



COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES

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December 10, 2018

Planning – Ukiah
Department of Transportation
Environmental Health - Fort Bragg

Building Inspection - Fort Bragg
CalFire - Prevention
Department of Fish and Wildlife

Coastal Commission
US Fish & Wildlife Service

CASE#: CDP_2018-0014

DATE FILED: 5/4/2018

OWNER: KEVIN HARRISON

APPLICANT: KEVIN HARRISON & ELIZABETH HEBERT

REQUEST: Administrative Coastal Development Permit to construct a single-family residence, garage, workshop, barn, greenhouse, driveway, and ancillary development.

LOCATION: In the Coastal Zone, 1.8± miles east of State Hwy. 1 (SH 1), located at 43300 Hathaway Crossing (Private), Point Arena (APN: 027-211-03).

ENVIRONMENTAL DETERMINATION: Categorically Exempt.

STAFF PLANNER: JULIANA CHERRY

RESPONSE DUE DATE: December 24, 2018

PROJECT INFORMATION CAN BE FOUND AT:

<https://www.mendocinocounty.org/government/planning-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 _____

OWNER:
APPLICANT:

HARRISON KEVIN
HARRISON KEVIN & HEBERT ELIZABETH

REQUEST:

Administrative Coastal Development Permit to construct a single-family residence, garage, workshop, barn, greenhouse, driveway, and ancillary development.

LOCATION:

In the Coastal Zone, 1.8± miles east of State Hwy. 1 (SH 1), located at 43300 Hathaway Crossing (Private), Point Arena (APN: 027-211-03).

ACREAGE:

21 acres

GENERAL PLAN:

RMR20:R

ZONING:

RMR:20

COASTAL ZONE:

YES

EXISTING USES:

Agricultural Well

SUPERVISORIAL DISTRICT:

5

TOWNSHIP:

12N

RANGE:

16W

SECTION:

N1/2 of Sec 7

USGS QUAD#:

RELATED CASES ON SITE: CE 11-14 Test Well
RELATED CASES IN VICINITY: APN 027-211-03/CDP-41-04 SFR and APN 027-211-11/CDP-17-04 SFR & Barn

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	RL160	RL	80.4 acres	Agriculture
EAST:	RMR20	RMR20	20.12 acres	Residential
SOUTH:	RMR20	RMR20	21 acres	Residential
WEST:	RMR20	RMR20	24.25 acres	Residentail

REFERRAL AGENCIES:

☒Department of Transportation
☒Environmental Health (FB)
☐Emergency Services
☐Assessor
☐Farm Advisor
☐Department of Conservation
☒US Fish & Wildlife Service
☐Redwood Valley Rancheria

☐Native Plant Society
☐State Clearinghouse
☒CalFire
☒Department of Fish & Game
☒Coastal Commission
☐Redwood Coast Fire District
☐Cloverdale Rancheria
☐Sherwood Valley Band of Pomo Indians

☐MTA
☐County Addresser
☐Gualala MAC
☐Laytonville MAC
☐Westport MAC

ADDITIONAL INFORMATION: Botanical Survey Report dated September 7, 2018.

Revised and corrected site plan submitted 9-18-2018 (See attached Revised Site Plan). Distributing corrected site plan.
Development proposed to be located more than 100-feet from sensitive coastal resources.

Wildlife Habitat Assessment and Point Arena Mount Beaver Survey dated April 12, 2018 (attached).

Project coordinator can be contacted at cherryj@mendocinocounty.org or 707-234-2888

ASSESSOR'S PARCEL #: 027-211-03-00

PROJECT COORDINATOR: JULIANA CHERRY PREPARED BY: J CHERRY DATE: 9-18-2018

ENVIRONMENTAL DATA
(To be completed by Planner)

COUNTY WIDE

- | Yes | No | |
|-------------------------------------|-------------------------------------|--|
| | NO | 1. Alquist-Priolo Earthquake Fault Zone – Geotechnical Report #GS_____ |
| | NO | 2. Floodplain/Floodway Map –Flood Hazard Development Permit #FP_____ |
| | NO / NO | 3. Within/Adjacent to Agriculture Preserve / Timberland Production
Adjacent to Prime Ag. See attachment Lands in Williamson Act Contracts |
| | NO | 4. Within/Near Hazardous Waste Site |
| YES | | 5. Natural Diversity Data Base
See Wildlife Habitat Assessment and Point Arena Mount Beaver Survey, SNCR, 4-2018. |
| NO | | 6. Airport CLUP Planning Area – ALUC#_____ |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7. Adjacent to State Forest/Park/Recreation Area. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. Adjacent to Equestrian/Hiking Trail. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. Hazard/Landslides Map
See attachment LCP Land Capabilities & Natural Hazards |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. Require Water Efficient Landscape Plan. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 11. Biological Resources/Natural Area Map.
See Wildlife Habitat Assessment and Point Arena Mount Beaver Survey, SNCR, 4-2018. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 12. Fire Hazard Severity Classification: <input checked="" type="checkbox"/> LRA <input checked="" type="checkbox"/> SRA-CDF# 67-18
High Fire Hazard Rating. See attached Fire Hazard Zones & Responsibility Areas |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 13. Soil Type(s)/Pygmy Soils.
Western Soil Types 139, 182. See attached Local Soils. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 14. Wild and Scenic River. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 15. Specific Plan Area. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 16. State Permitting Required/State Clearinghouse Review
CalFire, DFW, Coastal Commission |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 17. Oak Woodland Area |

COASTAL ZONE

- | Yes | No | |
|-------------------------------------|-------------------------------------|--|
| | NO | 16. Exclusion Map. |
| | Critical | 17. Coastal Groundwater Study Zone.
Critical Water Areas. See attached Ground Water Resources |
| | HS | 18. Highly Scenic Area/Special Communities.
Conditionally Highly Scenic (Not Visible). See attached Highly Scenic & Tree Removal Areas |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 19. Land Capabilities/Natural Hazards Map.
Non Prime Ag Land. See attached LCP Land Capabilities & Natural Hazards |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 20. Habitats/ESHA/Resources Map.
Barren. See attached LCP Habitats & Natural Resources |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 21. Appealable Area/Original Jurisdiction Map.
Riverine. See attachments Appealable Areas and Wetlands |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 22. Blayney-Dyett Map.
See attached LCP Land Use Map 25: Point Arena |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 23. Ocean Front Parcel (Blufftop Geology).
See attachments Location Map and Topographic Map |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 24. Adjacent to beach/tidelands/submerged land/Public Trust Land. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | 25. Noyo Harbor/Albion Harbor. |

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Case No(s)	CDP-2018-0014
CDF No(s)	67-18
Date Filed	5-4-2018
Fee	\$ 4,052.00
Receipt No.	PRJ-020.738
Received by	(W) WALDMAN J
Office Use Only	

COASTAL ZONE APPLICATION FORM

APPLICANT

Name Kevin F. Harrison & Elizabeth Herbert
Mailing Address 5162 Ohio st.
City Yorba Linda State CA Zip Code 92886 Phone 714 335-6960

PROPERTY OWNER

Name Kevin F. Harrison & Elizabeth Herbert
Mailing Address SAME
City _____ State _____ Zip Code _____ Phone _____

AGENT

Name N/A
Mailing Address _____
City _____ State _____ Zip Code _____ Phone _____

PARCEL SIZE

21 ☐ Square feet
☒ Acres

STREET ADDRESS OF PROJECT

43300 Hathaway Crossing Rd.

ASSESSOR'S PARCEL NUMBER(S)

027-211-03

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

[Signature]
Signature of Applicant/Agent

5-4-18
Date

Signature of Owner

Date

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 you 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.
Single family 2 bedroom Residence, 2 car attached garage, workshop and out building (barn). Septic system (preliminary study attached. Formal Proposal deferred until botanical study completed re June Floral blume). Drive way 500ft. (crushed rock) Removal of coyote brush as required for construction supplemental well Permit Pending. Green house

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

TYPE OF UNIT	NUMBER OF STRUCTURES	SQUARE FEET PER DWELLING UNIT
<input checked="" type="checkbox"/> Single Family	<u>one</u>	<u>1900</u>
<input type="checkbox"/> Mobile Home	_____	_____
<input type="checkbox"/> Duplex	_____	_____
<input type="checkbox"/> Multifamily	_____	_____

If Multifamily, number of dwelling units per building: _____

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

Total square footage of structures: N/A

Estimated employees per shift: _____

Estimated shifts per day: _____

Type of loading facilities proposed: _____

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

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

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.

7. Project Height. Maximum height of structure 21 feet.

8. Lot area (within property lines): 21 ☐ square feet ☒ acres

9. Lot Coverage:

	EXISTING	* NEW PROPOSED	TOTAL
Building coverage	<u>0</u> square feet	<u>3500</u> square feet	<u>3500</u> square feet
Paved area (Gravel Driveway)	<u>0</u> square feet	<u>0</u> square feet	<u>0</u> square feet
Landscaped area	<u>0</u> square feet	<u>500</u> square feet	<u>500</u> square feet
Unimproved area	<u>21 Acres</u> square feet	<u>20.9 Acres</u> square feet	<u>20.9 Acres</u> square feet
GRAND TOTAL: <u>21 Acres</u> square feet (Should equal gross area of parcel)			

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

11. Parking will be provided as follows:

Number of Spaces	Existing <u>0</u>	Proposed <u>3</u>	Total <u>3</u>
Number of covered spaces	<u>3</u>	Size <u>400 sq ft</u>	
Number of uncovered spaces		Size _____	
Number of standard spaces		Size _____	
Number of handicapped spaces		Size _____	

* Residence, Garage, Workshop, BARN

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: _____ feet _____ miles)
☐ On Site generation, Specify: _____
☐ None

B. Gas

- ☒ Utility Company/Tank
☐ On Site generation, Specify: Propane
☐ None

C. Telephone: ☒ Yes ☐ No

13. Will there be any exterior lighting? ☒ Yes ☐ No

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

Locations are identified on Attached floor plan drawing
Please see Attached product descriptions Attached

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.).

