata ssp. pacifica Pacific gilia	Coastal bluff scrub, openings in chaparral, coastal prairie, valley and foothill grassland.	Apr-Aug	1B.2	N	N	S2	G5T3T4	No
Gilia capitata ssp.tomentosa Woolly-headed gilia	Serpentinite, rocky, outcrops of coastal bluff scrub and calley and foothill grassland.	May-Jul	1B.1	N	N	S2	G5T2	No
Gilia millefoliata Dark-eyed gilia	Coastal dunes	Apr-Jul	1B.2	N	N	S2	G2	No
Glyceria grandis American manna grass	Bogs and fens, wet meadows and seeps, marshes, swamps,streambanks, and lake margins	Jun-Aug	2B.3	N	N	S3	G5	No
Hemizonia congesta ssp. Congesta Seaside tarplant	Sometimes roadsides.Valley and foothill grassland	Apr-Nov	1B.2	N	N	S1S2	G5T1T2	No
Hesperevax sparsiflora var. brevifolia Short-leaved evax	Sandy coastal bluffs; coastal dunes, coastal dune mat, and sandy openings in wet dune meadows. Coastal bluff scrub. Rocky, grassy slopes. In areas of sparse vegetation cover in sandy substrate.	Mar-Jun	1B.2	N	N	S2	G4T3	No
Hesperocyparis pygmaea (Cupressus pygmaea, Cupressus goveniana ssp. pigmaea, Callitropsis pygmaea) Pygmy cypress	Closed-cone coniferous forests, usually podzol-like	NA	1B.2	N	N	S1	G1	No

Scientific Name (*Synonyms*) Common Name	Habitat found	Blooming Period	CRPR	Fed. Listing	State Listing	State Rank	Global Rank	Observed?
Horkelia marinensis Point Reyes horkelia	Sandy, coastal dunes, coastal scrub, coastal prairire	May-Sep	1B.2	N	N	S2	G2	No
Horkelia tenuiloba Thin-lobed horkelia	Mesic openings or sandy sites in broadleafed upland forests, chaparral, and valley and foothill grassland.	May-Aug	1B.2	N	N	S2	G2	No
Hosackia gracilis ***(Lotus formosissimus)*** Harlequin lotus	Wetlands, roadsides, 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	Mar-Jul	4.2	N	N	S3	G4	No
Juncus supiniformis Hair-leaved rush	Bogs and fens; freshwater marshes and swamps near the coast.	Apr-Jul	2B.2	N	N	S1	G5	No
Kopsiopsis hookeri ***(Boschniakia hookeri)*** Small groundcone	North Coast conferous forest	Apr-Aug	2B.3	N	N	S1S2	G4G5	No
Lasthenia californica ssp.bakeri Baker's goldfields	Openings in closed-cone coniferous forest; coastal scrub; meadows and seeps; marshes and swamps.	Apr-Oct	1B.2	N	N	SH	G3TH	No
Lasthenia californica ssp. macrantha Perennial goldfields	Coastal bluff scrub, coastal dunes, and coastal scrub.	Jan-Nov	1B.2	N	N	S2	G3T2	No
Lasthenia conjugens Contra Costa goldfields	Mesic sites in cismontane woodlands, alkaline playas, valley and foothill grasslands, vernal pools	Mar-Jun	1B.1	FE	N	S1.1	G1	No
Lathyrus palustris Marsh Pea	Bogs and fens; mesic sites of coastal prairies, coastal scrub, lower montane coniferous forests, and North Coast coniferous forests.	Mar- Aug	2B.2	N	N	S2	G5	No
Lilium maritimum Coast lily	Broadleafed upland forests, closed-cone coniferous forests, coastal prairies, coastal scrub, freshwater marshes and swamps. Roadsides and roadside ditches.	May-Aug	1B.1	N	N	S2	G2	No
Microseris paludosa Marsh microseris/silverpuffs	Closed-cone coniferous forests, cismontane woodlands, coastal scrub, valley and foothill grasslands. *(A 1968 collection from Point Arena (3.2 km to N, between Hwy. 1 and beach) is the northernmost occurrence and is disjunct from southern populations.*	Apr-Jul	1B.2	N	N	S2	G2	No
Oenothera wolfii Wolf's evening- primrose	Sandy, usually mesic sites in coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forests. *(Along roads on vertical cutbanks and in grassy median. On disturbed sterile soil; upper stabilized dunes; rocky slopes protected above strand; vertical cliffs above the ocean.)*	May-Oct	1B.1	N	N	S1	G2	No
Packera bolanderi var.bolanderi ***(Senecio bolanderi var. bolanderi)*** Seacoast ragwort	Sometimes roadsides, Coastal Scrub, North coast coniferous forest	Jan-Aug	2B.2	N	N	S2S3	G4T4	No
Phacelia insularis var.continentis North Coast phacelia	Sandy, sometimes rocky, sites in coastal bluff scrub; coastal dunes. *(Rocky, thin soil with native and non-native grasses and forbs. Sandy pastureland and grazed coastal prairie.)*	Mar-May	1B.2	N	N	S2	G2T2	No
Pinus contorta ssp.bolanderi Bolander's beach pine	Closed-cone coniferous forests with podzol-like soils. Associated with Mendocino cypress and bishop pine, and Mendocino pygmy cypress forests.	Jul-Aug	1B.2	N	N	S2	G5T2	No
Piperia candida White-flowered rein orchid	Sometimes serpentinite, Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	Mar-Sep	1B.2	N	N	S3	G3	No

Scientific Name (Synonyms) **Common Name**	**Habitat found**	**Blooming Period**	**CRPR**	**Fed. Listing**	**State Listing**	**State Rank**	**Global Rank**	**Observed?**
Pleuropogon hooverianus North Coast semaphore grass	open areas, mesic, broadleafed upland forest, meadows and seeps, North coast coniferous forest.	Apr-Jun	1B.1	N	CT	S2	G2	No
Potamogeton epihydrus Ribbonleaf pondweed	Marshes and swamps (assorted shallow freshwater)	Jun-Sep	2B.2	N	N	S2.2?	G5	No
Puccinellia pumila Dwarf alkali grass	Coastal salt marshes and swamps; meadows and seeps, mineral spring meadows.	Jul	2B.2	N	N	SH	G4?	No
Rhynchospora alba White beaked-rush	Bogs and fens (sometimes in Mendocino pygmy forests); meadows and seeps; marshes and swamps (freshwater).	Jul-Aug	2B.2	N	N	S2	G5	No
Sanguisorba officinalis Great burnet	Bogs and fens,broadleafed upland forests, meadows and seeps, marshes and swamps, North Coast coniferous forests, riparian forests, Serpentine seepage areas and along stream borders.	Jul-Oct	2B.2	N	N	S2	G5?	No
Sidalcea calycosa ssp.rhizomata Point Reyes checkerbloom	Freshwater marshes and swamps near the coast.	Apr-Sep	1B.2	N	N	S2	G5T2	No
Sidalcea malviflora ssp.patula Siskiyou checkerbloom	Often roadcuts, coastal bluff scrub; coastal prairie; North coast coniferous forest	May-Aug	1B.2	N	N	S2	G5T2	No
Sidalcea malviflora ssp. purpurea Purple-stemmed checkerbloom	Broadleafed upland forest, coastal prairie	May-Jun	1B.2	N	N	S1	G5T1	No
Trifolium buckwestiorum Santa Cruz clover	Gravelly margins of broadleafed upland forests, cismontane woodlands, coastal prairie. *(Common associates include Juncus bufonius, Soliva sessilis, Danthonia californica, and Bromus hordeaceus. In Mendocino Co., most collections from ~5 miles up Garcia River.)*	Apr-Oct	1B.1	N	N	S2	G2	No
Trifolium trichocalyx Monterey clover	Closed-cone coniferous forest (sandy, openings, burned areas).	Apr-Jun	1B.1	FE	CE	S1	G1	No
Triquetrella californica Coastal triquetrella	Soil of Coastal bluff scrub, coastal scrub,	NA	1B.2	N	N	S2	G2	No
Viola adunca Western dog violet	Yellow pine forest, red fir forest, lodgepole forest, redwood forest, mixed evergreen forest, subalpine forest, alpine fell-fields, wetland riparian. Common and widespread on open sea bluffs to red fir forest.	Apr-Aug	not ranked	N	N	?	?	No
Viola palustris Alpine marsh violet	Coastal Bogs and Fens; Coastal Scrub (mesic)	Mar-Aug	2B.2	N	N	S1S2	G5	No