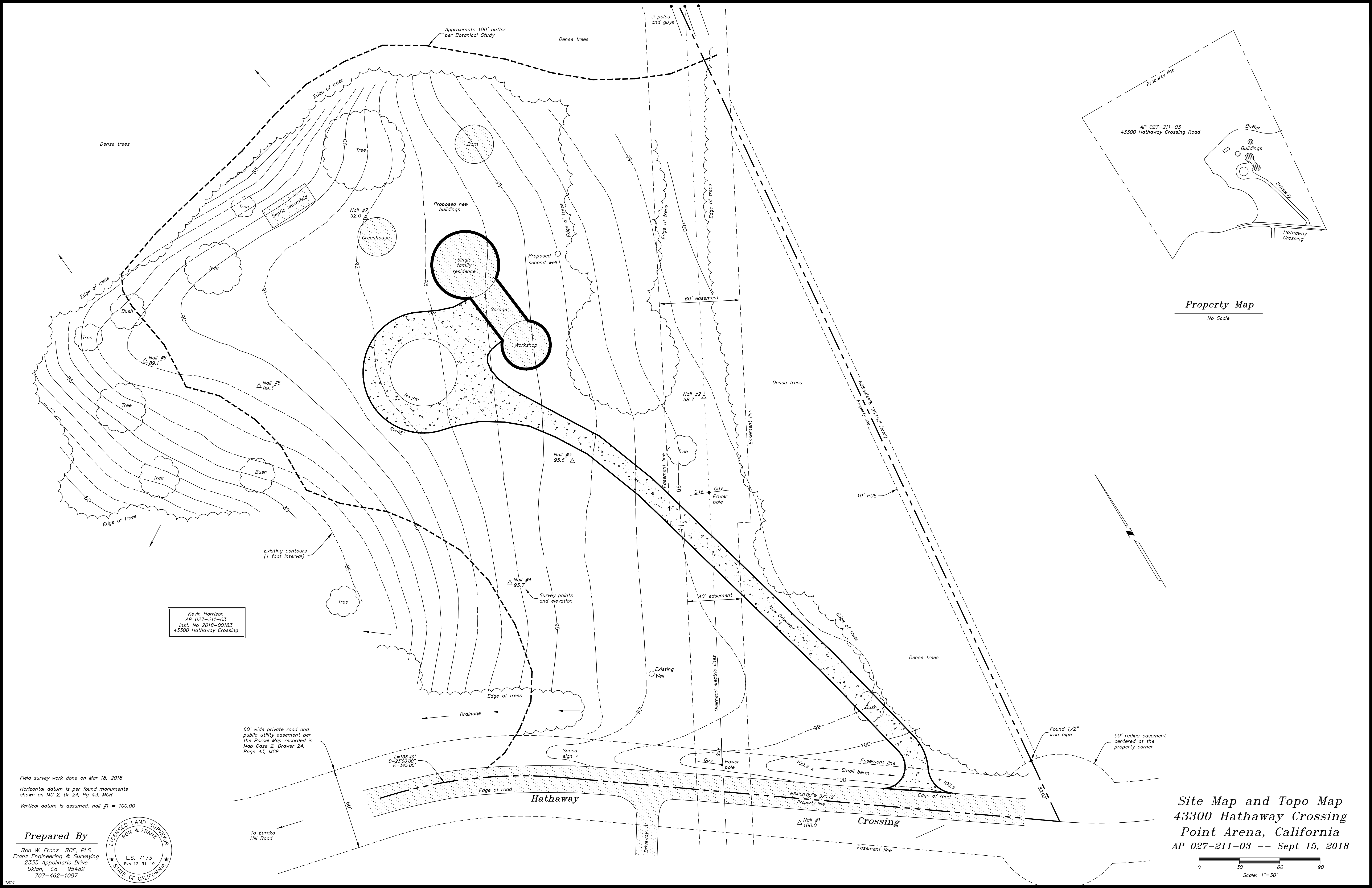
Site is flat. Driveway to be constructed with crushed rock on existing grade

For grading and road construction, complete the following:

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

17.	Will vegetation be removed on areas other than the building sites and roads? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, explain:
Field will be cleared of "coyote brush" otherwise natural vegetation to be retained. Please see Botanical study Attached	
18.	Does the project involve sand removal, mining or gravel extraction? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, explain:
21.	Is the proposed development visible from: A. State Highway 1 or other scenic route? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No B. Park, beach or recreation area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
22.	Will the project involve the use or disposal of potentially hazardous materials such as toxic substances, flammables, or explosives? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No B. Filling <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No C. Dredging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No D. Placement of structures in open coastal waters, wetlands, estuaries or lakes <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> No

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



WILDLIFE HABITAT ASSESSMENT AND POINT ARENA MOUNTAIN BEAVER SURVEY

FOR

43300 HATHAWAY CROSSING
(APN 027-211-03)
POINT ARENA, CA
MENDOCINO COUNTY



prepared for:

Kevin Harrison
5162 Ohio Street
Yorba Linda, CA 92886

prepared by:

Spade Natural Resources Consulting
Teresa R Spade, AICP
31901 Simpson Lane
Fort Bragg, CA 95437
(707) 964-6947
spadenrc@gmail.com

April 12, 2018

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APPENDICES

Appendix A. References

Appendix B. Special Animal Species found in Coastal Mendocino

Appendix C. USFWS Point Arena Mountain Beaver No-Take Measures

1.0 Summary

A wildlife habitat assessment and Point Arena mountain beaver survey were conducted in the vicinity of a proposed residential building site on property located at 43300 Hathaway Crossing in Point Arena, CA on March 31, 2018. Species included in the habitat assessment were Lotis blue butterfly, Behren's silverspot butterfly, Point Arena mountain beaver, California red-legged frog, Sonoma tree vole, special status birds and special status bats.

No habitat was found for Behren's silverspot butterfly or lotis blue butterfly in or near the project area.

The coyote brush scrub in the project area was determined to be potential habitat for Point Arena mountain beaver. The coyote brush scrub was surveyed for Point arena mountain beaver and no indications of Point Arena mountain beaver presence were observed. The riparian area in the northerly portion of the property was too steep to thoroughly survey, and many portions are located off the property. This riparian area is a presumed active habitat for Point Arena mountain beaver. Project components are more than 100 feet from the riparian area.

Hathaway Creek, located north of the property, is a potential habitat area for California red-legged frog. The stream is located more than 300 feet from the project area. Migrating California red-legged frogs may be present in the project area.

Habitat for Sonoma Tree Vole was found on the property, within the mixed coniferous forest. The proposed project does not include tree removal in the mixed coniferous forest, and project components will be more than 150 feet from the mixed coniferous forest.

Habitat for special status birds was observed in the project area. Special status bats may be present near the project area.

Avoidance measures are recommended in Section 6.2 of this study and include the following:

- **Recommended Buffer Area**

A minimum buffer distance of 100 feet shall be observed between the proposed residential development and sensitive resource areas, including the observed wetland, Bishop pine forest and riparian area, during construction. Equipment and staging, and other project impacts, including lighting and noise impacts shall be maintained outside of these 100 foot buffer areas.

- **Point Arena Mountain Beaver**

During project construction, no equipment which results in severe ground vibration, such as but not limited to pile driving and blasting, shall be utilized at any time.

During residential use of the property, no use of rodenticides shall occur within 400 feet of the riparian area. If dogs or cats are kept as pets, they should not be allowed access to the riparian area. Garbage should be properly contained in wildlife proof enclosures on the property and should be removed from the property to a permitted disposal location on a weekly basis.

The property owner and contractors shall be provided with a copy of the US Fish and Wildlife Service “Draft Point Arena Mountain Beaver Standard Protection Measures for Point Arena Mountain Beaver” included as Appendix C, and shall carry out project development and residential use in compliance within the intent therein.

- **Special Status Birds and Bats**

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

As with birds, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work or vegetation removal is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be conducted. Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to removal or demolition for evidence of bat use (guano accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists shall conduct acoustic surveys under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are

found, a minimum 50 foot buffer should be implemented around the roost tree. Removal of roost trees should occur in September and October, or after the bats have left the roost. In summary, no impacts would be expected and therefore no preconstruction surveys would be required for the species above if vegetation removal (including standing dead trees) is scheduled for the months of September or October. The months of November through August would require a bird and/or bat survey dependent on the time of year.

- **California Red-Legged Frog** Project contractors will be trained by a qualified biologist in the identification of the California red-legged frog (*Rana draytonii*). A survey for California red-legged frog shall occur within two weeks prior to ground disturbing activities or construction. Construction crews will begin each day with a visual search around all stacked or stored materials, as well as along any silt fences to detect the presence of frogs. If a California red-legged frog is detected, construction crews will stop all ground disturbing activities and contact the US Fish and Wildlife Service or a qualified biologist prior to re-initiating work.

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

2.0 Background

On March 31, 2018, a wildlife habitat assessment and Point Arena mountain beaver survey were conducted at 43300 Hathaway Crossing in Point Arena (APN 027-211-03). The purpose of the study was to determine if habitat for federally protected wildlife species, including but not limited to Behren's silverspot butterfly, lotis blue butterfly Point Arena mountain beaver, California red-legged frog, and Sonoma tree vole is present in or near the proposed project area. The project consists of residential development of the undeveloped property. The wildlife habitat assessment and Point Arena mountain beaver survey have been conducted to facilitate the issuance of a permit to build within the Coastal Zone in Mendocino County.

3.0 Project Site Description

3.1 General Site Description

The property is a ~21.88 acre parcel located on the north side of Hathaway Crossing, approximately one mile northeast of the City of Point Arena (Figure 1.). The project area is relatively flat. The elevation is approximately 275 to 300 feet above sea level. Soils are mapped within the project area as Mallopass Loam, 0-5% slopes, and

Dystropepts, 30-70% slopes in the northerly portion of the property (Natural Resource Conservation Service, 2016). The Mallopass Loam is included on the hydric soil list because of the inclusion of a 2% component of Flumeville soil (Natural Resource Conservation Service 2015). The project is located at UTM coordinates 38°55'25.76"N, 123°40'41.19" W.

3.2 Vegetation

Plant communities found on the property include non-native grassland, coyote brush scrub, Bishop pine forest, planted Monterey cypress, mixed coniferous forest, and a riparian area dominated by willows and red alder.

3.3 Existing Development

The property contains an existing well and is otherwise undeveloped.

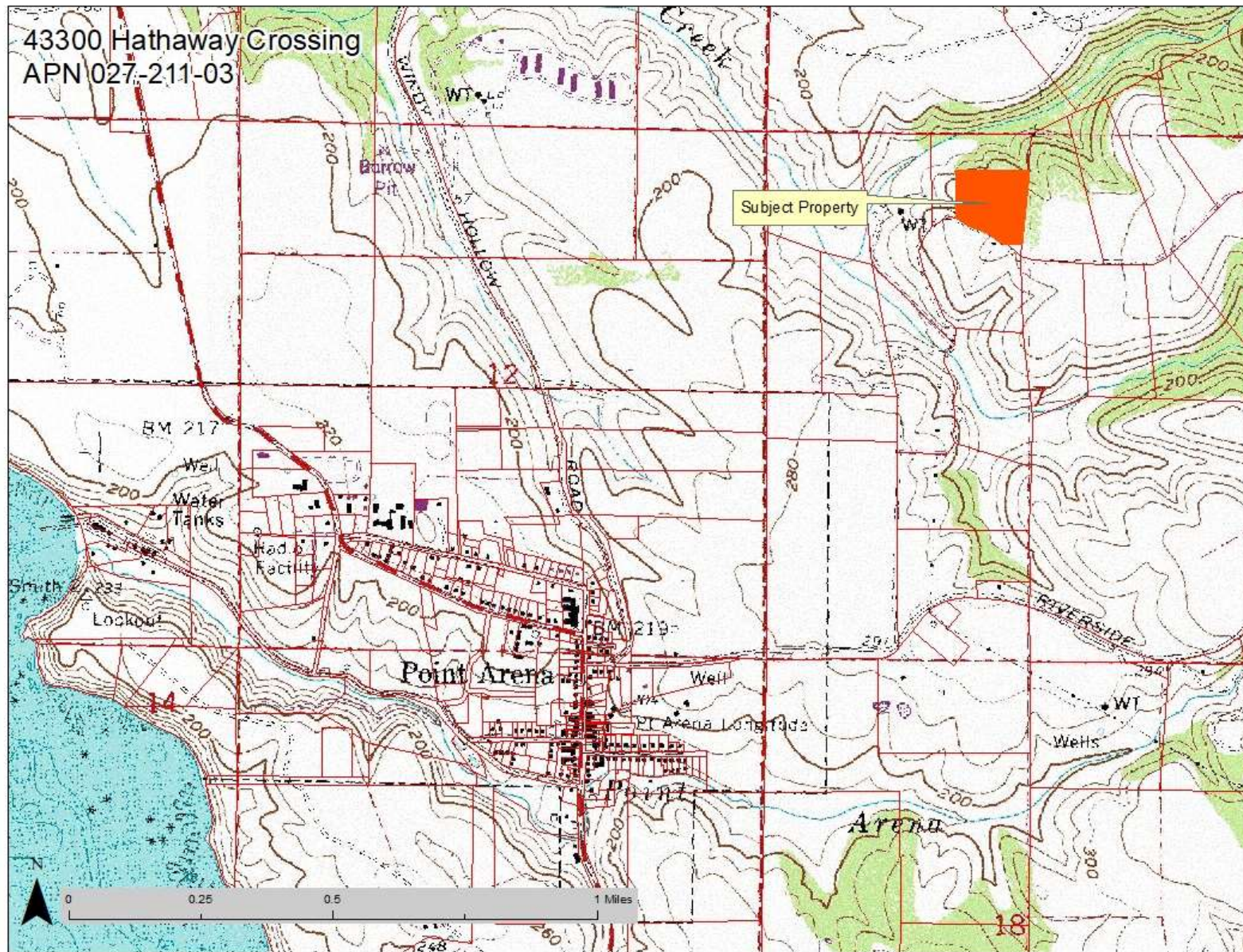


Figure 1. Location map.

Harrison APN 027-211-03
Habitat Assessment and PAMB Survey

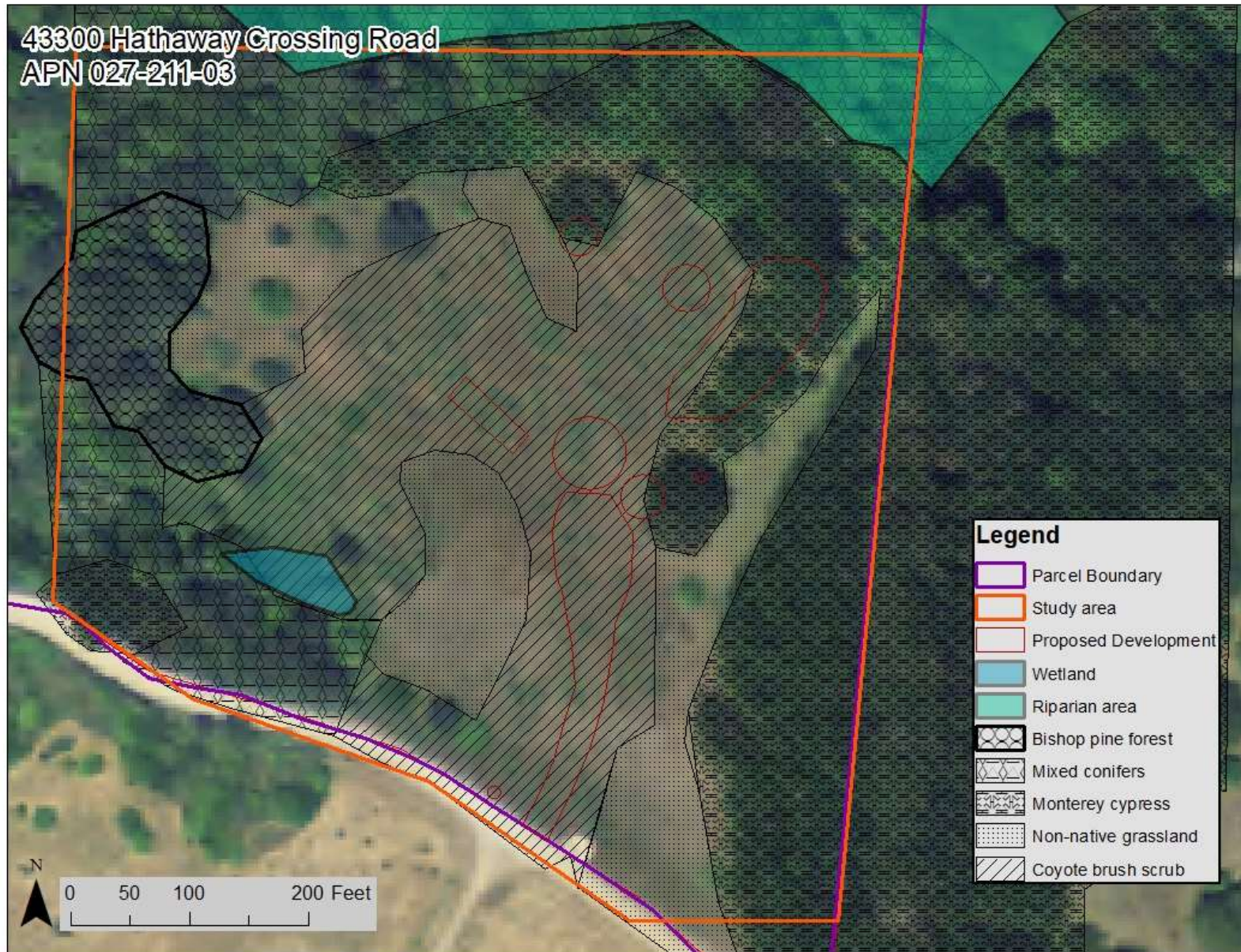


Figure 2. Plant communities map.

4.0 Methods

Habitat assessments and surveys follow the protocols outlined in US Fish and Wildlife Service “Draft Guidelines for Project Related Habitat Assessments and Surveys for Point Arena Mountain Beaver (*Aplodontia rufa nigra*)”, Version 3, (USFWS, 2017), and “Draft Guidelines for Habitat Assessments and Surveys for Behren’s Silverspot Butterfly (*Speyeria zerene behrensii*)” (Hunter 2006) to the extent practicable (access to neighboring private properties was not obtained, and areas beyond 140 feet north of the project area were too steep to access). Habitat assessments and surveys were conducted within the 10 acre mapped “Study Area” (Figure 2), which encompasses the project area and areas at least 100 feet from project components. The investigator was Teresa R. Spade. Teresa R. Spade has a Bachelor’s Degree in Natural Resources Planning and Interpretation, and has attended US Fish and Wildlife Service trainings for Point Arena mountain beaver and Behren’s silverspot butterfly.

Surveys were conducted on March 31, 2018. A reference site was visited prior to surveys to verify that early blue violet (*Viola adunca*) and coastal lotus (*Hosackia gracilis*) were both in bloom and identifiable during the habitat assessment.

The habitat assessment and Point Arena mountain beaver survey consisted of walking throughout the mapped survey area, visually observing all areas of the ground for presence of burrow openings or other signs of Point Arena mountain beaver activity. Coyote brush was relatively widely spaced in the Study Area. Surveys within the coyote brush scrub and grasslands were approximately two hours, and surveys within the riparian area were approximately two hours. 100% of the ground surface was observed within the coyote brush scrub and grasslands, and no burrows or other signs of Point Arena mountain beavers were observed. Areas within the riparian zone required crawling through the heavy brush in order to observe the ground. Surveys within the riparian area were limited due to steepness of the slope and lack of access to neighboring private properties. Roughly 10% of the ground area was observed within the riparian area on the property.

Additional potential habitat for Point Arena mountain beaver was identified during aerial photograph review of the property prior to surveys. This habitat area consists of a stream and associated riparian area along the northern boundary of the property. Portions of the riparian area accessible on the property were surveyed, and no indications of Point Arena mountain beaver were observed within those surveyed portions, however, much of the riparian area was inaccessible due to the steepness of the slope. For this

reason, the riparian area at the north side of the property is mapped as presumed active Point Arena mountain beaver habitat and the project will conform to the Standard No Take Determination as if PAMB were present in these areas.

5.0 Assessment and Survey Results

5.1 Point Arena Mountain Beaver

The habitat assessment and survey for Point Arena mountain beaver occurred on March 31, 2018.

Within the study area, an alder and willow riparian area, mixed coniferous forest, Bishop pine forest, non-native grassland, coyote brush scrub, and an area of planted Monterey cypress were observed. A wetland was found within the coyote brush scrub.



Figure 3. Steep riparian hillside is presumed active PAMB habitat.

The riparian area was observed on a steep slope on the north side of the property. This riparian area is in association with Hathaway Creek, located to the north of the subject property. Plant species dominant

within the riparian area include sword fern (*Polystichum munitum*), California blackberry (*Rubus ursinus*), alders (*Alnus rubra*) and willows (*Salix* spp.) (Figure 3). While no sign of Point Arena mountain beaver was observed in the accessible portions of the riparian area, the slope was too steep to perform a thorough survey on the subject property, and access to neighboring private properties was not granted. Approximately 10% of the ground surface of the riparian area was observed during surveys and no burrows or other signs of Point Arena mountain beaver presence were observed. The riparian area is therefore presumed to be active habitat. The riparian area is approximately 106 feet away from the closest area of proposed development, which consists of a planned agricultural pond.

Coyote brush scrub can be potential habitat for Point Arena mountain beaver. For this reason, the coyote brush scrub area was surveyed for Point Arena mountain beaver. The habitat is a drier habitat, which **did not** contain significant presence of Point Arena mountain beaver food plants such as sword fern, stinging nettle, cow parsnip, wild radish, angelica, Douglas iris and miner's lettuce. Dominant grass species within the grassland and coyote brush scrub included purple-awned wallaby grass (*Rytidosperma penicillatum*), rattlesnake grass (*Briza maxima*), sweet vernal grass (*Anthoxanthum odoratum*) and purple velvet grass (*Holcus lanatus*). Forbs, including *Lupinus* spp. were present, and shrubs included coyote brush (*Baccharis pilularis*). The area has a high visibility as it is fairly open and all areas of the ground within the coyote brush scrub were observed. No indications of Point Arena mountain beaver presence were found.



Figure 4. Coyote brush scrub found on the property.

5.2 Lotis Blue Butterfly



Figure 4. Male and female lotis blue butterflies
(photo credit USFWS File Photograph)

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

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

The property was surveyed for coastal lotus (*Hosackia gracilis*) on March 31, 2018, when this plant species was verified to be in bloom on other coastal properties in Mendocino County. No coastal lotus was observed in or near the project area, and the Lotis blue butterfly was not observed in any of its life stages on the property. No other species of *Hosackia* were observed. Some butterfly nectar plants were observed, including species of lupine, vetch, and thistle. Forested areas are present for shelter. The potential for presence of Lotis blue butterfly is very low. No additional surveys are recommended.

5.3 Behrens Silverspot Butterfly



Figure 5. Male and female Behren's silverspot butterflies
(photo credit SpadeNRC).

The Behren's silverspot (*Speyeria zerene behrensii*) is Federally Endangered, listed December 5, 1997. The known historic range is along the coast from near the Town of Mendocino in Mendocino County to Salt Point State Park in Sonoma County.

The larval food plant is currently thought to be early blue violet (*Viola adunca*), based on studies of the closely related coastal subspecies, Oregon silverspot butterfly (*Speyeria zerene hoppolyta*). It inhabits coastal terrace prairie habitat in areas with a strong ocean influence.

The property is located approximately three miles southeast from known active Behren's silverspot butterfly habitat. The project area was surveyed for early blue violet (*Viola adunca*) on March 31, 2018 -

early blue violet was verified from another coastal reference site to be in bloom during this time. Surveys were approximately two hours. No early blue violet was observed on the property and the Behren's silverspot butterfly was not observed in any of its life stages on the property. Some butterfly nectar plants were observed, including species of lupine, vetch, and thistle. Forested areas are present for shelter. No additional surveys are recommended at this time.

5.4 California Red-legged Frog

California red-legged frog (*Rana draytonii*) is federally listed as a Threatened Species under the Endangered Species Act as of May 23, 1996. Critical habitat has been designated and the project area is not located in a critical habitat area for California Red Legged Frog. According to the US Fish and Wildlife, within Mendocino County, California red-legged frog is known to occur in the following Hydrographic Units: Point Arena, Garcia, and Gualala. Upland dispersal habitat can include forest debris and small mammal burrows.

There is a potential for presence in the stream on the north side of the property, and also a potential for presence in upland areas of the property during migration.