Johnson Sensitive Natural Communities and Alliances Occuring in Coastal and Inland Mendocino County								
Alliance Scientific Name	**Association Scientific Name**	**Alliance Common Name**	**Alliance Global Rank**	**Alliance State Rank**	**Association Global Rank**	**Association Rank State**	**Rare ?**	**Present?**
Woodland and Forest Alliances, Associations, and Stands								
Abies grandis	*Abies grandis – Picea sitchensis / Gaultheria shallon / Polystichum munitum*	Grand fir forest	G4	S2	G1	S1	Y	No
	Abies grandis – Tsuga heterophylla / Polystichum munitum	Grand fir forest	G4	S2	G2	S1	Y	No
Acer macrophyllum	*Acer macrophyllum*	Bigleaf maple forest	G4	S3			Y	No
	Acer macrophyllum – Pseudotsuga menziesii / Adenocaulon bicolor	Bigleaf maple forest	G4	S3			Y	No
	Acer macrophyllum – Pseudotsuga menziesii / Corylus cornuta	Bigleaf maple forest	G4	S3			Y	No
	Acer macrophyllum – Pseudotsuga menziesii / Dryopteris arguta	Bigleaf maple forest	G4	S3			Y	No
	Acer macrophyllum – Pseudotsuga menziesii / Philadelphus lewisii	Bigleaf maple forest	G4	S3			Y	No
	Acer macrophyllum – Pseudotsuga menziesii / Polystichum munitum	Bigleaf maple forest	G4	S3			Y	No
Acer negundo	*Acer negundo*	Box-elder forest	G5	S2			Y	No
	Acer negundo – Salix gooddingii	Box-elder forest	G5	S2			Y	No
Aesculus californica	*Aesculus californica*	California buckeye groves	G3	S3			Y	No
	Aesculus californica – Umbellularia californica / Diplacus aurantiacus	California buckeye groves	G3	S3	G3	S3?	Y	No
	Aesculus californica – Umbellularia californica / Holodiscus discolor	California buckeye groves	G3	S3			Y	No
	Aesculus californica / Datisca glomerata	California buckeye groves	G3	S3			Y	No
	Aesculus californica / Lupinus albifrons	California buckeye groves	G3	S3			Y	No
	Aesculus californica / Toxicodendron diversilobum / moss	California buckeye groves	G3	S3			Y	No
Alnus rhombifolia	*Alnus rhombifolia*	White alder groves	G4	S4	G2Q		Y	No
Arbutus menziesii	*Arbutus menziesii – Quercus agrifolia*	Madrone forest	G4	S3	G3	S3?	Y	No
	Arbutus menziesii – Umbellularia californica	Madrone forest	G4	S3			Y	No
	Arbutus menziesii – Umbellularia californica – (Notholithocarpus densiflorus)	Madrone forest	G4	S3	G3	S3?	Y	No
	Arbutus menziesii – Umbellularia californica – Quercus kelloggii	Madrone forest	G4	S3	G3	S3?	Y	No
Fraxinus latifolia	*Fraxinus latifolia*	Oregon ash groves	G4	S3			Y	No
	Fraxinus latifolia – Alnus rhombifolia	Oregon ash groves	G4	S3			Y	No
	Fraxinus latifolia / Cornus sericea	Oregon ash groves	G4	S3			Y	No
	Fraxinus latifolia / Toxicodendron diversilobum	Oregon ash groves	G4	S3			Y	No
Hesperocyparis macrocarpa	*Hesperocyparis macrocarpa*	Monterey cypress stands	G1	S1			Y	No
Hesperocyparis pigmaea	*Hesperocyparis pigmaea – Pinus contorta ssp. bolanderi – Pinus muricata / Rhododendron macrophyllum*	Mendocino pygmy cypress woodland	G1	S1			Y	No
	Hesperocyparis pigmaea – Pinus contorta ssp. bolanderi / Rhododendron columbianum	Mendocino pygmy cypress woodland	G1	S1			Y	No
	Hesperocyparis pigmaea – Pinus muricata / Arctostaphylos nummularia	Mendocino pygmy cypress woodland	G1	S1			Y	No
	Hesperocyparis pigmaea / Cladina impexa	Mendocino pygmy cypress woodland	G1	S1			Y	No
	Hesperocyparis pigmaea / Cladonia bellidiflora	Mendocino pygmy cypress woodland	G1	S1			Y	No
	Hesperocyparis pigmaea / Usnea subfloridana	Mendocino pygmy cypress woodland	G1	S1			Y	No
Notholithocarpus densiflorus	*Notholithocarpus densiflorus*	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Acer circinatum	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Acer macrophyllum	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Arbutus menziesii	Tanoak forest	G4	S3	G3	S3	Y	No
	Notholithocarpus densiflorus – Arbutus menziesii / Ceanothus integerrimus	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Calocedrus decurrens / Festuca californica	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Chamaecyparis lawsoniana	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Chrysolepis chrysophylla	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Cornus nuttallii	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Cornus nuttallii / Toxicodendron diversilobum	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Pinus lambertiana / Toxicodendron diversilobum	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Quercus chrysolepis	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Quercus kelloggii	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus – Umbellularia californica	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Corylus cornuta	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Frangula californica	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Gaultheria shallon	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Mahonia nervosa	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Quercus vacciniifolia – Rhododendron macrophyllum	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Toxicodendron diversilobum – Lonicera hispidula var. vacillans	Tanoak forest	G4	S3			Y	No
	Notholithocarpus densiflorus / Vaccinium ovatum	Tanoak forest	G4	S3			Y	No
Picea sitchensis	*Picea sitchensis – Tsuga heterophylla*	Sitka spruce forest	G5	S2			Y	No
	Picea sitchensis / Maianthemum dilatatum	Sitka spruce forest	G5	S2			Y	No
	Picea sitchensis / Polystichum munitum	Sitka spruce forest	G5	S2	G4?		Y	No
	Picea sitchensis / Rubus spectabilis	Sitka spruce forest	G5	S2	G3		Y	No
Pinus contorta ssp. contorta	*Pinus contorta ssp. contorta*	Beach pine forest	G5	S3			Y	No
	Pinus contorta ssp. contorta – Picea sitchensis	Beach pine forest	G5	S3			Y	No
Pinus lambertiana	*Pinus lambertiana – Chrysolepis chrysophylla / Quercus vacciniifolia – Quercus sadleriana*	Sugar pine forest	G4	S3			Y	No
Pinus muricata – Pinus radiata	*Pinus muricata*	Bishop pine – Monterey pine forest	G3	S3	G3?	S3?	Y	No
	Pinus muricata – (Arbutus menziesii) / Vaccinium ovatum	Bishop pine – Monterey pine forest	G3	S3	G2	S2	Y	No
	Pinus muricata – Chrysolepis chrysophylla / Arctostaphylos nummularia	Bishop pine – Monterey pine forest	G3	S3	G2	S2	Y	No
	Pinus muricata – Notholithocarpus densiflorus	Bishop pine – Monterey pine forest	G3	S3	G3	S3	Y	No
	Pinus muricata – Pseudotsuga menziesii	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus muricata / Arctostaphylos glandulosa	Bishop pine – Monterey pine forest	G3	S3	G2	S2	Y	No
	Pinus muricata / Arctostaphylos spp.	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus muricata / Comarostaphylis diversifolia ssp. planifolia	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus muricata / Xerophyllum tenax	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus radiata – Pinus muricata / Arctostaphylos tomentosa – Arctostaphylos hookeri	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus radiata – Quercus agrifolia / Toxicodendron diversilobum	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus radiata / Arctostaphylos tomentosa – Vaccinium ovatum	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus radiata / Toxicodendron diversilobum	Bishop pine – Monterey pine forest	G3	S3			Y	No
	Pinus radiata plantations	Bishop pine – Monterey pine forest	G3	S3	GNR	SNR	N	
Pseudotsuga menziesii – Notholithocarpus densiflorus	*Pseudotsuga menziesii – Notholithocarpus densiflorus*	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Acer macrophyllum) / Polystichum munitum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Calocedrus decurrens) / Festuca californica	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana – Alnus rubra) / riparian	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana – Tsuga heterophylla) / Vaccinium ovatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana – Umbellularia californica) / Vaccinium ovatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Acer circinatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Mahonia nervosa / Linnaea borealis	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Vaccinium ovatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Vaccinium ovatum – Rhododendron occidentale	Douglas fir – tanoak forest	G3	S3			Y	No

Johnson Sensitive Natural Communities and Alliances Occuring in Coastal and Inland Mendocino County								
Alliance Scientific Name	Association Scientific Name	Alliance Common Name	Alliance Global Rank	Alliance State Rank	Association Global Rank	Association Rank State	Rare ?	Present?
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chamaecyparis lawsoniana) / Vaccinium parvifolium	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chrysolepis chrysophylla) / Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chrysolepis chrysophylla) / Pteridium aquilinum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Chrysolepis chrysophylla) / Rhododendron macrophyllum – Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Pinus lambertiana)	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis) / Mahonia nervosa	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis) / Mahonia nervosa – Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis) / rockpile	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis) / Toxicodendron diversilobum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis) / Vaccinium ovatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus chrysolepis, Quercus kelloggii) / Toxicodendron diversilobum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Quercus kelloggii) / Rosa gymnocarpa	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – (Umbellularia californica) / Toxicodendron diversilobum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Iris	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus – Thuja plicata / Vaccinium ovatum – Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Acer circinatum	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Achlys triphylla	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Aralia californica	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Chimaphila umbellata	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Cornus nuttallii	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Corylus cornuta	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Gaultheria shallon	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Mahonia nervosa	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Quercus vaccinifolia – Holodiscus discolor	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Rhododendron macrophyllum	Douglas fir – tanoak forest	G3	S3	G2	S2	Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Taxus brevifolia	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Toxicodendron diversilobum – (Lonicera hispidula)	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Vaccinium ovatum – (Gaultheria shallon)	Douglas fir – tanoak forest	G3	S3			Y	No
	Pseudotsuga menziesii – Notholithocarpus densiflorus / Whipplea modesta	Douglas fir – tanoak forest	G3	S3			Y	No
Salix laevigata	*Salix laevigata*	Red willow thickets	G3	S3	GNR		Y	No
	Salix laevigata – Cornus sericea / Scirpus microcarpus	Red willow thickets	G3	S3	G3	S3?	Y	No
	Salix laevigata – Salix lasiolepis	Red willow thickets	G3	S3			Y	No
	Salix laevigata – Salix lasiolepis / Artemisia douglasiana – Rubus ursinus	Red willow thickets	G3	S3			Y	No
	Salix laevigata – Salix lasiolepis / Baccharis salicifolia	Red willow thickets	G3	S3			Y	No
	Salix laevigata / Rosa californica	Red willow thickets	G3	S3			Y	No
	Salix laevigata / Salix lasiolepis / Artemisia douglasiana	Red willow thickets	G3	S3			Y	No
Sequoia sempervirens	*Sequoia sempervirens*	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Acer macrophyllum – Umbellularia californica	Redwood forest	G3	S3	G3	S3	Y	No
	Sequoia sempervirens – Acer macrophyllum / Polypodium californicum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Alnus rubra / Rubus spectabilis	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Arbutus menziesii	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Arbutus menziesii / Vaccinium ovatum	Redwood forest	G3	S3	G3	S3	Y	No
	Sequoia sempervirens – Chrysolepis chrysophylla / Arctostaphylos glandulosa	Redwood forest	G3	S3	G2	S2?	Y	No
	Sequoia sempervirens – Hesperocyparis pigmaea	Redwood forest	G3	S3	G1	S1	Y	No
	Sequoia sempervirens – Notholithocarpus densiflorus / Carex globosa – Iris douglasiana	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Notholithocarpus densiflorus / Vaccinium ovatum	Redwood forest	G3	S3	G3	S3	Y	No
	Sequoia sempervirens – Pinus muricata	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii – Arbutus menziesii	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii – Notholithocarpus densiflorus	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii – Notholithocarpus densiflorus – Chamaecyparis lawsoniana / Vaccinium ovatum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii – Umbellularia californica	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii / Gaultheria shallon	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii / Rhododendron macrophyllum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Pseudotsuga menziesii / Vaccinium ovatum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Tsuga heterophylla / Polystichum munitum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Tsuga heterophylla / Rubus spectabilis	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Tsuga heterophylla / Vaccinium ovatum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens – Umbellularia californica	Redwood forest	G3	S3	G3	S3	Y	No
	Sequoia sempervirens / (Pteridium aquilinum) – Woodwardia fimbriata	Redwood forest	G3	S3	G3	S3	Y	No
	Sequoia sempervirens / Blechnum spicant	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Mahonia nervosa	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Marah fabaceus – Vicia sativa ssp. nigra	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Oxalis oregana	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Polystichum munitum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Pteridium aquilinum	Redwood forest	G3	S3			Y	No
	Sequoia sempervirens / Pteridium aquilinum – Trillium ovatum	Redwood forest	G3	S3			Y	No
Sequoiadendron giganteum	*Sequoiadendron giganteum – Pinus lambertiana / Cornus nuttallii*	Giant sequoia forest	G3	S3			Y	No
Tsuga heterophylla	*Tsuga heterophylla – Pseudotsuga menziesii – Chamaecyparis lawsoniana*	Western hemlock forest	G5	S2			Y	No
Umbellularia californica	*Umbellularia californica*	California bay forest	G4	S3	G3	S3	Y	No
	Umbellularia californica – Acer macrophyllum	California bay forest	G4	S3	G3	S3?	Y	No
	Umbellularia californica – Aesculus californica / Holodiscus discolor	California bay forest	G4	S3	G3	S3	Y	No
	Umbellularia californica – Alnus rhombifolia	California bay forest	G4	S3	G3	S3	Y	No
	Umbellularia californica – Arbutus menziesii	California bay forest	G4	S3			Y	No
	Umbellularia californica – Juglans californica / Ceanothus spinosus	California bay forest	G4	S3	G3		Y	No
	Umbellularia californica – Notholithocarpus densiflorus	California bay forest	G4	S3	G3	S3	Y	No
	Umbellularia californica – Platanus racemosa	California bay forest	G4	S3	G3		Y	No