5.5 Nesting Birds and Special Status Birds

There is a potential for presence for several species of special status birds. A list of special status birds found in Coastal Mendocino County is included as Appendix A. Additionally, migrating nesting birds are protected under the Migratory Bird Treaty Act.

Bird nests are found on the ground, in burrows, in brush, in trees and on manmade structures such as the underside of bridges and under roof eaves.

On the subject property, nesting birds may be present in any of the onsite plant communities.



Figure 5. Anna's hummingbird observed on the property during surveys.

5.5 Special Status Bats

Many species of bats roost in hollowed areas, crevices, or under bark of trees in forested areas near water. Several, but not all special status species, require a nearby fresh water source for feeding over and for drinking, because they do not have a good urine concentrating ability. Special status bats found in Coastal Mendocino County are listed in Appendix A.

There is a potential for presence of special status bats within wooded areas of the property.

5.5 Sonoma Tree Vole

According to the January 2016 Department of Fish and Wildlife Special Animals List, Sonoma tree vole (*Arborimus pomo*) is listed as a G3 S3 Species of Special Concern. The state ranking indicates the species is considered vulnerable in its range due to a restricted range, relatively few populations, recent and widespread declines or other factors.

The Sonoma tree vole range is along the coast from Sonoma County through Mendocino, Humboldt, and Trinity County. The total population is unknown but is estimated at over 10,000.

Preferred habitat is considered mesic old growth Douglas fir forest, however Sonoma tree voles are known to live in other coniferous forests. They are known to eat primarily Douglas fir (*Pseudotsuga menziesii*) needles, but eat other conifer needles as well. They may also eat the inner bark of twigs. Sonoma tree voles live in the tree canopy and are thought to have limited dispersal capabilities, and so are threatened by canopy removal and fragmentation (Blois and Natureserve 2008).

The areas of the property vegetated by mixed coniferous forest may be habitat for Sonoma tree vole. Proposed development is more than 150 feet away from mixed coniferous forest areas. No additional surveys are recommended.

6.0 Discussion

6.1 Summary of sensitive resources

In the opinion of Spade Natural Resources Consulting, the property contains presumed active habitat within the riparian area for Point Arena mountain beaver. The stream, Hathaway Creek, located at the north side of the property, is a potential habitat area for California red-legged frog. Sonoma tree voles may be present within the mixed coniferous forest areas on the property. Special status birds may be present within the project areas, and special status bats may be present within forested areas of the property. Additionally, a wetland was observed, and a special status forest alliance, Bishop pine forest (*Pinus muricata* Forest Alliance [G3 S3.2]) was observed.

Agencies with protection responsibility for special status wildlife species, including US Fish and Wildlife Service and California Department of Fish and Wildlife, will need to be consulted regarding the project and proposed protective measures. These agencies may have opinions that differ from the professional opinions of Spade Natural Resources Consulting outlined in this report, and may recommend additional measures for protection.

6.2 Recommended Avoidance Measures

Recommended avoidance measures are outlined below to prevent detrimental impacts to present and potentially present resources.

6.2.1 Recommended Buffer Area

A minimum buffer distance of 100 feet shall be observed between the proposed residential development and sensitive resource areas, including the observed wetland, Bishop pine forest and riparian area, during construction. Equipment and staging, and other project impacts, including lighting and noise impacts shall be maintained outside of these 100 foot buffer areas.

6.2.2 Point Arena Mountain Beaver

During project construction, no equipment which results in severe ground vibration, such as but not limited to pile driving and blasting, shall be utilized at any time.

During residential use of the property, no use of rodenticides shall occur within 400 feet of the riparian area. If dogs or cats are kept as pets, they should not be allowed access to the riparian area. Garbage should be properly contained in wildlife proof enclosures on the property and should be removed from the property to a permitted disposal location on a weekly basis.

The property owner and contractors shall be provided with a copy of the US Fish and Wildlife Service “Draft Point Arena Mountain Beaver Standard Protection Measures for Point Arena Mountain Beaver” included as Appendix C, and shall carry out project development and residential use in compliance within the intent therein.

6.2.3 Special Status Birds and Bats

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

As with birds, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat

surveys do not need to be performed if work or vegetation removal is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys should be conducted. Pre-construction bat surveys involve surveying trees, rock outcrops, and buildings subject to removal or demolition for evidence of bat use (guano accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists shall conduct acoustic surveys under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are found, a minimum 50 foot buffer should be implemented around the roost tree. Removal of roost trees should occur in September and October, or after the bats have left the roost. In summary, no impacts would be expected and therefore no preconstruction surveys would be required for the species above if vegetation removal (including standing dead trees) is scheduled for the months of September or October. The months of November through August would require a bird and/or bat survey dependent on the time of year.

6.2.4 California Red-Legged Frog

Project contractors will be trained by a qualified biologist in the identification of the California red-legged frog (*Rana draytonii*). A survey for California red-legged frog shall occur within two weeks prior to ground disturbing activities or construction. Construction crews will begin each day with a visual search around all stacked or stored materials, as well as along any silt fences to detect the presence of frogs. If a California red-legged frog is detected, construction crews will stop all ground disturbing activities and contact the US Fish and Wildlife Service or a qualified biologist prior to re-initiating work.

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

Appendix A. References

- California Department of Fish and Wildlife (CDFW). May 2016. "California Natural Diversity Database, Special Animals List."
- Hunter, John. 2006. "Draft Guidelines for Project Related Habitat Assessments and Surveys for Behren's Silverspot Butterfly (*Speyeria zerene behrensii*)."
- Hunter, John. 2010. "Draft Point Arena Mountain Beaver Standard Protection Measures for No-Take Determinations, Version 3." Arcata US Fish and Wildlife Office, Arcata, CA.
- Natural Resources Conservation Service (NRCS), 1993. Soil Survey of Mendocino County, California, Western Part.
- Natural Resources Conservation Service (NRCS). 2015. National Hydric Soils List. Online:
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>
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- NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. (Accessed: June 7, 2016).
- Sawyer, J. O. and T. Keeler-Wolf. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA.
- US Fish and Wildlife Service. 2017. "Draft Guidelines for Project Related Habitat Assessments and Surveys for Point Arena Mountain Beaver (*Aplodontia rufa nigra*), Version 3.

Appendix B. Special Status Animals found on the Mendocino Coast

Scientific name Common name	Federal Status	State Status	G Rank	S Rank	Organization: Code	Habitat
INVERTEBRATES						
Snails, Slugs, and Abalone (<i>GASTROPODA</i>)						
<i>Helminthoglypta arrosa pomoensis</i> Pomo bronze shoulderband	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.
<i>Noyo interressa</i> Ten Mile shoulderband	None	None	G2	S2	None	Known from a few locations in Mendocino County with limited habitat information. Known from Ten Mile Dunes.
Beetles (<i>INSECTA</i> , <i>Coleoptera</i>)						
<i>Coelus globosus</i> 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.
Butterflies & Moths (<i>INSECTA</i> , <i>Hymenoptera</i>)						
<i>Lycaeides argyrognomon lotis</i> 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 <i>Hosackia gracilis</i> .
<i>Speyeria zerene behrensii</i> 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 (<i>Viola adunca</i>) and adult nectar sources: thistles, asters, etc.
Ants, Bees, & Wasps (<i>INSECTA</i> , <i>Hymenoptera</i>)						
<i>Bombus caliginosus</i> Obscure bumble bee	None	None	G4	S1S2	IUCN:VU	Food plants include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia
<i>Bombus occidentalis</i> 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. This species is identified by a white patch on the abdomen hind tip. None have been recorded in Coastal Mendocino on xerces.org

FISH						
Lampreys (<i>PETROMYZONTIDAE</i>)						
<i>Entosphenus tridentatus</i> 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.
<i>Lampetra ayresii</i> 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.
Trout & Salmon (<i>SALMONIDAE</i>)						
<i>Oncorhynchus gorboscha</i> pink salmon	None	None	G5	S1	DFG:SSC	Most spawn in intertidal or lower reaches of streams and rivers in Sept and Oct. and move further upstream in Sacramento River. Optimal temp = 5.6 to 14.4° C. Embryos and alevins require fast-flowing well oxygenated water for development and survival.
<i>Oncorhynchus kisutch</i> Coho salmon - central California coast ESU	Endangered	Endangered	G4	S2?	AFS:EN	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.
<i>Oncorhynchus kisutch</i> 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.
<i>Oncorhynchus mykiss irideus</i> summer-run steelhead trout	None	None	G5T4Q	S2	DFG:SSC	Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.
<i>Oncorhynchus mykiss irideus</i> steelhead - central California coast DPS	Threatened	None	G5T2Q	S2	AFS:TH	Adult steelhead require high flows with water at least 18 cm deep for passage. They may leap up to ~3 m. For spawning, sufficient streamflow over clean gravel, cool water temperature, depth, and cover for escape (usually a deep pool with cover).
<i>Oncorhynchus mykiss irideus</i> steelhead-northern California DPS	Threatened	None	G5T2Q	S2	AFS:TH DFG:SSC	Cool, swift, shallow water and clean loose gravel for spawning.
<i>Oncorhynchus tshawytscha</i> 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.
Minnows & Carp (<i>CYPRINIDAE</i>)						
<i>Lavinia symmetricus navarroensis</i> 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.
<i>Lavinia symmetricus parvipinnis</i> Gualala roach	None	None	G5T1T2	S1S2	DFG:SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.

Gobies (GOBIIDAE)						
<i>Eucyclogobius newberryi</i> 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.
AMPHIBIANS & REPTILES						
Olympic salamanders (RHYACOTRITONIDAE)						
<i>Rhyacotriton variegatus</i> 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, streams 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.
Tailed frogs (ASCAPHIDAE)						
<i>Ascaphus truei</i> 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.
Frogs (RANIDAE)						
<i>Rana aurora</i> 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.
<i>Rana draytonii</i> 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.
<i>Rana boylei</i> 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.

Box & Water Turtles (EMYDIDAE)						
<i>Emys marmorata marmorata</i> western pond turtle	None	None	G3G4	S3	BLM:S DFG:SSC IUCN:VU USFS:S	Former scientific name: <i>Clemmys marmorata marmorata</i> . 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.
BIRDS						
Pelicans (PELECANIDAE)						
<i>Pelecanus occidentalis californicus</i> California brown pelican (nesting colony & communal roosts)	Delisted	Delisted	G4T3	S1S2	DFG:FP	Nest colonies are on offshore islands free of mammalian predators and human disturbance, are of sufficient elevation to prevent flooding of nests, and are associated with an adequate and consistent food supply. Brown pelicans roost communally, generally in areas that are near adequate food supplies, have some type of physical barrier to predation and disturbance, and provide some protection from environmental stresses such as wind and high surf.
Cormorants (PHALACROCORACIDAE)						
<i>Phalacrocorax auritus</i> 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.
Hérons, Egrets, and Bitterns (ARDEIDAE)						
<i>Ardea alba</i> 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. Breeding territory is limited to the immediate vicinity of nest, and is used for courtship and copulation as well as nesting. A monogamous, colonial nester.
<i>Ardea herodias</i> 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.
<i>Egretta thula</i> 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.

Hawks, Kites, Harriers, & Eagles (ACCIPITRIDAE)						
<i>Accipiter cooperii</i> 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.
<i>Accipiter gentilis</i> 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. (Coastal redwood zone)
<i>Accipiter striatus</i> 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. Foraging: Uses dense stands in close proximity to open areas.
<i>Aquila chrysaetos</i> 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. Nests on cliffs of all heights and in large trees in open areas. Alternative nest sites are maintained, and old nests are reused. Builds large platform nest, often 10 ft. across and 3 ft. high, of sticks, twigs, and greenery. Rugged, open habitats with canyons and escarpments used most frequently for nesting.
<i>Buteo regalis</i> 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.
<i>Circus cyaneus</i> 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.

<i>Elanus leucurus</i> 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.
<i>Haliaeetus leucocephalus</i> 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.
<i>Pandion haliaetus</i> 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.
Falcons (FALCONIDAE)						
<i>Falco columbarius</i> 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.
<i>Falco peregrinus anatum</i> 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.
Plovers & Relatives (CHARADRIIDAE)						
<i>Charadrius alexandrinus nivosus</i> western snowy plover (nesting)	Threatened	None	G4T3	S2	ABC:WL BCC 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.

Oystercatchers (HAEMATOPODIDAE)						
<i>Haematopus bachmani</i> 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.
Gulls & Terns (LARIDAE)						
<i>Larus californicus</i> California gull (nesting)	None	None	G5	S2	DFG:WL IUCN:LC	Colony nesters and usually occurring on an island or vegetated offshore rock.
Auklets, Puffins, & Relatives (ALCIDAE)						
<i>Brachyramphus marmoratus</i> 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.
<i>Fratercula cirrhata</i> 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 is unavailable for burrowing. Occurs year-round offshore near breeding colonies in northern California, but more common in winter. Breeding records from Goat Rock, Mendocino Headlands State Park.
Owls (STRIGIDAE)						
<i>Athene cunicularia</i> 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.
<i>Strix occidentalis caurina</i> 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.

Swifts (<i>APODIDAE</i>)						
<i>Chaetura vauxi</i> Vaux's swift (nesting)	None	None	G5	S3	DFG:SSC IUCN:LC	Nesting: redwood, Douglas fir, grand 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. Also nests in artificial structures such as chimneys. 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 the air. Shows an apparent preference for foraging over rivers and lakes.
Hummingbirds (<i>TROCHILIDAE</i>)						
<i>Selasphorus rufus</i> 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.
<i>Selasphorus sasin</i> 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.
Woodpeckers (<i>PICIDAE</i>)						
<i>Picoides nuttallii</i> 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.
<i>Sphyrapicus ruber</i> 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.
Tyrant Flycatchers (<i>TYRANNIDAE</i>)						
<i>Contopus cooperi</i> 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. (Late successional conifer forest with open canopy, to sea level but usually mid elevations 3,000 to 7,000 feet.)

Swallows (<i>HIRUNDINIDAE</i>)						
<i>Progne subis</i> 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. (Coast redwood forest and at Gualala River bridge)
Wood-warblers (<i>PARULIDAE</i>)						
<i>Dendroica occidentalis</i> 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.
Sparrows, Buntings, Warblers, & Relatives (<i>EMBERIZIDAE</i>)						
<i>Ammodramus savannarum</i> 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.
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow (nesting)	None	None	G5T2T3	S2S3	DFG:SSC	California endemic from near Humboldt Bay, Humboldt Co. to Morro Bay, San Luis Obispo Co. Breeds in low tidally influenced habitats in higher parts of pickleweed/saltgrass marshes, adjacent ruderal areas, moist grasslands within and just above the fog belt, bottomlands and dairy pastures in the taller grasses and rushes along roads and fences, and infrequently, drier grasslands. In moist upland grasslands, it occurs where herbaceous vegetation is relatively short, with no or little woody plant cover. Open areas, whether provided by tidal mudflats or upland interstitial areas between clumps of vegetation, appears to be an important component of occupied habitat.
Blackbirds (<i>ICTERIDAE</i>)						
<i>Agelaius tricolor</i> 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.

Mammals						
Evening Bats (<i>VESPERTILIONIDAE</i>)						
<i>Antrozous pallidus</i> 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.
<i>Corynorhinus townsendi</i> 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.
<i>Lasionycteris noctivagans</i> 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 of this species (e.g., clusters of large snags).
<i>Lasiurus blossevillei</i> 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.
<i>Lasiurus cinereus</i> 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.

<i>Myotis evotis</i> long-eared myotis	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.
<i>Myotis yumanensis</i> Yuma myotis	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.
Mountain Beavers (<i>PLODONTIDAE</i>)						
<i>Aplodontia rufa nigra</i> Point Arena mountain beaver	Endangered	None	G5T1	S1	DFG:SSC IUCN:LC	Generally known from 2 miles north of Bridgeport Landing to 5 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 undergrowth.
Mice, Rats, & Voles (<i>MURIDAE</i>)						
<i>Arborimus pomo</i> 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 Sonoma 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 grand fir, hemlock or spruce.
Weasels & Relatives (<i>MUSTELIDAE</i>)						
<i>Martes americana humboldtensis</i> 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.
<i>Martes pennanti (pacific) DPS</i> 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.

Sea Lions & Fur Seals (<i>OTARIIDAE</i>)						
<i>Arctocephalus townsendi</i> Guadalupe fur-seal	Threatened	Threatened	G1	S1	DFG:FP IUCN:NT	Solitary, non-social "eared" seals breed in the tropical waters off southern California/Mexico region but have been seen on rare occasion off Mendocino.
<i>Callorhinus ursinus</i> northern fur-seal	None	None	G3	S1	IUCN:VU	Mostly pelagic seal ranging throughout the Pacific Rim, from Japan to the Channel Islands. Pacific rookeries in the Channel and Farallon Islands. Infrequent visitor to the Mendocino Coast. One was stranded on Albion flat in 2013 and rescued by the Marine Mammal Center.
<i>Eumetopias jubatus</i> Steller (=northern) sea-lion	Threatened	None	G3	S2	IUCN:EN MMC:SSC	Range throughout the North Pacific Rim from Japan to central California. Unlike California sea lions, Stellers tend to remain off shore or haul out in unpopulated areas. Breeding rookery on Año Nuevo Island.

Appendix C. Point Arena Mountain Beaver No-Take Measures

DRAFT POINT ARENA MOUNTAIN BEAVER STANDARD PROTECTION MEASURES FOR NO-TAKE DETERMINATIONS

The following protective measures applied to projects will typically result in a low likelihood of incidental take of Point Arena Mountain Beaver (PAMB; *Aplodontia rufa nigra*). These guidelines may be adjusted on a project and site-specific basis. Factors affecting determinations for individual projects include specifics of the proposed activity (e.g., duration, distance, intensity, extent, time of year, and time of day), specifics of the site (e.g., soils, topography, background levels of disturbance, habitat continuity) and status of PAMB in the area (e.g., historical information, monitoring information, and quality of survey information). These draft guidelines are based on the best information currently available to the Service, and are subject to change.

Breeding Season - December 1 through June 30 (Hubbard 1922, Scheffer 1929, Pfeiffer 1958, Lovejoy and Black 1974, Zielinski and Mazurek 2006).

Dispersal Season - April 15 through September 30 (Pfeiffer 1958, Martin 1971).

Visual Disturbance

No installation of lighting or extended use of night time illumination within 100 feet of active burrows or unsurveyed suitable habitat. New construction within 100 feet of active burrows may require additional measures for protection of habitat. Ninety percent of the recorded locations for 10 radio-tagged adults in western Washington were less than 80 feet from their nest chambers (Martin 1971).

Noise Disturbance

No operation of above ground noise generating equipment (includes chainsaws and weed eaters) within 100 feet of active burrows or unsurveyed suitable habitat during the breeding season. Hand tools and electric weed eaters may be used within 100 feet of active burrows during the breeding season. For example, hand shovels can be used at any time to clean roadside ditches in close proximity to burrow openings, as long as only debris that have accumulated in the ditch are removed.

Ground Vibration Disturbance

No operation of mechanical equipment which is in direct contact with, or below, the ground which causes ground vibrations (includes water well drilling, heavy equipment such as graders, soil excavators, air compressors, and directional boring equipment) within 100 feet of active burrows or unsurveyed suitable habitat during the breeding season, and not within 50 feet during the remainder of the year. This includes the use of power mowers and ditch cleaning with motorized equipment; however, small mowers with rubber tires may be considered to only result in noise disturbance and not vibration disturbance. No directional boring beneath active burrows or unsurveyed suitable habitat at any time.

Severe Ground Vibration Disturbance

No operation of mechanical equipment that is in direct contact with the ground, or below ground, which causes severe ground vibrations (includes operation of log landings and soil compaction with vibrators) within 500 feet of active burrows or unsurveyed suitable habitat during the breeding

season, and not within 100 feet during the remainder of the year. Very severe ground vibration disturbance (such as pile driving or blasting) should not occur within 500 feet at any time.

Suitable Habitat Degradation and Removal

Habitat **degradation** involves temporary alteration (such as timber harvest, mowing, livestock grazing, herbicide application, removal of existing down wood, and burning), and habitat **removal** involves permanent loss (such as paving, any road construction, construction of structures, and conversion to agriculture). Patches of habitat are not considered contiguous if they are greater than 50 feet apart. No degradation of suitable PAMB habitat that is contiguous with and within 200 feet of active burrows or unsurveyed suitable habitat. No removal of suitable PAMB habitat that is contiguous with and within 400 feet of active burrows or unsurveyed suitable habitat. Annual mowing of areas currently not considered PAMB habitat is not considered modification or removal. New construction within 100 feet of active burrows may require additional measures for protection of habitat. For road and trail maintenance, a 2 foot strip of vegetation on either side of the road or trail may be reduced in height to no less than 2 feet. Mountain beaver have been recorded moving 350 feet from their nest chambers (Martin 1971). Zielinski and Mazurek (2006) recorded movement distances between PAMB locations up to 334 feet.

Disruption of Dispersal

No vegetation degradation or removal (not including timber harvest), or construction of permanent barriers (includes fences, and unvegetated openings greater than 50 feet wide), at any location at any time that may disrupt dispersal of PAMB, or movement of PAMB between occupied sites. Any temporary barriers must be removed during the dispersal season. Hacker and Coblenz (1993) found mountain beaver will disperse up to, and possibly greater than, 1476 feet; Martin (1971) recorded a subadult dispersing 1850 feet. Arjo et al. (2007) document dispersal distances of >300m. Herbicides should only be used in or near burrow areas outside of the breeding and dispersal seasons.

Damage to Burrow Systems

No vehicle use, human foot traffic, soil excavation, cattle grazing or movement, or other potential sources of burrow collapse should occur within 25 feet of active burrows or unsurveyed suitable habitat at any time. By necessity, surveyors may approach to within 25 feet of active burrows or unsurveyed suitable habitat. No activity should occur which alters water drainage or hydrology of areas containing burrow systems or in unsurveyed suitable habitat.

Rodent Control

No rodent control measures, (includes trapping and application of poison bait or fumigants) within 400 feet of active burrows or unsurveyed suitable habitat at any time. Baits intended for commensal rodents associated with human structures which are less than 400 feet from active burrows or unsurveyed suitable habitat, however, can be used when placed in tamper resistant bait boxes placed in areas inaccessible to wildlife. Any outdoor rodent control should only be conducted by individuals able to distinguish between burrow openings of mountain beavers and target species (California Department of Pesticide Regulation 1998).

Predation

Domestic or feral dogs and cats may directly take mountain beavers (Steele and Litman 1998) and should not be allowed within areas containing burrow systems or within unsurveyed suitable habitat.