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	Umbellularia californica – Pseudotsuga menziesii / Rhododendron occidentale	California bay forest	G4	S3	G3	S3?	Y	No
	Umbellularia californica – Quercus agrifolia	California bay forest	G4	S3			Y	No
	Umbellularia californica – Quercus agrifolia / (Genista monspessulana)	California bay forest	G4	S3			Y	No
	Umbellularia californica – Quercus agrifolia / Heteromeles arbutifolia – Toxicodendron diversilobum / Melica torreyana	California bay forest	G4	S3			Y	No
	Umbellularia californica – Quercus agrifolia / Toxicodendron diversilobum (Corylus cornuta)	California bay forest	G4	S3			Y	No
	Umbellularia californica – Quercus chrysolepis	California bay forest	G4	S3			Y	No
	Umbellularia californica – Quercus wislizeni	California bay forest	G4	S3			Y	No
	Umbellularia californica / Ceanothus oliganthus	California bay forest	G4	S3			Y	No
	Umbellularia californica / Polystichum munitum	California bay forest	G4	S3			Y	No
	Umbellularia californica / Toxicodendron diversilobum	California bay forest	G4	S3			Y	No
Shrub Alliance, Associations, and Stands								
Arctostaphylos (nummularia, sensitiva)	*Arctostaphylos nummularia*	Glossy leaf manzanita chaparral	G2G3	S2S3	G2	S2	Y	No
Cornus sericea	*Cornus sericea*	Red osier thickets	G4	S3?			Y	No
	Cornus sericea – Salix exigua	Red osier thickets	G4	S3?			Y	No
	Cornus sericea – Salix lasiolepis	Red osier thickets	G4	S3?			Y	No
	Cornus sericea / Senecio triangularis	Red osier thickets	G4	S3?			Y	No
Diplacus aurantiacus	*Diplacus aurantiacus*	Bush monkeyflower scrub	G3	S3?	G3		Y	No
Garrya elliptica		Coastal silk tassel scrub	G3?	S3?				
Holodiscus discolor	*Holodiscus discolor – Arctostaphylos patula*	Ocean spray brush	G4	S3			Y	No
	Holodiscus discolor – Keckiella corymbosa	Ocean spray brush	G4	S3			Y	No
	Holodiscus discolor – Sambucus racemosa	Ocean spray brush	G4	S3			Y	No
	Holodiscus discolor / Achnatherum occidentale – Eriogonum nudum	Ocean spray brush	G4	S3			Y	No
	Holodiscus discolor / Mimulus suksdorfii	Ocean spray brush	G4	S3			Y	No
	Holodiscus discolor / Sedum obtusatum ssp. boreale – Cryptogramma acrostichoides	Ocean spray brush	G4	S3			Y	No
Lupinus chamissonis – Ericameria ericoides	*Ericameria ericoides*	Silver dune lupine – mock heather scrub	G3	S3			Y	No
	Lupinus chamissonis	Silver dune lupine – mock heather scrub	G3	S3			Y	No
	Lupinus chamissonis – Ericameria ericoides	Silver dune lupine – mock heather scrub	G3	S3	G2		Y	No
Morella californica	*Morella californica*	Wax myrtle scrub	G3	S3			Y	No
Quercus chrysolepis (shrub)	*Quercus chrysolepis*	Canyon live oak chaparral	G3	S3			Y	No
	Quercus chrysolepis – Ceanothus integerrimus	Canyon live oak chaparral	G3	S3			Y	No
Rhododendron columbianum	*Rhododendron columbianum*	Western Labrador-tea thickets	G4	S2?			Y	No
	Rhododendron columbianum / Pinus contorta ssp. murrayana	Western Labrador-tea thickets	G4	S2?			Y	No
Rhododendron occidentale		Western azalea patches	G3	S2?				
Rosa californica	*Rosa californica*	California rose briar patches	G3	S3			Y	No
	Rosa californica – Baccharis pilularis	California rose briar patches	G3	S3			Y	No
	Rosa californica / Schoenoplectus spp.	California rose briar patches	G3	S3			Y	No
Rubus (parviflorus, spectabilis, ursinus)	*Gaultheria shallon – Rubus spectabilis – Rubus parviflorus*	Coastal brambles	G4	S3			Y	No
	Ribes aureum	Coastal brambles	G4	S3			Y	No
	Rubus parviflorus	Coastal brambles	G4	S3			Y	No
	Rubus parviflorus – Rubus spectabilis – Rubus ursinus	Coastal brambles	G4	S3			Y	No
	Rubus spectabilis	Coastal brambles	G4	S3			Y	No
	Rubus ursinus	Coastal brambles	G4	S3			Y	No
Salix lasiolepis	*Salix lasiolepis*	Arroyo willow thickets	G4	S4			Y	No
Salix sitchensis	*Salix sitchensis*	Sitka willow thickets	G4	S3?			Y	No
Sambucus nigra	*Sambucus nigra*	Blue elderberry stands	G3	S3			Y	No
	Sambucus nigra – Heteromeles arbutifolia	Blue elderberry stands	G3	S3			Y	No
	Sambucus nigra / Leymus condensatus	Blue elderberry stands	G3	S3			Y	No
Herbaceous Alliance, Associations, and Stands								
Abronia latifolia – Ambrosia chamissonis	*Abronia latifolia – Erigeron glaucus*	Dune mat	G3	S3			Y	No
	Abronia latifolia – Leymus mollis	Dune mat	G3	S3			Y	No
	Ambrosia chamissonis	Dune mat	G3	S3			Y	No
	Ambrosia chamissonis – Abronia maritima – Cakile maritima	Dune mat	G3	S3			Y	No
	Ambrosia chamissonis – Abronia umbellata	Dune mat	G3	S3			Y	No
	Ambrosia chamissonis – Eriophyllum staechadifolium – (Lupinus arboreus)	Dune mat	G3	S3			Y	No
	Ambrosia chamissonis – Malacothrix incana – Carpobrotus chilensis – Poa douglasii	Dune mat	G3	S3			Y	No
	Artemisia pycnocephala – Calystegia soldanella	Dune mat	G3	S3			Y	No
	Artemisia pycnocephala – Cardionema ramosissimum	Dune mat	G3	S3	G3		Y	No
	Artemisia pycnocephala – Ericameria ericoides	Dune mat	G3	S3			Y	No
	Artemisia pycnocephala – Poa douglasii	Dune mat	G3	S3			Y	No
	Artemisia pycnocephala – Polygonum paronychia	Dune mat	G3	S3			Y	No
	Cakile maritima – Abronia maritima	Dune mat	G3	S3			Y	No
	Cakile maritima – Ambrosia chamissonis – Carpobrotus edulis	Dune mat	G3	S3			Y	No
	Calystegia macrostegia – Erigeron glaucus – Malacothrix incana	Dune mat	G3	S3			Y	No
	Poa douglasii – Lathyrus littoralis	Dune mat	G3	S3			Y	No
Bromus carinatus – Elymus glaucus	*Bromus carinatus*	California brome – blue wildrye prairie	G3	S3	G3	S3	Y	No
	Elymus glaucus	California brome – blue wildrye prairie	G3	S3	G3	S3	Y	No
	Pteridium aquilinum – Grass	California brome – blue wildrye prairie	G3	S3	G3	S3	Y	No
	Thermopsis californica – Bromus carinatus – Annual Brome	California brome – blue wildrye prairie	G3	S3	G3	S3	Y	No
Calamagrostis canadensis	*Calamagrostis canadensis*	Bluejoint reed grass meadows	G5	S3	GNR		Y	No
Calamagrostis canadensis	*Calamagrostis canadensis – Carex utriculata*	Bluejoint reed grass meadows	G5	S3			Y	No
	Calamagrostis canadensis – Dodecatheon redolens	Bluejoint reed grass meadows	G5	S3			Y	No
	Calamagrostis canadensis – Scirpus microcarpus	Bluejoint reed grass meadows	G5	S3			Y	No
Calamagrostis nutkaensis	*Calamagrostis nutkaensis*	Pacific reed grass meadows	G4	S2			Y	No
	Calamagrostis nutkaensis – Carex (obnupta) – Juncus (patens)	Pacific reed grass meadows	G4	S2			Y	No
	Calamagrostis nutkaensis / Baccharis pilularis	Pacific reed grass meadows	G4	S2			Y	No
Camassia quamash	*Camassia quamash / Sphagnum subsecundum*	Small camas meadows	G4?	S3?			Y	No
Carex barbarae	*Carex barbarae*	White-root beds	G2?	S2?			Y	No
Carex densa	*Carex densa – Juncus xiphioides*	Dense sedge marshes	G2?	S2?			Y	No
	Carex densa – Lolium perenne – Juncus spp.	Dense sedge marshes	G2?	S2?			Y	No
Carex nudata	*Carex nudata*	Torrent sedge patches	G3	S3			Y	No
Carex obnupta	*Carex obnupta*	Slough sedge swards	G4	S3			Y	No
	Carex obnupta – Juncus lescurii	Slough sedge swards	G4	S3			Y	No
	Carex obnupta – Juncus patens	Slough sedge swards	G4	S3			Y	No
Danthonia californica	*Danthonia californica*	California oat grass prairie	G4	S3			Y	No
	Danthonia californica – (Briza maxima – Vulpia bromoides)	California oat grass prairie	G4	S3			Y	No
	Danthonia californica – Aira caryophyllea	California oat grass prairie	G4	S3	G3		Y	No
	Danthonia californica – Arrhenatherum elatius	California oat grass prairie	G4	S3			Y	No
	Danthonia californica – Elymus elymoides	California oat grass prairie	G4	S3			Y	No
	Danthonia californica – Nassella pulchra	California oat grass prairie	G4	S3			Y	No
Darlingtonia californica	*Darlingtonia californica*	California pitcher plant fens	G4?	S3			Y	No
Elymus glaucus Montane	*Elymus glaucus – Carex feta*	Blue wild rye montane meadows	G3?	S3?	G2?		Y	No
	Elymus glaucus – Carex pellita	Blue wild rye montane meadows	G3?	S3?			Y	No
	Elymus glaucus – Heracleum maximum	Blue wild rye montane meadows	G3?	S3?			Y	No
Eryngium aristulatum	*Eryngium aristulatum – Lupinus bicolor*	California button-celery patches	G2	S2			Y	No
	Hemizonia congesta	California button-celery patches	G2	S2			Y	No
Festuca idahoensis	*Festuca californica*	Idaho fescue grassland	G4	S3?			Y	No
	Festuca idahoensis – Achillea millefolium	Idaho fescue grassland	G4	S3?			Y	No
	Festuca idahoensis – Bromus carinatus	Idaho fescue grassland	G4	S3?			Y	No
	Festuca idahoensis – Danthonia californica	Idaho fescue grassland	G4	S3?			Y	No
	Festuca idahoensis – Festuca rubra	Idaho fescue grassland	G4	S3?			Y	No
Festuca rubra	*Festuca rubra*	Red fescue grassland	G4	S3?			Y	No
Frankenia salina	*Frankenia salina*	Alkali heath marsh	G4	S3			Y	No
	Frankenia salina – Distichlis spicata	Alkali heath marsh	G4	S3			Y	No
	Frankenia salina – Limonium californicum – Monanthochloe littoralis – Sarcocornia pacifica	Alkali heath marsh	G4	S3			Y	No