Human-generated garbage may attract natural predators. Timber Harvest Operations

No ground disturbing activities (includes felling and yarding) within suitable habitat that is contiguous with and within 200 feet of active burrows or unsurveyed suitable habitat at any time. Felling and yarding in unsuitable PAMB habitat (or suitable habitat that is not occupied and not contiguous with occupied habitat) may occur within 50 feet of active burrows during the non-breeding season and within 100 feet of active burrows during the breeding season. Directional felling may be necessary to meet these requirements. Full suspension yarding may be permissible when it occurs at least 50 feet from active burrows. While overstory tree removal may improve PAMB habitat quality in some situations, burning after timber harvest can reduce habitat suitability over the short term (Motobu 1978, Hacker and Coblentz 1993). Roads may be used for timber hauling during the breeding season if greater than 100 feet from active burrows or unsurveyed suitable habitat, and during the non-breeding season only if greater than 50 feet from active burrows or unsurveyed suitable habitat. Hauling restrictions may be relaxed depending on level of ongoing road use and evidence of habituation to road use by PAMB.

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- Revised by John E. Hunter, Arcata Fish and Wildlife Office, Arcata, CA.
19 February 2010 DRAFT

BOTANICAL SURVEY REPORT

FOR

43300 HATHAWAY CROSSING
POINT ARENA, CA
MENDOCINO COUNTY
(APN 027-211-03)



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1.0 Summary and Background

On March 31, May 3, June 21, and August 30, 2018, botanical surveys occurred at 43300 Hathaway Crossing in Point Arena (APN 027-211-03). The purpose of the survey effort was to determine whether any special status plants or vegetation alliances were present at the property that may impact proposed development.

The ~21.88-acre parcel is relatively flat, and located on the north side of Hathaway Crossing, approximately one-mile northeast of the City of Point Arena. The property at 43300 Hathaway Crossing (APN 027-211-03) contains an existing well and is otherwise undeveloped. This site has been disturbed.

Surveys occurred within the mapped ten acre study area as shown in Figure 3. No special status plants were observed during survey efforts. Several special status vegetation alliances were observed, including Bishop Pine Forest, Slough Sedge Swards, and Pacific Reedgrass Meadows. Additionally, Red Alder Forest, a common vegetation alliance that is also considered a riparian area protected under the Coastal Act, was observed, and the area of Pacific Reedgrass Meadows and Slough Sedge Swards also qualifies as a wetland protected under the Coastal Act. Avoidance measures are recommended in Section 5.0 of this report.

This botanical survey has been conducted to facilitate the issuance of a permit to build within the Coastal Zone in Mendocino County. The determinations outlined in this study reflect the professional opinion of Spade Natural Resources Consulting. Agencies may need to be consulted to determine if they are in agreement.

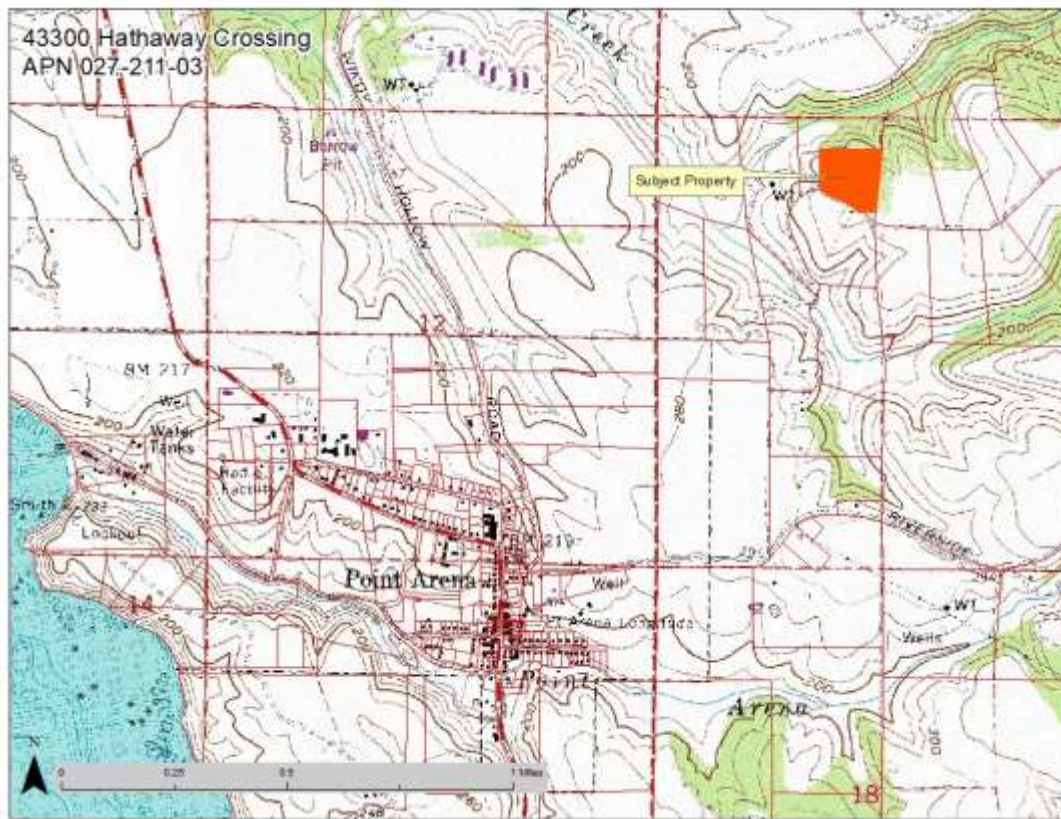


Figure 1. Project location.

2.0 Project Site Description

2.1 GENERAL SITE DESCRIPTION

The survey area includes a ten acre portion of parcel 027-211-03, and accessible properties within 100 feet, as shown in Figure 3, project area map. The project is located on the north side of Hathaway Crossing, approximately one-mile northeast of the City of Point Arena, within the Coastal Zone in the unincorporated area of the County of Mendocino. The elevation is approximately 275 to 300 feet above sea level.

2.2 SOILS

Soils in the project area are mapped as Mallopass loam, 0-5% slopes, and Dystropepts, 30-70% slopes in the northerly portion of the property (Natural Resource Conservation Service, 2016). The Mallopass Loam is included on the National Hydric Soils list due to the inclusion of a 2% component of Flumeville soil (National Resource Conservation Service, 2015). The project is located at UTM coordinates 38°55'25.76"N, 123°40'41.19" W.

2.3 VEGETATION

The project area is relatively flat and consists mainly of non-native grassland and coyote brush scrub. Trees line the perimeter of the project area, and the property slopes downward to the west and north of the project area. Vegetation alliances found in the project area include Common Velvet Grass –Sweet Vernal Grass Meadows, Coyote Brush Scrub, Bishop Pine Forest, Douglas Fir Forest, Pacific Reedgrass Meadows, Slough Sedge Swards, and Red Alder Forest.

2.4 HYDROLOGY

Hathaway Creek is north and west of the property and project area, cutting through the northwest corner of the property. The creek is shown as a freshwater forested/shrub wetland in Figure 4. The north and west sides of the property slope downward towards the creek. A natural spring is present in the southwest portion of the survey area. This spring is shown on in Figure 12 as vegetated with Slough Sedge and Pacific Reedgrass vegetation alliances.

3.0 Methods

3.1 BOTANICAL SURVEY

3.2.1 Literature Review

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

- California Native Plant Society (CNPS) Electronic Inventory occurrence records, nine-quad search centering in the Point Arena USGS 7.5-minute quadrangle.
- California Natural Diversity Data Base (CNDDB) occurrence records for the Point Arena USGS 7.5-minute quadrangle.
- Aerial imagery and topographic maps analysis, to gather baseline info regarding habitat in the project area.

3.2.2 Field Methods

The surveys were conducted March 31, May 3, June 21, and August 30, 2018, following the floristic survey protocol recommended in CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (March 20, 2018). Field survey schedules to identify special status plants were determined based on the known blooming periods of these

species. Nearby accessible known occurrences of sensitive plant species were observed to determine that the plants were identifiable at the time of the survey.

Botanical surveys were conducted by field observers walking throughout the property. All plant species detected within the project area were recorded. If numerous special status plants were observed, populations were estimated based on presence of plants within several sampled square meter areas.

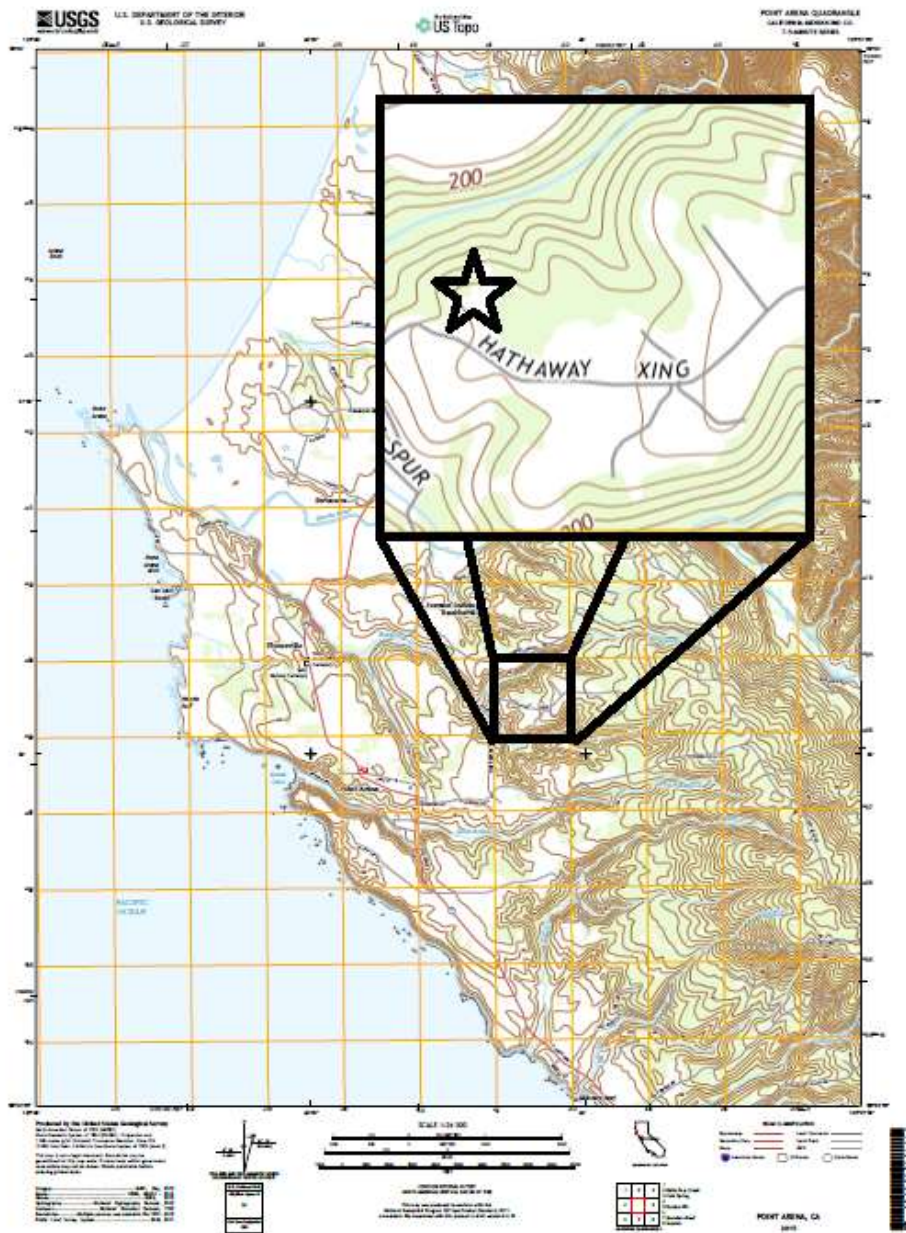


Figure 2. USGS Topo Map

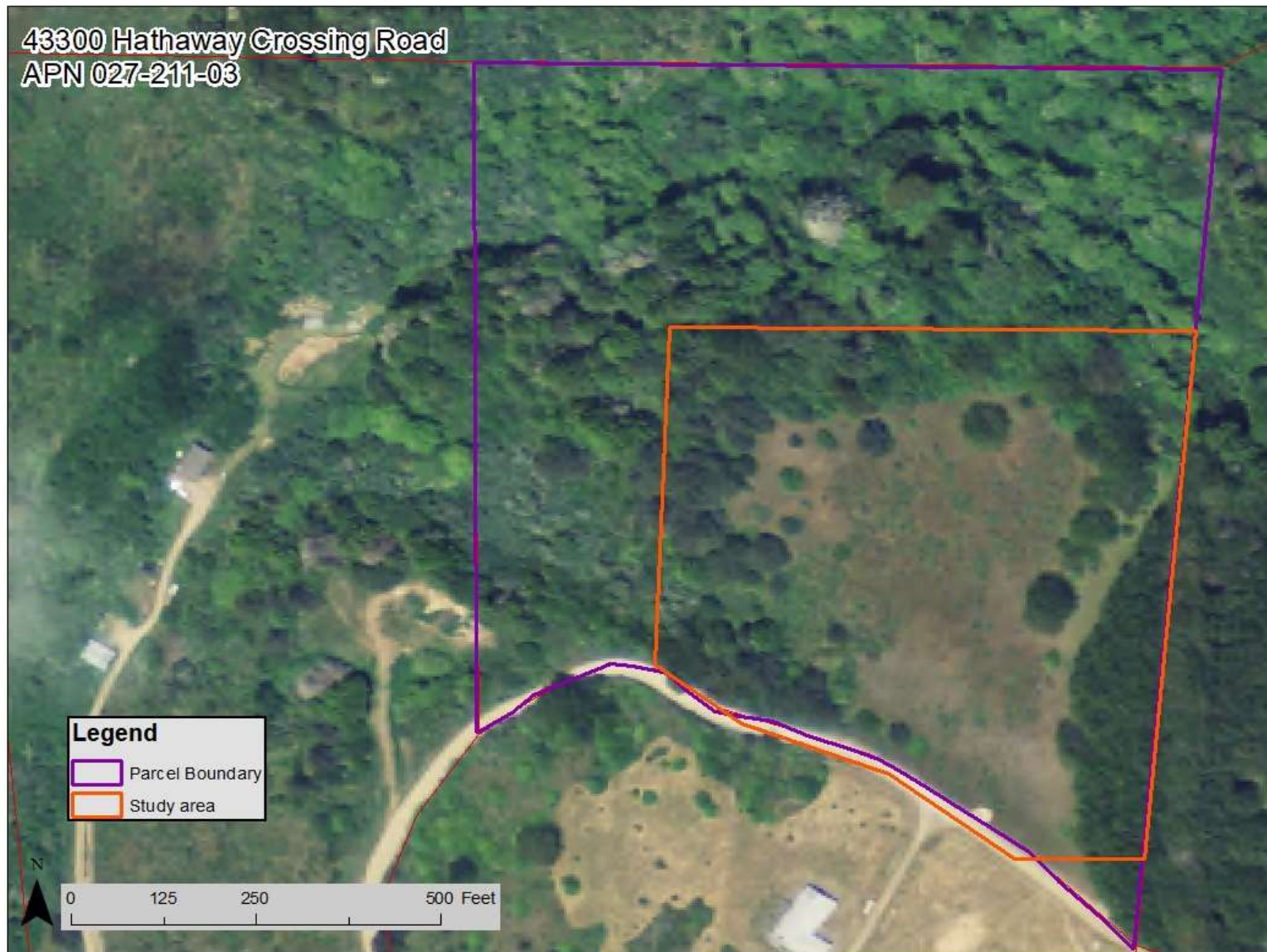










Figure 3. Property boundary and project area, GoogleEarth image



August 27, 2018

Wetlands

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

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

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

Figure 4. USFWS NWI wetland map in project area.

4.0 Survey Results

4.1 SPECIAL STATUS PLANTS

No special status plants were observed on or near the property. All plant species observed are listed in Appendix C.

4.2 VEGETATION ALLIANCES

The observed vegetation alliances found in the project area are described below and shown in Figure 12.

4.2.1 Common Velvet Grass – Sweet Vernal Grass Meadows (*Holcus lanatus* – *Anthoxanthum odoratum* Herbaceous Semi-Natural Alliance)

Dominant grasses include sweet vernal grass and purple velvet grass. Other characteristic species include California blackberry (*Rubus ursinus*), hairy cat's ear (*Hypochaeris radicata*), sword fern (*Polystichum munitum*) and bracken (*Pteridium aquilinum* var. *pubescens*).



Figure 5. Common velvet grass- sweet vernal grass meadows.

4.2.2 Coyote Brush Scrub (*Baccharis pilularis* Shubland Alliance, G5 S5)

Coyote brush is significantly present in the shrub layer in areas mapped as coyote brush scrub. The understory is dominated by sweet vernal grass with common velvet grass, California blackberry and bracken also present as characteristic species.



Figure 6. Coyote brush scrub.

4.2.3 Monterey Cypress Stands (*Hesperocyparis macrocarpa* Woodland Special Stands)

While this vegetation alliance fits most closely with the planted stand of Monterey cypress found along the east side of the property and northerly portion of the project area, these cypresses were planted, likely for wind protection. The range for the natural, rare Monterey Cypress Stands vegetation alliance is limited to areas in the vicinity of Monterey. Understory species include salal (*Gaultheria shallon*), black huckleberry (*Vaccinium ovatum*), wax myrtle (*Morella californica*), red huckleberry (*Vaccinium parvifolium*), and hairy honeysuckle (*Lonicera hispidula*).



Figure 7. Monterey cypress stand.

4.2.4 Douglas Fir Forest (*Pseudotsuga menziesii* Forest Alliance G5 S4)

Where Douglas fir dominates the overstory of the project area, other overstory species include Monterey pine (*Pinus radiata*), bishop pine (*Pinus muricata*), grand fir (*Abies grandis*) and cypress (*Hesperocyparis* sp.). blueblossom (*Ceanothus thyrsiflorus*) and black huckleberry are present in the shrub layer, and mugwort (*Artemisia douglasiana*), yarrow (*Achillea millefolium*), Douglas iris (*Iris douglasiana*), and bracken are characteristic species in the herbaceous layer.



Figure 8. Douglas fir forest.

4.2.5 Bishop Pine Forest (*Pinus muricata* Forest Alliance G3 S3.2)

Bishop pine dominates the overstory, with black huckleberry and wax myrtle characterizing the shrub layer, and Douglas iris, California blackberry, and bracken in the herbaceous layer.



Figure 9. Bishop pine forest.

4.2.6 Red Alder Forest (*Alnus rubra* Forest Alliance (G5 S4))

Red alder dominates the overstory, with black and red huckleberry and silk tassel (*Garrya elliptica*) in the shrub layer, and sword fern and salal in the herbaceous layer.



Figure 10. Red alder forest.

4.2.7 Slough Sedge Swards/Pacific Reedgrass Meadows (*Carex obnupta* Herbaceous Alliance G4 S3 / *Calamagrostis nutkaensis* Herbaceous Alliance G4 S2)

This small wetland is fed by a spring. Vegetation is a mosaic of areas dominated by slough sedge, sword fern, and Pacific reedgrass. Other characteristic species include thimbleberry (*Rubus parviflorus*), horsetail (*Equisetum telmateia*), bracken, coffeeberry (*Frangula californica*), California bee plant (*Scrophularia californica*), and hedge nettle (*Stachys ajugoides*).



Figure 11. Wetland with slough sedge, Pacific reedgrass, and sword fern.

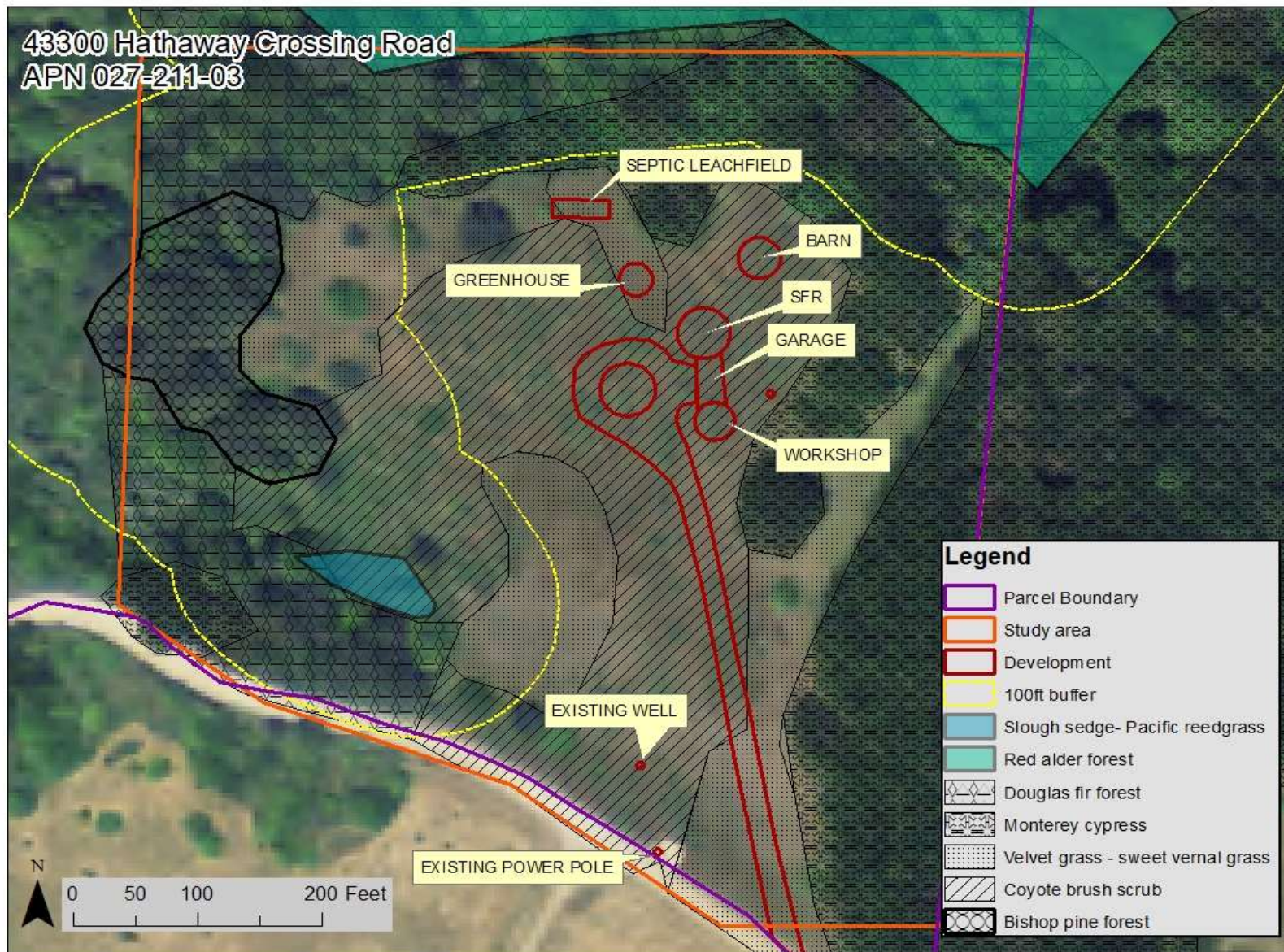


Figure 12. Vegetation alliances map.

4.3 PRESUMED WETLANDS

Presumed wetlands include the slough sedge – pacific reedgrass wetland mosaic, and the red alder forest riparian area shown in Figure 12.