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Glyceria (elata, striata)	*Glyceria elata*	Manna grass meadows	G4	S3?			Y	No
	Glyceria elata – Lotus oblongifolius	Manna grass meadows	G4	S3?			Y	No
	Glyceria elata – Scirpus microcarpus	Manna grass meadows	G4	S3?			Y	No
	Glyceria striata	Manna grass meadows	G4	S3?			Y	No
Grindelia (camporum, stricta)	*Grindelia stricta*	Gum plant patches	G2G3	S2S3			Y	No
Heterotheca (oregona, sessiliflora)	*Heterotheca oregona*	Goldenaster patches	G3	S3	G3	S3	Y	No
	Heterotheca sessiliflora	Goldenaster patches	G3	S3	G3	S3	Y	No
Hordeum brachyantherum	*Hordeum brachyantherum*	Meadow barley patches	G2	S2	G2		Y	No
	Hordeum brachyantherum – Poa pratensis	Meadow barley patches	G2	S2			Y	No
	Hordeum brachyantherum – Polypogon monspeliensis	Meadow barley patches	G2	S2			Y	No
Hydrocotyle (ranunculoides, umbellata)	*Hydrocotyle ranunculoides*	Mats of floating pennywort	G4	S3?			Y	No
	Hydrocotyle ranunculoides – Schoenoplectus pungens	Mats of floating pennywort	G4	S3?			Y	No
Isoetes (bolanderi, echinospora, howellii, nuttallii, occidentalis)		Quillwort beds	G3	S3?				
Juncus (oxymeris, xiphioides)	*Juncus oxymeris*	Iris-leaf rush seeps	G2?	S2?			Y	No
	Juncus xiphioides	Iris-leaf rush seeps	G2?	S2?			Y	No
Juncus lescurii	*Juncus (lescurii) – Distichlis spicata*	Salt rush swales	G3	S2?			Y	No
	Juncus lescurii	Salt rush swales	G3	S2?			Y	No
Lasthenia glaberrima	*Lasthenia glaberrima – Lupinus bicolor*	Smooth goldfields vernal pool bottoms	G2	S2			Y	No
	Lasthenia glaberrima – Pleuropogon californicus	Smooth goldfields vernal pool bottoms	G2	S2			Y	No
	Lasthenia glaberrima – Trifolium variegatum	Smooth goldfields vernal pool bottoms	G2	S2			Y	No
Leymus cinereus – Leymus triticoides	*Leymus triticoides – Bromus spp. – Avena spp.*	Ashy ryegrass – creeping ryegrass turfs	G3	S3			Y	No
	Leymus triticoides – Carduus pycnocephalus – Geranium dissectum	Ashy ryegrass – creeping ryegrass turfs	G3	S3			Y	No
	Leymus triticoides – Lolium perenne	Ashy ryegrass – creeping ryegrass turfs	G3	S3			Y	No
	Leymus triticoides – Poa secunda	Ashy ryegrass – creeping ryegrass turfs	G3	S3			Y	No
Leymus condensatus	*Leymus condensatus*	Giant wild rye grassland	G3	S3			Y	No
Leymus mollis	*Leymus mollis – Abronia latifolia – (Cakile sp.)*	Sea lyme grass patches	G4	S2			Y	No
	Leymus mollis – Ammophila arenaria	Sea lyme grass patches	G4	S2			Y	No
	Leymus mollis – Carpobrotus edulis	Sea lyme grass patches	G4	S2			Y	No
Mimulus (guttatus)	*Mimulus guttatus*	Common monkey flower seeps	G4?	S3?			Y	No
	Mimulus guttatus – (Mimulus spp.)	Common monkey flower seeps	G4?	S3?			Y	No
	Mimulus guttatus – Vulpia microstachys	Common monkey flower seeps	G4?	S3?			Y	No
Nuphar lutea		Yellow pond-lily mats	G5	S3?				
Oenanthe sarmentosa	*Oenanthe sarmentosa*	Water-parsley marsh	G4	S2?			Y	No
Oxyria digyna	*Draba lemmonii – Oxyria digyna*	Mountain sorrel patches	G4	S3?			Y	No
Poa secunda	*Poa secunda – Bromus rubens*	Curly blue grass grassland	G4	S3?			Y	No
	Poa secunda ssp. secunda	Curly blue grass grassland	G4	S3?			Y	No
Sarcocornia pacifica (Salicornia depressa)	*Salicornia bigelovii*	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Atriplex prostrata	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Bolboschoenus maritimus	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Brassica nigra	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Cotula coronopifolia	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Distichlis spicata	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Echinochloa crus-galli – Polygonum – Xanthium strumarium	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Frankenia salina	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Grindelia stricta	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Jaumea carnosa	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Jaumea carnosa – Distichlis spicata	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Lepidium latifolium	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica – Spartina foliosa	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica / algae	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica / annual grasses (Polypogon, Hordeum, Lolium)	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica Managed	Pickleweed mats	G4	S3			Y	No
	Sarcocornia pacifica Tidal	Pickleweed mats	G4	S3			Y	No
Schoenoplectus (acutus, californicus)	*Schoenoplectus californicus*	Hardstem and California bulrush marshes	GU	S3S4			Y	No
	Schoenoplectus californicus – Schoenoplectus acutus	Hardstem and California bulrush marshes	GU	S3S4			Y	No
	Schoenoplectus californicus – Schoenoplectus acutus / Rosa californica	Hardstem and California bulrush marshes	GU	S3S4			Y	No
	Schoenoplectus californicus – Typha latifolia	Hardstem and California bulrush marshes	GU	S3S4			Y	No
Scirpus microcarpus	*Scirpus microcarpus*	Small-fruited bulrush marsh	G4	S2	G4		Y	No
Sparganium (angustifolium)	*Sparganium angustifolium*	Mats of bur-reed leaves	G4	S3?			Y	No
Trifolium variegatum	*Trifolium variegatum*	White-tip clover swales	G3?	S3?			Y	No
	Trifolium variegatum – Juncus bufonius	White-tip clover swales	G3?	S3?			Y	No
	Trifolium variegatum – Lolium perenne – Leontodon saxatilis	White-tip clover swales	G3?	S3?			Y	No

Johnson Special-Status Wildlife with Potential Occurrence on the Project Site.								
Scientific name	Common Name	**Federal Status**	**State Status**	**G**	**S**	**Organization: Code**	**Habitat**	**Observed**
INVERTEBRATES								
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband snail	None	None	G2G3T1	S1	IUCN:DD	Found near the coast in heavily-timbered redwood canyons of Mendocino County, from Big River and Russian Gulch watersheds. Found under redwoods. Generally, in somewhat moist duff. Found in scrub in forest opening under a power line in Russian Gulch.	No
Bombus calignosus	Obscure Bumblebee	None	None	G4?	S1S2	IUCN_VU	Inhabits open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests. Males patrol circuits in search of mates. Reported to DFW as within 5 miles of project site.is an This species is very similar to the common yellow-faced bumblebee (Bombus vosnesenskii), differentiated by the structure of the male genitalia. he obscure bumblebee tends to have longer hairs, however, and yellow hairs are found on the underside of the abdomen.	No
Bombus occidentalis	Western bumble bee	None	None	GU	S1	XERCES:IM	Populations in central California have declined since the 1990's. It visits flowers in a variety of habitats. Identified by a white patch on its abdomen hind tip. None recorded from coastal Mendocino County at http://www.xerces.org/bumblebees.	No
Coelus globosus	Globose dune beetle	None	None	G1	S1	IUCN:VU	Subterranean beetle that tunnels through sand under dune vegetation. Since coastal dune habitat in California is diminishing, the beetle is a special-status species.	No
Lycaeides argyrognomon lotis	lotis blue butterfly	Endangered	None	G5TH	SH	XERCES:CI	Not seen since 1983, it is primarily from Mendocino County but historically from northern Sonoma and possibly Marin Counties. Inhabits wet meadows, damp coastal prairie, and potentially bogs or poorly-drained sphagnum-willow bogs where soils are waterlogged and acidic. Presumed host plant is *Hosackia gracilis* .	No
Noyo interessa	Ten Mile shoulderband snail	None	None	G2	S2	None	Known from a few locations in Mendocino County with limited habitat information. Known from Ten Mile Dunes.	No
Speyeria zerene behrensii	Behren's silverspot butterfly	Endangered	None	G5T1	S1	XERCES:CI	Historically from near the City of Mendocino, Mendocino County, south to the area of Salt Point State Park, Sonoma County. Now presumed to be from Manchester south to Salt Point area. Inhabits coastal terrace prairie with caterpillar host plants: violet (*Viola adunca*) and adult nectar sources: thistles, asters, etc.	No
FISH								
Entosphenus tridentatus	Pacific lamprey	None	None	G5	S4	AFS:VU	Anadromous lamprey found in freshwater rivers around the Pacific Rim, from Japan to Baja California. Adult Pacific Lamprey spawn in habitat similar to salmon: low gradient stream reaches, in gravel, often at the tailouts of pools and riffles.	No
Lampetra ayresii	River lamprey	None	None	G4	S4	AFS:VU DFG:SSC	Anadromous lamprey that uses riffle and side channel habitats for spawning and for ammocoete rearing where good water quality is essential. Adult Pacific Lamprey spawn in habitat similar to salmon: low gradient stream reaches, in gravel, often at the tailouts of pools and riffles.	No
Oncorhynchus kisutch	Coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	G4T2Q	S2?	AFS:TH DFG:SSC	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	No
Oncorhynchus mykiss irideus	steelhead-northern California DPS	Threatened	None	G5T2Q	S2	AFS:TH DFG:SSC	Cool, swift, shallow water and clean loose gravel for spawning.	No
Oncorhynchus tshawytscha	chinook salmon – California coastal ESU	Threatened	None	G5	S2	AFS:TH	Adults depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27° C lethal to adults.	No
Lavinia symmetricus navarroensis	Navarro roach	None	None	G5T1T2	S1S2	DFG:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams. Found in the lower, warmer reaches of streams in the Russian and Navarro River drainages.	No
Lavinia symmetricus parvipinnis	Gualala roach	None	None	G5T1T2	S1S2	DFG:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.	No
Eucyclogobius newberry	tidewater goby	Endangered	None	G3	S2S3	AFS:EN DFG:SSC IUCN:VU	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No
AMPHIBIANS & REPTILES								
Rhyacotriton variegatus	southern torrent (=seep) salamander	None	None	G3G4	S2S3	DFG:SSC IUCN:LC USFS:S	Found in Coastal redwood, Douglas fir, mixed conifer, montane riparian, and montane hardwood-conifer forests from northern California south to Point Arena. Aquatic habitat includes permanent cold creeks, steams and seepages with low water flow; associated with moss-covered rocks within trickling water and the splash zone of waterfalls; old-growth coniferous forests with closed canopy; <50% cobble in creeks, remainder mixture of pebble, gravel and sand.	No
Ascaphus truei	Pacific tailed frog	None	None	G4	S2S3	DFG:SSC IUCN:LC	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Coastal from Anchor Bay, Mendocino Co. to Oregon border. Cold, clear, rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.	No
Rana aurora aurora	northern red-legged frog	None	None	G4T4	S2?	DFG:SSC USFS:S	Found in humid forests, woodlands, grasslands, and streamsides in northwestern California. Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season. Integration zone between northern and California species is between Manchester and Elk.	No
Rana aurora draytonii	California red-legged frog	Threatened	None	G4T2T3	S2S3	DFG:SSC IUCN:VU	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	No
Rana boylii	foothill yellow-legged frog	None	None	G3	S2S3	BLM:S DFG:SSC IUCN:NT USFS:S	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying.	No
Emys marmorata marmorata	western pond turtle	None	None	G3G4	S3	BLM:S DFG:SSC IUCN:VU USFS:S	Former scientific name: *Clemmys marmorata marmorata* . Associated with permanent or nearly permanent water in a wide variety of habitats. Requires basking sites. Nests sites may be found up to 0.5 km from water.	No
BIRDS								
Phalacrocorax auritus	double-crested cormorant (nesting colony)	None	None	G5	S3	DFG:WL IUCN:LC	Rookery site: colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No
Ardea alba	great egret (nesting colony)	None	None	G5	S4	CDF:S IUCN:LC	Rookery: colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	No
Ardea herodias	great blue heron (nesting colony)	None	None	G5	S4	CDF:S IUCN:LC	Rookery: colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	No
Egretta thula	Snowy egret (nesting colony)	None	None	G5	S4	CDF:S IUCN:LC	Rookery: colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	No
Accipiter cooperii	Cooper's hawk (nesting)	None	None	G5	S3	DFG:WL IUCN:LC	Nesting: woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No
Accipiter gentilis	northern goshawk (nesting)	None	None	G5	S3	BLM:S CDF:S DFG:SSC IUCN:LC USFS:S	Nesting: within and in vicinity of coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodge pole pine, Jeffrey pine, and aspens are typical nest trees. Northern goshawks typically nest in conifer forests containing large trees and an open understory on the west slope of the Sierra. There is historic nesting in Big River and Pudding Creek. Winter migrant on the coast.	No
Accipiter striatus	sharp-shinned hawk (nesting)	None	None	G5	S3	DFG:WL	Nesting: ponderosa pine, black oak, riparian deciduous, mixed conifer and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes, with plucking perches are critical requirements. Nests usually within 275 ft. of water. Nests in dense, even-aged, single- layered forest canopy, usually nests in dense, pole and small-tree stands of conifers, which are cool, moist, well shaded, with little ground-cover, near water	No

Scientific name	Common Name	Federal Status	State Status	G	S	Organization: Code	Habitat	Observed
Aquila chrysaetos	golden eagle (nesting & wintering)	None	None	G5	S3	CDF:S DFG:FP DFG:WL IUCN:LC USFWS:BCC	Nesting and wintering: rolling foothills mountain areas, sage-juniper flats, desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	No
Buteo regalis	ferruginous hawk (wintering)	None	None	G4	S3S4	DFG:WL IUCN:LC USFWS:BCC	Usually east of the coastal belt, uncommon migrant in coastal Mendocino County seen in open areas such as Bald Hill and Manchester. Feeding habitat in open, treeless areas. Does not breed in California.	No
Circus cyaneus	Northern harrier (nesting)	None	None	G5	S3	DFG:SSC IUCN:LC	Northern harriers prefer sloughs, wet meadows, marshlands, swamps, prairies, plains, grasslands, and shrublands and perch on structures such as fence posts.Nesting habitat: nest on the ground, usually near water, or in tall grass, open fields, clearings, or on the water on a stick foundation, willow clump, or sedge tussock. Most nests built within patches of dense, often tall, vegetation (e.g., cattails) in undisturbed areas. They usually nest near hunting grounds.Foraging: They need open, low woody or herbaceous vegetation for nesting and hunting	No
Elanus leucurus	white-tailed kite (nesting)	None	None	G5	S3	DFG:FP IUCN:LC	Nesting: rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland, open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Winter congregation of at least 20 birds seen at Manchester State Park in early 2000's. One nest known from a THP in Albion ~2006; nest was at the edge of conifer forest with no pasture immediately adjacent.	No
Haliaeetus leucocephalus	bald eagle (nesting & wintering)	Delisted	Endangered	G5	S2	CDF:S DFG:FP IUCN:LC USFS:S USFWS:BCC	Nesting and wintering: ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter. Known from winter in Lake Cleone, MacKerricher State Park and Little River.	No
Pandion haliaetus	Osprey (nesting)	None	None	G5	S3	CDF:S DFG:WL IUCN:LC	Nesting: ocean shore, bays, fresh-water lakes, and larger streams.Large nests built in tree-tops within 6-7 to 15 miles of good fish-producing body of water. Flattened portions of partially broken off snags, trees, rocks, dirt pinnacles, cacti, and numerous man-made structures such as utility poles and duck blinds are used for nests. Furthest nest inland may be McGuire's Pond.	No
Falco columbarius	Merlin (wintering)	None	None	G5	S3	DFG:WL IUCN:LC	General wintering habitat: Uncommon winter migrants on the coast. Habitat apparently similar to breeding habitat, (open forest and grasslands). Regularly hunts prey (e.g., shorebirds) concentrated on tidal flats. Often winters in cities throughout its range, where frequently perches on buildings, power poles, and tall trees. Also winters in open woodland, grasslands, open cultivated fields, marshes, estuaries, and seacoasts. Frequents open habitats at low elevation near water and tree stands.	No
Falco peregrinus anatum	American peregrine falcon (nesting)	Delisted	Delisted	G4T3	S2	CDF:S DFG:FP USFWS:BCC	Nesting: near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	No
Charadrius alexandrinus nivosus	western snowy plover (nesting)	Threatened	None	G4T3	S2	ABC:WLBCC DFG:SSC USFWS:BCC	Nesting: federal listing applies only to the pacific coastal population. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting. Sand spits, dune-backed beaches, unvegetated beach strands, open areas around estuaries, and beaches at river mouths are the preferred coastal habitats for nesting. Less common nesting habitat includes salt pans, coastal dredged spoil disposal sites, dry salt ponds, and salt pond levees and islands.	No
Haematopus bachmani	Black oystercatcher (nesting)	None	None	G5	S2	IUCN:LC USFWS:BCC	From the Aleutian Islands to Baja California, the forage on intertidal macroinvertebrates along gravel or rocky shores and in the southern part of their range nest primarily on rocky headlands and offshore rocks.	No
Larus californicus	California gull (nesting)	None	None	G5	S2	DFG:WL IUCN:LC	Colony nesters and usually occurring on an island or vegetated offshore rock.	No
Brachyramphus marmoratus	marbled murrelet (nesting)	Threatened	Endangered	G3G4	S1	ABC:WLBCC CDF:S IUCN:EN	Nesting: feeds near-shore; nests inland along coast, from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir. Presence of platforms (flat surface at least four inches in diameter) appears to be the most important stand characteristic for predicting murrelet presence. Stands can be: 1) mature (with or without an old- growth component); 2) old-growth; 3) young coniferous forests with platforms; and 4) include large residual trees in low densities sometimes less than one tree per acre.	No
Fratercula cirrhata	tufted puffin (nesting colony)	None	None	G5	S2	DFG:SSC IUCN:LC	Nesting colony: open-ocean bird; nests along the coast on islands, islets, or (rarely) mainland cliffs free of human disturbance and mammalian predators. Nests in burrows or rock crevices when sod or earth in unavailable for burrowing. Occurs year-road offshore near breeding colonies in northern California, but more common in winter.Breeding records from Goat Rock, Mendocino Headlands State Park.	No
Athene cunicularia	burrowing owl (burrow sites and some winter sites)	None	None	G4	S2	BLM:S DFG:SSC IUCN:LC USFWS:BCC	Burrow sites: open, dry annual or perennial grasslands, deserts and scrublands, and dunes characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No
Strix occidentalis caurina	northern spotted owl	Threatened	None	G3T3	S2S3	ABC:WLBCC CDF:S DFG:SSC IUCN:NT	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests w/patches of big trees. High, multistory canopy dominated by big trees, many trees w/cavities or broken tops, woody debris, and space under canopy.	No
Chaetura vauxi	Vaux's swift (nesting)	None	None	G5	S3	DFG:SSC IUCN:LC	Nesting: redwood, Douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.The most important habitat requirement appears to be an appropriate nest-site in a large, hollow tree. Forages over most terrains and habitats, often high in theair. Shows an apparent preference for foraging over rivers and lakes.	No
Selasphorus rufus	rufous hummingbird (nesting)	None	None	G5	S1S2	IUCN:LC USFWS:BCC	Breeds in open or shrubby areas, forest openings, yards and parks, and sometimes in forests, thickets, and meadows. Late winter and spring migrant on the California coast. Breeding range from southeast Alaska and as far south as northwestern California.	No
Selasphorus sasin	Allen's hummingbird (nesting)	None	None			ABC:WLBCC IUCN:LC USFWS:BCC	Breeds only along a narrow strip of coastal California and southern Oregon. Nests in densely vegetated areas and forests. An early migrant compared with most North American birds, arriving in summer breeding grounds as early as January. Breeds in moist coastal areas, scrub, chaparral, and forests. Winters in forest edge and scrub clearings with flowers.	No
Picoides nuttallii	Nuttall's woodpecker (nesting)	None	None	G5	SNR	ABC:WLBCC IUCN:LC	Ranging from west of the Cascade mountains and in the Sierra Nevada from southern Oregon to Northern Baja California. Nests are excavated in dead branches or snags of various trees, usually in close association with oak woodlands and riparian zone, habitat vulnerable to development. At least one Mendocino Coast record from 2011 Audubon Christmas Bird Count.	No
Sphyrapicus ruber	red-breasted sapsucker	None	None	G5	SNR	None	Breeds primarily in coniferous forests, but also uses deciduous and riparian habitat, as well as orchards and power line corridors. The nest is a hole usually dug in a live deciduous tree (e.g. alder, willow, madrone) with possible preference for larger trees showing decay-softened wood.	No
Contopus cooperi	olive-sided flycatcher (nesting)	None	None	G4	S4	ABC:WLBCC DFG:SSC IUCN:NT USFWS:BCC	Breeds in montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds. Tall standing dead trees are used as perch trees for catching flying insects. Accordingly, an open canopy is a key components of suitable habitat. Nest is an open cup of twigs, rootlets, and lichens, placed out near tip of horizontal branch of a tree.	No
Progne subis	purple martin	None	None	G5	S3	DFG:SSC IUCN:LC	Nesting: inhabits woodlands, low elevation coniferous forest of Douglas fir, Ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly, also in human- made structures such as weep holes in bridges. Nest often located in tall, isolated trees and snags. Nesting on the Mendocino Coast known, in part, from Juan Creek, Ten Mile, Noyo, and Big River, and snags from Ten Mile River to Pudding Creek. Need open foraging habitats.	No

Scientific name	Common Name	Federal Status	State Status	G	S	Organization: Code	Habitat	Observed
Dendroica occidentalis	hermit warbler (nesting)	None	None	G4G5	S3?	ABC:WLBCC IUCN:LC	Breeding range is relatively limited to the Pacific Coast and the Cascade and Sierra Nevada mountain ranges of Washington, Oregon, and California. Some winter along the coastal central and southern California, but most winter primarily in the mountains of western Mexico and Central America. Nesting habitats in Pacific northwest are coniferous forests with a high canopy volume, generally preferring mature stands of pine and Douglas fir. Avoids areas with a high deciduous volume; absent from riparian areas and clearcuts. Birds of coniferous forests; they prefer cool, wet fir forests at elevation, and moist forests of Douglas-fir, hemlock, and western red cedar closer to sea level. Major threat to this species appears to be the degradation of breeding habitat.Not know as frequently nesting on the coast, perhaps more common inland.	No
Ammodramus savannarum	grasshopper sparrow (nesting)	None	None	G5	S2	DFG:SSC IUCN:LC	Nesting: dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting. Summer (breeding) resident in Mendocino County known from north of Ten Mile River.	No
Agelaius tricolor	tricolored blackbird (nesting colony)	None	None	G2G3	S2	ABC:WLBCC BLM:S DFG:SSC IUCN:EN USFWS:BCC	Nesting colony: highly colonial species, most numerous in central valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, such as cattails and foraging area with insect prey within a few km of the colony. Known inland from McGuire's Pond.	No
Mammals								
Antrozous pallidus	pallid bat	None	None	G5	S3	BLM:S DFG:SSC IUCN:LC USFS:S WBWG:H	A wide variety of habitats deserts, grasslands, shrublands, woodlands and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings where there is protection from high temperatures.	No
Corynorhinus townsendi	Townsend's big-eared bat	None	None	G4	S2S3	BLM:S DFG:SSC IUCN:LC USFS:S WBWG:H	Generally found in the dry uplands throughout the West, but also occur in mesic coniferous and deciduous forest habitats along the Pacific coast. Unequivocally associated with areas containing caves and cave-analogs for roosting habitat. Requires spacious cavern-like structures for roosting during all stages of its life cycle. Typically, they use caves and mines, but have been noted roosting in large hollows of redwood trees, attics and abandoned buildings, lava tubes, and under bridges. Extremely sensitive to disturbance.	No
Lasionycteris noctivagans	silver-haired bat	None	None	G5	S3S4	IUCN:LC WBWG:M	Ranges throughout California in coastal and montane forests. May be found anywhere in California during spring and fall migrations. Primarily a forest (tree-roosting) bat associated with north temperate zone conifer and mixed conifer/hardwood forests. Prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. During migration, sometimes occurs in xeric areas.Roosts in dead or dying trees with exfoliating bark, extensive vertical cracks, or cavities, rock crevices, and occasionally under wood piles, in leaf litter, under foundations, and in buildings, mines and caves.The primary threat is likely loss of roosting habitat due to logging practices that fail to accommodate the roosting needs	No
Lasiurus blossevillii	western red bat	None	None	G5	S3?	DFG:SSC IUCN:LC	Locally common in some areas of California from Shasta County south to the Mexican border. California Central Valley is the species' primary breeding region.Species appears to be strongly associated with riparian habitats for roosting and foraging, particularly mature stands/large diameter of cottonwood/sycamore. Roosts in woodland borders, rivers, agricultural areas, and urban areas with mature trees in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. It often hangs from one foot on the leaf petiole and may resemble a fruit or dead leaf. Rarely observed roosting in mines.	No
Lasiurus cinereus	hoary bat	None	None	G5	S4?	IUCN:LC WBWG:M	Most widespread North American bat. Solitary species that winters along the coast and in southern California. Roosts in foliage of trees near ends of branches. Blends with the bark of trees. Highly associated with forested habitats but can be found in suburbs with old, large trees.	No
Myotis evotis	long-eared myotis bat	None	None	G5	S4?	BLM:S IUCN:LC WBWG:M	Widespread in California, but generally is believed to be uncommon in most of its range. It avoids the arid Central Valley and hot deserts, occurring along the entire coast and interior mountains. Found in nearly all brush, woodland, and forest habitats, from sea level to at least 9,000 ft., but coniferous woodlands and forests seem to be preferred. Roosts in loose bark in tall, open-canopied snags; stumps in south-facing clear-cuts with minimal vegetation overgrowth in younger forests, and conifer snags in older forests, rocks, caves, bridges and abandoned mines.	No
Myotis yumanensis	Yuma myotis bat	None	None	G5	S4?	BLM:S IUCN:LC WBWG:LM	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	No
Aplodontia rufa nigra	Point Arena mountain beaver	Endangered	None	G5T1	S1	DFG:SSC IUCN:LC	Generally known from 2 miles north of Bridgeport Landing to 3 miles south of the town of Point Arena. Coastal areas often near springs or seepages; mesic coastal scrub, northern dune scrub, edges of conifer forests, and riparian plant communities. North facing slopes of ridges and gullies with friable soils and thickets of understory	No
Arborimus pomo	Sonoma tree vole	None	None	G3	S3	DFG:SSC IUCN:NT	Species split into red tree vole and Sonoma tree vole; approximate boundary between two species is Klamath River. Inhabits north coast fog belt from Oregon border to Somona Co. in old-growth and other forests, mainly Douglas-fir, redwood, and montane hardwood-conifer habitats. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of pine, grand fir, hemlock or spruce.	No
Martes americana humboldtensis	Humboldt marten	None	None	G5T2T3	S2S3	DFG:SSC USFS:S	Endemic to the coastal forests of northwestern California with a historical range described as "the narrow northwest humid coast strip, chiefly within the redwood belt" from the Oregon border to northern Sonoma county. However, the one known remnant Humboldt marten population occurs in the north-central portion of the described range in an area dominated by Douglas-fir and tanoak. Typically associated with closed-canopy, late-successional, mesic coniferous forests with complex physical structure near the ground. Very rare on the Mendocino coast.	No
Martes pennanti (pacifica) DPS	Pacific fisher	Candidate	None	G5	S2S3	BLM:S DFG:SSC USFS:S	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Use cavities, snags, logs and rocky areas for cover and denning. Need large areas of mature, dense forest. Very rare on the Mendocino coast.	No

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: JUNE 0, 2019
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP01
Investigator(s): Asa Spade, Wyatt Dooley Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 3%
Subregion (LRR): A Lat: 39° 22.196 Long: W123° 48.845 Datum: NAD 83
Soil Map Unit Name: Cabrillo Heeser Complex, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X
Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Relatively wet year. Sample area is just south of a linear wetland feature that runs E->W through the middle of the parcel. This area is vegetated by Holcus lanatus almost exclusively

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus muricata	5	Yes	N(UPL)
2.			
3.			
4.			
	5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 20'r)			
1. None			
2.			
3.			
4.			
5.			
	zero = Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	100	Yes	FAC
2. Oenanthe sarmentosa	2	NO	OBL
3. Equisetum telmatia	+	no	FAC
4. Rumex crispus	+	no	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	102 = Total Cover		
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	zero = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Dominated almost exclusively by H. lanatus a FAC plant that grows in both wetland + upland = a poor indicator of hydrophytic veg especially on the coast where it is supplemented by fog drip. Some wetland plants present because this site was chosen on the edge of wetland

SOIL

Sampling Point: SP01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	grass thatch							
3-12"	10YR2/1	100	—	—	—	—	loam	sand grains visible
12-20+	7.5YR3/1	99	5YR5/6	1	C	M	Sandy Clay loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks: No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes ___ No X

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

Remarks: No hydrology indicators observed

US Army Corps of Engineers — Western Mountains, Valleys, and Coast – Version 2.0

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: JUNE 20, 2019
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP02
Investigator(s): Asa Spade Wyatt Dooley Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): A Lat: N 39° 22.199 Long: 123° 48.846 Datum: NAD 83
Soil Map Unit Name: Cabrillo Heuser Complex, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks: Paired w/ SP01 about 20' north of SP01 in an area w/ obvious wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus Muricata	2	NO	NI
2.			
3.			
4.			
	2 = Total Cover		
Sapling/Shrub Stratum (Plot size: 20'r)			
1. None			
2.			
3.			
4.			
5.			
	Zero = Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	50	Yes	FAC
2. Oenanthe sarmentosa	4	no	OBL
3. Juncus hesperius (effusus)	30	Yes	FACW
4. Juncus phaeocephalus	+	no	FACW
5. Rumex crispus	1	no	FAC
6. Scirpus Microcarpus	35	Yes	OBL
7. Erythranthe cuttata	2	no	OBL
8. Equisetum telmateia	+	no	FAC
9. Plantago subnuda	+	no	FACW
10. Nasturtium officinale	5	no	OBL
11. Ranunculus repens	+	no	FAC
	127 = Total Cover		63.5 / 25.4
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	Zero = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: Dominated by Hydrophytic plants. Meets dominance test

US Army Corps of Engineers Western Mountains, Valleys, and Coast – Version 2.0

SOIL

Sampling Point: SP02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR2/2	100	—	—	—	—	loam	high organic material
12-15"	7.5YR3/1	100	—	—	—	—	loamy sand	sand grains visible
15-24+	GLEY1 5/N	98	GLEY1 6/5G	2	d	M	clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: High clay content @ 15"

Depth (inches): 15"

Hydric Soil Present? Yes X No ___

Remarks: Hydrogen sulfide smell. High organic content within upper 12".

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes X No ___

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

Remarks:

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: JUN20,2019
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP03
Investigator(s): Asa Spade Wyatt Dooley Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): A Lat: N39° 22.202 Long: W123° 48.831 Datum: NAD 83
Soil Map Unit Name: Cabrillo Heuser Complex 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation No, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes CCC No ACOE
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Site chosen East of but in line with linear feature running E-W through site. A few patches of rush are in this area

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30'r)			
1. None			
2.			
3.			
4.			
	Zero = Total Cover		
Sapling/Shrub Stratum (Plot size: 20'r)			
1. Ilex europaeus	5	yes	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	80	yes	FAC
2. Rumex crispus	+	No	FAC
3. Agrostis stolonifera	2	No	FAC
4. Equisetum telmateia	+	NO	FAC
5. Juncus hesperius (effusus)	10	NO	FACW
6. Ranunculus repens	3	NO	FAC
7. Trifolium repens	+	NO	FAC
8. Oenanthe sarmentosa	10	NO	OBL
9.			
10.			
11.			
	107.5 = Total Cover		
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	Zero = Total Cover		

% Bare Ground in Herb Stratum Zero

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Some patches of Juncus within Holcus lanatus. Some other plants that can grow as hydrophytes. Gorse may be a poor indicator of upland conditions

SOIL

Sampling Point: SP03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR2/1	95	7.5YR5/8	5	C	PL	Sandy loam	
7-14"	10YR2/1	99	10YR3/6	1	C	M	clay loam	
14-23+	7.5YR6/2	85	10YR4/1	7	—	M	clay	
—	—		10YR6/6	8	C	M	—	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: clay

Depth (inches): 14"

Hydric Soil Present? Yes X No ___

Remarks: Meets redox dark surface (F6)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 19

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 19

Wetland Hydrology Present? Yes ___ No X

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

Remarks: No hydrology indicators observed

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: 6/20/19
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP04
Investigator(s): Nora Spade, Wyatt Dooley Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): A Lat: N39° 22.202 Long: W123° 48.837 Datum: NAD 83
Soil Map Unit Name: Cabrillo Heeser Complex, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks: Located just East of linear wetland feature through middle of parcel ~10' from obvious hydrophytic vegetation

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus muricata	2	No	NI(UL)
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 20'r)			
1. None			
2.			
3.			
4.			
5.			
	zero = Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	95	Yes	FAC
2. Oenanthe sarmentosa	3	No	OBL
3. Ranunculus repens	2	no	FAC
4. Agrostis stolonifera	1	no	FAC
5. Stachys chamissonis	2	no	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	103 = Total Cover		
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	zero = Total Cover		

% Bare Ground in Herb Stratum zero

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X*

Remarks: Holcus lanatus is invasive FAC that occurs in upland and wetland => not a good indicator especially in fog zone, *Meets dominance test but not soil or hydrology and => instance of a FAC plant in upland conditions

SOIL

Sampling Point: SP04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR2/2	99	10YR6/6	1	C	M	clay loam	sand grains visible
4-16"	10YR2/2	95	10YR2/1	5	—	—	loam	sand grains visible
16-24+	10YR 5/2	100	—	—	—	—	sand	wet

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: Sandy layer @ 16" has water within; + @ 22"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 22

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 22

Wetland Hydrology Present? Yes _____ No X

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

Remarks: No wetland hydrology indicators observed

US Army Corps of Engineers

Western Mountains, Valleys, and Coast – Version 2.0

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: 20 Jun 2019
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP05
Investigator(s): AS WD Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): A Lat: N 39°22.203 Long: W123°48.849 Datum: NAD 83
Soil Map Unit Name: Cabrillo Heuser Complex, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	Zero	= Total Cover	
Sapling/Shrub Stratum (Plot size: 20'r)			
1. Ulex europaeus	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	80	Yes	FAC
2. Ranunculus repens	3	no	FAC
3. Scirpus microcarpus	3	no	OBL
4. Plantago subnuda	+	no	FACW
5. Potentilla anserina	2	no	OBL
6. Trifolium grandiflorum	3	no	FAC
7. Equisetum telmateia	+	no	FAC
8.			
9.			
10.			
11.			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	Zero	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Plants trending toward wetter location were primarily on the south side of pb7

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SOIL

Sampling Point: SP#5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR2/1	100	—	—	—	—	Sandy clay	Sand grains visible
16-22+	10YR3/1	97	10YR5/6	3	C	M	Sandy loam	diffuse boundaries

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

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

Remarks: No hydrology indicators observed

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

Project/Site: 15350 Highway One City/County: Caspar/Mendocino Sampling Date: 20JUN2019
Applicant/Owner: Johnson, Tom State: CA Sampling Point: SP06
Investigator(s): Asa Spade, Wyatt Dooley Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): A Lat: N 39° 22.210 Long: W123° 48.878 Datum: NAD83
Soil Map Unit Name: Cabrillo Heeser Complex, 0-5% slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks: Location chosen North of linear wetland feature just outside of area with surface water present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
Total Number of Dominant Species Across All Strata: ____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Dominate by Holcus lanatus Not examined due to high water table = FCC wetland

SOIL

Sampling Point: SP06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					loam	Sand grains visible
12-22+	10YR 5/1	85	10YR 6/8	15	C	M	Sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes X No ____ Depth (inches): 7"

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 7"

Wetland Hydrology Present? Yes X No ____

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

Remarks: Water quickly filling hole from saturated soils 7" and below

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

Project/Site: 15350 City/County: Caspar / Mendocino Sampling Date: 20 JUN 2019
Applicant/Owner: Johnson State: CA Sampling Point: SPØT
Investigator(s): AS, WD Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): _____ Slope (%): 1
Subregion (LRR): A Lat: N 39° 22.212' Long: W 123° 48.876' Datum: NAD83
Soil Map Unit Name: Cabrillo Heeser Complex, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks: Area chosen based on being 20Ft north of SPOG and near Baccharis which prefers upland soils

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30'r)			
1. None			
2.			
3.			
4.			
	zero = Total Cover		
Sapling/Shrub Stratum (Plot size: 20'r)			
1. Baccharis pilularis	8	Yes	NI
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	95	Yes	FAC
2. Bromus hordeaceus	+	No	FACU
3. Rumex crispus	+	No	FAC
4. Agrostis capillaris	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	97 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Dominance test not met

SOIL

Sampling Point: SP07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
-2-0	thatch							
0-19	10YR 2/1	100					loam	Sand grains visible
19-24+	10YR 3/2	90	10YR 2/1	8	dark	M	Sand	
—	—	—	10YR 5/1	2	D	M	—	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes X No ____ Depth (inches): 19

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 19

Wetland Hydrology Present? Yes ____ No X

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

Remarks: No wetland hydrology indicators observed.

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

Project/Site: 15350 Highway One City/County: Caspar / Mendo Sampling Date: 2021 2021
Applicant/Owner: Johnson State: CA Sampling Point: SP09
Investigator(s): AS WD Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 1%
Subregion (LRR): A Lat: N39° 22.194 Long: 123° 48.879 Datum: NAD83
Soil Map Unit Name: Tropaqueepts, 0-15% slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes CCC No AGE
Wetland Hydrology Present?	Yes ____	No ____	

Remarks: Data @ a location just S of linear wetland feature through middle of parcel Just outside

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum ____			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
Total Number of Dominant Species Across All Strata: ____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks: Dominated by Holcus, lanatus not fully examined due to soils displaying prominent concentrations in a dark matrix = FCC wetland

SOIL

Sampling Point: SP08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
-2-0	thatch							
0-16	10YR2/1	95	5YR4/6	5	C	PL	loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Clay

Depth (inches): 20

Hydric Soil Present? Yes X No ___

Remarks: No restrictive layer to 20"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

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

Remarks: Dug to 22" No wetland hydrology observed

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

Project/Site: 15350 Highway One City/County: Cospar / Mendo Sampling Date: 20JUN2017
Applicant/Owner: Johnson State: CA Sampling Point: SP09
Investigator(s): AS WD Section, Township, Range: S1 T17N R18W
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): A Lat: N39°22.191 Long: 123 48.879 Datum: NAD83
Soil Map Unit Name: Tropaqueepts, 0-15% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No X (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks: Point paired w/ SP08 but slightly more south where indications of concentrations in dark matrix were no longer visible and prominent

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30'r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 10'r)			
1. Holcus lanatus	85	Yes	FAC
2. Agrostis capillaris	15	no	FAC
3. Festuca perlinis	2		FAC
4. Hordeum marinum	2		FAC
5. Geranium dissectum	1		NI
6. Plantago subnuda	+		FACW
7. Trifolium repens	3		FAC
8. Hypochaeris radicata	+		FACU
9. Rumex crispus	+		FAC
10. Vulpia bromoides	+		FAC
11. Festuca arundinacea	+	↓	FAC
	107 = Total Cover		
Woody Vine Stratum (Plot size: 10'r)			
1. None			
2.			
	zero = Total Cover		

% Bare Ground in Herb Stratum

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: Dominated by Holcus lanatus a FAC plant that grows in both wetland and upland areas. A poor indicator of Hydrophytic vegetation especially on the coast where it is supplemental by fog drip. Surveyors determined that hydrophytic vegetation dominance test is not met.

SOIL

Sampling Point: SP09

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR2/1	99	5YR3/4	1	C	M	loam	Sand grains visible
16-21+	7.5YR6/8	95	7.5YR6/1	5	D	M	clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Clay

Depth (inches): 16

Hydric Soil Present? Yes ____ No X

Remarks: No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks: No wetland hydrology indicators observed

Johnson Appendix E: Floristic List

Taxon By Family	Common Name
FERNS AND ALLIES	
Dennstaedtiaceae	
Pteridium aquilinum var. pubescens	bracken; western bracken; hairy bracken fern
Dryopteridaceae	
Athyrium filix-femina	lady fern
Dryopteris arguta	western wood fern; shield fern
Equisetaceae	
Equisetum telmateia	giant horsetail
GYMNOSPERMS	
Cupressaceae	
Hesperocyparis macrocarpa	Monterey cypress
Pinaceae	
Pinus muricata	Bishop pine; prickle-cone pine; bull pine
Tsuga heterophylla	western hemlock
Taxodiaceae	
Sequoia sempervirens	coast redwood
DICOTS	
Apiaceae	
Conium maculatum	poison hemlock
Daucus carota	wild carrot, Queen Anne's lace
Oenanthe sarmentosa	Pacific oenanthe, water parsely
Aquifoliaceae	
Ilex aquifolium	English holly
Araliaceae	
Hedera helix	English ivy
Asteraceae	
Baccharis pilularis	coyote brush
Bellis perennis	English daisy
Cirsium vulgare	bull thistle
Hypochaeris radicata	rough cat's ear, hairy cat's ear
Pseudognaphalium luteoalbum	Jersey cudweed
Senecio glomeratus	cut-leafed erechtites, New Zealand fireweed
Senecio jacobaea	tansy ragwort
Senecio vulgaris	common groundsel, Old man of spring
Sonchus asper ssp. asper	prickly sow thistle
Betulaceae	
Alnus rubra	red alder, Oregon alder
Brassicaceae	
Nasturtium officinale	water cress
Raphanus sativus	wild radish
Caprifoliaceae	
Lonicera involucrata var. ledebourii	coast twinberry, Twinberry honeysuckle
Sagina procumbens	arctic pearlwort
Stellaria media	common chickweed
Convolvulaceae	
Calystegia purpurata ssp. purpurata	Purple western morning glory, Smooth western morning glory
Ericaceae	
Erica lusitanica	Spanish heather
Fabaceae	

Johnson Appendix E: Floristic List

Taxon By Family	Common Name
Cytisus scoparius	Scotch broom
Lotus corniculatus	bird's-foot trefoil, Birdfoot deervetch
Lupinus variicolor	varied lupine, varied-color lupine
Medicago polymorpha	California burclover, Bur clover, Bur medic
Trifolium dubium	shamrock, Shamrock clover, Suckling clover
Trifolium hirtum	rose clover
Trifolium repens	white clover
Trifolium wormskioldii	cows clover, coast clover
Ulex europaeus	common gorse
Vicia sativa	vetch
Geraniaceae	
Geranium dissectum	cut-leaved geranium
Hypericaceae	
Hypericum anagalloides	creeping st. john's wort, Tinker's penny
Lamiaceae	
Mentha pulegium	pennyroyal
Prunella vulgaris var. vulgaris	self-heal
Stachys chamissonis	coast hedge-nettle
Stachys rigida	rough hedgenettle
Myricaceae	
Morella californica	wax-myrtle
Myrtaceae	
Eucalyptus globulus	blue gum, Tasmanian bluegum
Phrymaceae	
Erythranthe guttata	common yellow monkeyflower, seep monkey flower
Plantaginaceae	
Plantago lanceolata	English plantain, ribwort, narrow leaved plantain, ribgrass
Plantago maritima	maritime plantain, seaside plantain, goose tongue
Plantago subnuda	naked plantain, tall coastal plantain
Veronica americana	American speedwell, American brooklime
Polygonaceae	
Rumex acetosella	common sheep sorrel
Rumex crispus	curly dock
Rumex salicifolius	willow dock
Primulaceae	
Lysimachia arvensis	scarlet pimpernel, poor man's weathervane
Ranunculaceae	
Ranunculus repens	creeping buttercup
Frangula californica	California coffeeberry
Rosaceae	
Cotoneaster sp.	cotoneaster
Fragaria chiloensis	beach strawberry
Potentilla anserina ssp. pacifica	Pacific potentilla
Rubus armeniacus	Himalaya-berry, Himalayan blackberry
Rubus ursinus	California blackberry
Rubiaceae	
Galium sp.	
Salicaceae	
Salix lasiolepis	arroyo willow

Johnson Appendix E: Floristic List

Taxon By Family	Common Name
MONOCOTS	
Alliaceae	
Allium triquetrum	three cornered leek, white flowered onion
Amaryllidaceae	
Amaryllis belladonna	Naked Ladies
Cyperaceae	
Carex harfordii	Harford's sedge, Monterey sedge
Carex obnupta	slough sedge
Carex saliniformis	salt sedge
Carex tumulicola	split-awn sedge
Cyperus eragrostis	tall flatsedge
Isolepis cernua	low lateral bulrush
Scirpus microcarpus	mountain bog bulrush
Iridaceae	
Crocosmia Xcrocosmiiflora	monbretia, falling stars, coppertips
Sisyrinchium californicum	California golden-eyed grass
Juncaceae	
Juncus acuminatus	sharp fruited rush, taper tip rush
Juncus bolanderi	Bolander's rush
Juncus hesperius	coast or bog rush
Juncus occidentalis	slender juncus, Western rush
Juncus phaeocephalus var. phaeocephalus	brown-headed rush
Juncus xiphioides	irisleaf rush, iris leaved rush
Poaceae	
Agrostis stolonifera	creeping bentgrass
Avena barbata	slender wild oat
Bambusa sp.	bamboo
Briza maxima	big quaking grass; rattlesnake grass
Briza minor	little quaking grass; quaking grass
Bromus carinatus	California brome
Bromus diandrus	ripgut brome; ripgut
Bromus hordeaceus	soft chess
Cortaderia jubata	Andes grass, purple pampass grass
Dactylis glomerata	orchard-grass
Ehrharta erecta	upright veldt grass
Festuca arundinacea	tall fescue, meadow fescue
Festuca myuros	rattail sixweeks grass
Festuca perennis	Italian rye grass
Holcus lanatus	velvet grass
Hordeum murinum ssp. glaucum	blue foxtail, smooth barley
Panicum acuminatum var. acuminatum	western panicum
Phalaris californica	California Canary grass
Phleum pratense	cultivated timothy
Rytidosperma penicillatum	purple awned wallaby grass; hairy oat grass

Mendocino County Coastal Zoning Code, Table 4. Section 20.496.020 ESHA – Development Criteria - Johnson	
(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.*
	The proposed development is to build a single-family residence with roof mounted solar panels and a detached garage with roof mounted solar panels. This also includes associated infrastructure including a new driveway and parking area, a new well to serve the residence, a 2,500-gallon storage tank, septic system with primary and secondary leach fields, and connection to utilities. Two existing small, dilapidated sheds are proposed to be removed. There are three types of presumed Environmental Sensitive Habitat Areas (ESHAs) within 100ft of the proposed development: **Delineated Wetland ESHA** – A wetland flows through parts of the property from east to west before draining to a culvert along Caspar Road. The wetland was delineated using the ACOE protocol and totaled approximately 1.12 acres. **Riparian ESHA** – Several presumed riparian areas were observed within 100ft of the parcel boundary and totaled approximately 0.25 acres. **Special Status Plant ESHA**- One special status plant species was identified on the property: **deceiving sedge** (*Carex saliniformis* CRPR 1B.2). The proposed development will be within 100ft of the **delineated wetland** and **riparian area** presumed ESHA buffers, but primarily outside of 50ft buffers. Only a minimal portion of the proposed driveway will be within 50ft ESHA buffers. Mitigation measures within **Section 7** of the biological report address the potential impacts from proposed development and how they can be avoided so that impacts are less than significant. Wynn Coastal Planning & Biology (WCPB) has recommended that construction fencing paired with straw wattles or silt fencing be installed around the wetland and riparian areas to protect these ESHAs during construction until the disturbed soil has stabilized.
(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.*

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	Based on the analysis below, WCPB recommends: • **Delineated Wetland ESHA** – 50-foot Buffer • **Riparian ESHA** – 50-foot Buffer Buffer areas were measured from the outside edge (dripline of vegetation) of the sensitive vegetation resulting from ground surveys and aerial photo interpretation. It is the professional opinion of WCPB that a buffer area of 100ft is not necessary to protect these special status resources from the specified proposed development and subsequent use of the property. Consultation with the California Department of Fish and Wildlife (CDFW) should occur to obtain their opinion on the buffers recommended by WCPB. CDFW and County Planning Staff opinions will be needed to determine the final appropriate buffer widths between ESHAs and proposed development. New land division will <u>not</u> be occurring for the proposed project.
1 (a)	***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.*
	The wetland and riparian areas have the potential to host special status species such as the northern red-legged frog (*Rana draytonii*) and red-bellied newt (*Taricha rivularis*) during overland movements. Amphibian breeding, except perhaps common Sierran chorus frogs (*Pseudacris sierra*), is not likely to occur onsite. Red-legged frogs require permanent bodies of water such as ponds and red-bellied newts require perennial streams for breeding. Special status migratory bird species may use the wetland and riparian for feeding, nesting, resting, or breeding. These special status resources are separated by non-native common velvet grass meadows. There is no significant functional relationship recognized between the ESHAs and the surrounding common velvet grass meadow. While native vegetation is generally found within the boundaries of ESHAs, common velvet grass and other non-native species were also present within the ESHAs. The 50ft buffer zones of these ESHAs should be sufficiently wide enough to protect these special status resources from impacts related to the proposed development.
1(b)	***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.*

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	A buffer width of 50ft from the wetland and riparian ESHAs should be sufficient to ensure that the potential sensitive species of plants and animals within them are not disturbed significantly by the above-specified proposed development. The existing road and two sheds are already present along the southern edge of the property which are remnants from when livestock was on the property. The wetland and riparian areas were historically disturbed by horses and other farm animals on the property and the area where the house is proposed is covered with loose gravel, dirt, and ruderal vegetation which is indicative of disturbed areas. The riparian area within 100ft of development is predominately on the neighboring property to the south and the neighbor's residence is as close, if not closer to the riparian area than the proposed development will be. The dominant species growing within the wetland and riparian areas (e.g. spreading rush and small-fruited bulrush) are not sensitive to disturbance and commonly grow back in disturbed areas. The subject parcel is neighbored by Highway One to the east and Caspar Road to the west so the ESHAs present have already adapted to the presence of these heavily used roads and likely were altered in the past due to the construction of these roads. The surrounding parcels are overgrown with invasive gorse (*Ulex europaeus*) and livestock grazing and more recent mowing of the property has most likely prevented the gorse from taking over the property.
1(c)	***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.*
	Erosion onsite will be minimal as the area where development is proposed is relatively flat. Mitigation measures have been recommended in **Section 7** of the main biological report to avoid the potential for erosion to impact the resources present. These measures include construction fencing paired with straw wattle or silt fencing installation and bare soil resulting from construction will be seeded with native erosion control mix and/or covered with biodegradable erosion control materials (e.g. coconut fiber, jute, weed free straw).
1(d)	***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.*
	Since the subject parcel is relatively flat, no hills are present to buffer habitat areas. The property is not located on the headlands so no bluff faces are present on the property.
1(e)	***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.*
	The existing driveway may have some buffering effect for the riparian area to the south during construction.
1(f)	***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.*

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	The subject parcel is surrounded by rural residential development and the highway. The existing development on the subject parcel and the neighboring parcel to the south is already within 100ft of the riparian and wetland habitat. The proposed development is farther from the southern riparian area than the existing neighboring residences. Avoidance mitigation measures, such as placing straw wattles between the proposed development and the ESHAs, are recommended in Section 7 of this document to ensure additional protection.
1(g)	***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 is similar in size to those of the surrounding properties. A 50ft buffer is sufficient to protect special status resources as the wetland and riparian area has likely already been altered in the past from ditches created along Highway One and residential development to the south.
(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).*
	All mapped presumed ESHAs were measured from the outside edges of the presumed ESHAs. The ESHAs were delineated by field site visits as well as referencing an aerial map and using ArcGIS to create a combined 50ft buffer surrounding all the presumed ESHAs.
(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:* Only a small portion of the compacted gravel driveway is proposed within the recommended 50ft ESHA buffer for the wetland presumed ESHAs. The driveway runs along the 50ft EHSA buffer for the southern riparian area and necessarily encroaches into the 50ft ESHA buffer for the wetland to meet the standard size requirements of a road. WCPB does not recommend a Report of Compliance in this situation due to only a small portion of the driveway encroaching into the buffer. The proposed driveway is in the least impacting location as it is a far away from ESHA buffers as possible on the constrained parcel. The driveway is proposed in this location because it is a far away from ESHA buffers as possible to prevent negatively impacting these sensitive resources. The existing driveway is directly adjacent to the riparian area ESHA so has a higher potential of contributing sediment into this sensitive habitat. The existing driveway will not be improved for use.

ENVIRONMENTALLY SENSITIVE HABITAT AREAS DEFINED

Definition of Environmentally Sensitive Habitat Area

The Mendocino County Local Coastal Plan (LCP) and the California Coastal Act (CCA) define an Environmentally Sensitive Habitat Area (ESHA) as:

> "any area in which plant or animal life or their habitats are **either** rare **or** especially valuable because of their special nature or role in an ecosystem **and** which could be easily disturbed or degraded by human activities and developments".
>
> [**emphasis given]**

The Mendocino County LCP and California Coastal Commission (CCC) have identified specific types of ESHAs including: wetlands, sand dunes, estuaries, streams, rivers, lakes, open coastal waters, coastal waters, riparian habitats, other resource areas, special status species, and the habitat of special status species. For the purpose of this report, the following definitions were used to assess potential ESHAS present in the study area.

Wetland ESHAs

The Mendocino County Local Coastal Plan (LCP) and the California Coastal Act (CCA) define wetlands as:

> *"Lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."*

California Coastal Commission Administrative Regulations (Section 13577 (b)) provide the following detailed definition:

> *"Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats." In summary, a wetland in the coastal zone falls under CCA jurisdiction if any of the following conditions are present: wetland hydrology, dominance of wetland vegetation (hydrophytes), and/or presence of hydric soils."*

The Statewide Interpretive Guidelines for Identifying and Mapping Wetlands and Other Wet Environmentally Sensitive Habitat Areas (CCC 1981) use the CCA definition to establish technical criteria to delineate wetlands. These guidelines consider wetland hydrology as the most important parameter to identify a wetland within the coastal zone: "the single feature that most wetlands share is soil or substrate that is at least periodically saturated with or covered by water, and this is the feature used to describe wetlands in the Coastal Act. The water creates severe physiological problems for all plants and animals except those that are adapted for life in water or in saturated soil, and therefore only plants adapted to these wet conditions (hydrophytes) could thrive in these wet (hydric) soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal Act, but they are not the sole criteria." The saturation of soil in a wetland must be at or near the surface (approximately one foot or less) for a period of time (usually more than two weeks) in order to facilitate anaerobic

soil reduction processes that produce wetland conditions.

Identifying the presence of either wetland classified plants or hydric soils is referred to as the "one parameter approach." This approach can be useful because wetland plants, wetland hydrology, and/or hydric soils often co-occur, especially in natural undisturbed areas. However, situations do exist where wetland classified plants are found in the absence of other wetland conditions. These areas are not wetlands and a delineation study must carefully scrutinize whether the wetland classified plants that are growing as hydrophytes in anaerobic soil conditions caused by wetland hydrology or not.

Examples of hydrophytic plants growing in non-wetland conditions include:

1) Deep-rooted trees (e.g., willows), capable of persisting in the presence of surface water or in dry conditions by tapping into deep groundwater sources; and,

2) Wetland-classified plants that are also salt-tolerant (e.g., alkali heath) can grow in the presence of either wetland conditions or saline soil conditions, but not necessarily both.

Similarly, hydric soils can be found in the absence of wetland hydrology or wetland classified plants. For example, hydric soils have been observed in upland areas where historic disturbances exposed substratum and in densely vegetated grasslands (Mollisols). A wetland delineation must determine if the hydric soil indicators are a result of frequent anaerobic conditions in the presence of hydrology or due to another cause.

In the Coastal Zone, the California Coastal Commission presumes an area is a wetland if any one of the following three-wetland indicators is present: wetland hydrology, wetland plants, or hydric soils. Exceptions to this exist if there is strong positive evidence of upland conditions, which should be obtained during the wet season. Evidence of upland conditions could include the following observations: a given area saturates only ephemerally following a substantial rainfall, soil is very permeable with no confining layer, or the land is steep and drains rapidly.

Hydrology: Depressions, seeps, and topographic low areas in the Study Area are surveyed for primary and secondary hydrological indicators. Primary indicators of wetland hydrology that offer direct evidence include: visible inundation or saturation, surface sediment deposits, oxidized root channels, and drift lines. Secondary indicators that offer indirect evidence include algal mats, shallow restrictive layers in the soil, or vegetation meeting the FAC-neutral test.

Soils: The Study Area is examined for hydric soil indicators according to Natural Resources Conservation Service guidelines (USDA 2006) where horizon depths, color, redoximorphic features, and texture characterize soil profiles. Soils formed under anaerobic wetland conditions generally have a low chroma matrix color, designated 0, 1, or 2, and contain mottles or other redoximorphic features. Soil color and chroma was determined using a Munsell soil color chart (Gretag Macbeth 2000) to identify soils as hydric.

Plants: The US Army Corps of Engineers developed a classification system for plant species known to occur in wetlands. The plant species are categorized based on the frequency that they have been observed in wetlands. Species classified as obligate (OBL), Facultative Wetland (FACW), and Facultative (FAC) are considered hydrophytic. If more than 50 percent of the plant species in a given area are hydrophytic, the area meets the wetland vegetation criterion and is presumed to be a jurisdictional wetland under the CCA.

Areas identified as potential wetlands by the presence of wetland plants are also examined for indicators of wetland hydrology. Positive indicators of wetland hydrology can include direct evidence (primary indicators) such as surface water, saturation, sediment deposits, and surface soil cracks, or indirect evidence (secondary indicators) such as drainage patterns and water-stained leaves.

Riparian ESHAs

The Mendocino County LCP recognizes drainages with associated riparian vegetation to be ESHAs. The Technical Criteria (CCC 1981) defines riparian vegetation as:

> *"that association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other freshwater bodies. Riparian plant species and wetland plant species either require or tolerate a higher level of soil moisture than dryer upland vegetation, and are therefore generally considered hydrophytic."*

Special Status Species ESHAs

Special status species and their habitats are defined as ESHAs by the CCA and Mendocino County LCP. Special-status species include those species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing by the USFWS or CDFW. In addition, CDFW Species of Special Concern are given special consideration under the California Environmental Quality Act (CEQA). Species of Concern may only be protected as ESHAs if they are ranked by CDFW as imperiled in California (S3 or less). Plant species on California Native Plant Society (CNPS) Lists 1 or 2 are also considered special status species and are protected as ESHAs.