5.0 Discussion

Special status vegetation alliances observed in the project area include slough sedge swards and pacific reedgrass meadows, both found in a wetland which is fed by a spring, and bishop pine forest. An area of riparian vegetation is also found in the northerly portion of the survey area. While red alder forest is not a special status vegetation alliance, this area still warrants protection under the Coastal Act as a riparian zone to Hathaway Creek. A 100 foot buffer zone is recommended to protect these sensitive areas from development. Avoidance measures are outlined in Section 5.1.

5.1 AVOIDANCE MEASURES

5.1.1 Buffer zone


A 100 foot buffer area is recommended to protect the observed wetlands and special status vegetation alliances. That buffer area is shown as a yellow dashed line in Figure 12. All construction impacts, including but not limited to heavy equipment use and storage, staging and stockpiling, should be outside of special status and protected areas and their 100 foot buffer zone. The 100 foot buffer zone should be flagged by a qualified botanist prior to the onset of ground disturbing activities, and flagging should remain in place for the entirety of the construction project. Contractors should be made aware of the purpose of the flagging, the onsite resources, and the need to avoid the onsite resources.

Appendix A. Scoping Tables

Table 1. CNPS Nine Quad Search

CNPS Inventory Results

<http://rareplants.cnps.org/result.html?adv=t&quad=3912316:3912315:3...>

<div>  <div>Inventory of Rare and Endangered Plants</div> </div>							
Plant List							
37 matches found. Click on scientific name for details							
<div> Search Criteria Found In Quads 3912316, 3912315, 3812386, 3812385, 3812376 and 3812375; Elevation is above 150 or below 350 feet, Community is one of [Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Meadows and seeps, Vernal pools] </div>							
Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos							
Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Agrostis blaisdalei	Blaisdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	G2	G2
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	4.3	G4	G4T4
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	4.2	G4	G4
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	1B.2	G2G3	G4T2T3
Campanula californica	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	G3	G3
Carex californica	California sedge	Cyperaceae	perennial rhizomatous herb	May-Aug	2B.3	G2	G5
Carex saliniformis	deceiving sedge	Cyperaceae	perennial rhizomatous herb	Jun(Jul)	1B.2	G2	G2
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	G4	G4T5
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	1B.2	G2	G2
Ceanothus gloriosus var. exaltatus	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	4.3	G4	G4T4
Ceanothus gloriosus var. gloriosus	Point Reyes ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	4.3	G4	G4T4
Coptis laciniata	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	4.2	G3?	G4?
Erigeron supplex	supple daisy	Asteraceae	perennial herb	May-Jul	1B.2	G2	G2
Erysimum conditum	bluff wallflower	Brassicaceae	annual / perennial herb	Feb-Jul	1B.2	G2	G3
Fritillaria roderickii	Roderick's fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.1	G1	G1Q
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	1B.2	G2	G5T3
Glyceria grandis	American manna grass	Poaceae	perennial rhizomatous herb	Jun-Aug	2B.3	G3	G5
Hesperis matronalis var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	G2	G4T3
Hesperocypripis pygmaea	pygmy cypress	Cupressaceae	perennial evergreen tree		1B.2	G1	G1
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	G2	G2
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	1B.2	G2	G2

<u>Hosackia gracilis</u>	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.2	G3	G3G4
<u>Lasthenia californica ssp. bakeri</u>	Baker's goldfields	Asteraceae	perennial herb	Apr-Oct	1B.2	G1	G3T1
<u>Lasthenia californica ssp. macrantha</u>	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	G2	G3T2
<u>Lasthenia conjugens</u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	G1	G1
<u>Lathyrus palustris</u>	marsh pea	Fabaceae	perennial herb	Mar-Aug	2B.2	G2	G6
<u>Lilium maritimum</u>	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1	G2	G2
<u>Microseris paludosa</u>	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	G2	G2
<u>Mitellastrum caulescens</u>	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	4.2	G4	G6
<u>Oenothera wolffi</u>	Wolf's evening-primrose	Onagraceae	perennial herb	May-Oct	1B.1	G1	G2
<u>Perideridia gairdneri ssp. gairdneri</u>	Gairdner's yampah	Aplaceae	perennial herb	Jun-Oct	4.2	G3G4	G5T3T4
<u>Pleuropogon refractus</u>	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	G4	G4
<u>Sidalcea malachroides</u>	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	4.2	G3	G3
<u>Sidalcea malviflora ssp. purpurea</u>	purple-stemmed checkerbloom	Malvaceae	perennial rhizomatous herb	May-Jun	1B.2	G1	G5T1
<u>Trifolium buckwestorum</u>	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	G2	G2
<u>Trifolium trichocalyx</u>	Monterey clover	Fabaceae	annual herb	Apr-Jun	1B.1	G1	G1
<u>Veratrum fimbriatum</u>	fringed false-hellebore	Melanthiaceae	perennial herb	Jul-Sep	4.3	G3	G3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 03 May 2018].

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Questions and Comments

rareplants@cnps.org

Table 2. CNDDDB Search Point Arena Quad

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE **RareFind**

Query Summary:
Quad  (Point Arena (3812355))

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CNDDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
<i>Abronia umbellata</i> var. <i>brevivittata</i>	pink sand-verbena	Dicots	PONYC010N4	51	2	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive	Coastal dunes
<i>Agrostis biadalei</i>	Shedden's bent grass	Monocots	PMWQA040B0	58	2	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
<i>Apodonte rufa nigra</i>	Point Arena mountain beaver	Mammals	AMAF01011	39	25	Endangered	None	G5T1	S1	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Coastal scrub, Meadow & seep
<i>Arbutus pomia</i>	Sonoma tree vole	Mammals	AMAF023030	222	3	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
<i>Asacaphus truei</i>	Pacific tailed frog	Amphibians	AAABA01010	491	1	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
<i>Bombus caliginosus</i>	obscure bumble bee	Insects	IBHYM24380	181	1	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
<i>Bombus occidentalis</i>	western bumble bee	Insects	IBHYM24250	282	1	None	None	G2G3	S1	null	USFS_S-Sensitive, XERCES_IM-Imperiled	null
<i>Calyptegia purpurata</i> ssp. <i>saxicola</i>	coastal bluff morning-glory	Dicots	POCON040D2	42	3	None	None	G4T2T3	S2S3	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub, North coast coniferous forest
<i>Campanula californica</i>	swamp harebell	Dicots	POCAM030B0	139	14	None	None	G3	S3	1B.2	BLM_S-Sensitive	Sag & fen, Closed-cone coniferous forest, Coastal prairie, Marsh & swamp, Meadow & seep, North coast coniferous forest, Wetland
<i>Carex californica</i>	California sedge	Monocots	PMCYP032D0	41	2	None	None	G5	S2	2B.3	null	Sag & fen, Closed-cone coniferous forest, Coastal prairie, Freshwater marsh, Marsh & swamp, Meadow & seep, Wetland
<i>Carex lyngbyei</i>	Lyngbye's sedge	Monocots	PMCYP037Y0	29	1	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
<i>Carex saxiformis</i>	deceiving sedge	Monocots	PMCYP038Y0	15	4	None	None	G2	S2	1B.2	null	Coastal prairie, Coastal scrub, Marsh & swamp, Meadow & seep, Wetland

<i>Cestifeja ambigua</i> var. <i>humboldtiana</i>	Humboldt Bay osha-clover	Dicots	POBCR03D02	31	1	None	None	G4T2	S2	1B.2	BLM_S-Sensitive	Marsh & swamp, Salt marsh, Wetland
Coastal Brackish Marsh	Coastal Brackish Marsh	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland
Coastal Terrace Prairie	Coastal Terrace Prairie	Herbaceous	CTT41100CA	8	1	None	None	G2	S2.1	null	null	Coastal prairie
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	80	2	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
<i>Cepha. lacinate</i>	Oregon goldthread	Dicots	PORANGA020	122	1	None	None	G4T	S3T	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
<i>Cuscuta pacifica</i> var. <i>pacifica</i>	Mendozina dodder	Dicots	POCUS011A2	5	1	None	None	G5T1	S1	1B.2	null	Coastal dunes
<i>Erigeron supilis</i>	supile daisy	Dicots	POAST3M520	21	4	None	None	G2	S2	1B.2	null	Coastal bluff scrub, Coastal prairie
<i>Eucylogobius newberryi</i>	sidewater goby	Fish	AFCQN04010	127	1	Endangered	None	G3	S3	null	AFS_EN-Endangered, CDFW_SSC-Species of Special Concern, IUCN_YU-Vulnerable	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
<i>Fritillaria roderickii</i>	Roderick's fritillary	Monocots	PMLL0VDM0	8	1	None	Endangered	G1Q	S1	1B.1	SB_RSABQ-Rancho Santa Ana Botanic Garden	Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	Dicots	POPLM04088	73	1	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
<i>Glycyrrhiza</i>	American manna grass	Monocots	PMPQA2Y080	10	1	None	None	G5	S3	2B.3	null	Bag & fen, Marsh & swamp, Meadow & seep, Wetland
<i>Hesperomys sparsiflorus</i> var. <i>brevifolius</i>	short-leaved anise	Dicots	POASTE5011	58	4	None	None	G4T3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
<i>Hypogymnia schizoides</i>	island tube lichen	Lichens	NLT0032640	10	1	None	None	G2	S1	1B.3	null	Chaparral, Closed-cone coniferous forest
<i>Lathraea californica</i> ssp. <i>bakeri</i>	Baker's goldfields	Dicots	POAST5LDC4	19	3	None	None	G3T1	S1	1B.2	null	Closed-cone coniferous forest, Coastal scrub, Marsh & swamp, Meadow & seep
<i>Lathraea californica</i> ssp. <i>macrocarpa</i>	perennial goldfields	Dicots	POAST5LDC5	59	3	None	None	G3T2	S2	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal scrub
<i>Lathraea conjugens</i>	Coastal Goldfields	Dicots	POAST5LDC0	33	1	Endangered	None	G1	S1	1B.1	SB_UCBBG-UC Berkeley Botanical Garden	Alfalfa plays, Camontale woodland, Valley & foothill grassland, Vernal pool, Wetland
<i>Lilium maritimum</i>	coast lily	Monocots	PMLL1ADC0	78	13	None	None	G2	S2	1B.1	null	Broadleaved upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marsh & swamp, North coast coniferous forest
		Dicots	POAST6E5D0	38	1	None	None	G2	S2	1B.2	null	

Microseris pulchra	marsh microseris												Coastal woodland, Closed-cone coniferous forest, Coastal scrub, Valley & foothill grassland
Northern Coastal Bluff Scrub	Northern Coastal Bluff Scrub	Scrub	CTT31100CA	1	1	None	None	Q2	S2.2	null	null	null	
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	Q3	S3.2	null	null	null	Marsh & swamp, Wetland
Oenothera waltii	Walt's evening-primrose	Dicots	PDONA001K0	29	1	None	None	Q2	S1	1B.1	BLM_S-Sensitive, SB_SerpyS-Berry Seed Bank		Coastal bluff scrub, Coastal dunes, Coastal prairie
Oncorhynchus gorbuscha	pink salmon	Fish	AFCHA00010	1	1	None	None	Q5	S1	null	null	null	Aquatic
Oncorhynchus mykiss irideus pop. 18	steelhead - northern California DPS	Fish	AFCHA0009Q	12	1	Threatened	None	Q5T2T3Q	S2S3	null	AFS_Threatened		Aquatic, Sacramento/San Joaquin flowing waters
Potamogeton ephedrus	Nuttall's ribbon-leaved pondweed	Monocots	PMIPOT00050	25	1	None	None	Q5	S2S3	2B.2	null	null	Marsh & swamp, Wetland
Rana boylei	foothill yellow-legged frog	Amphibians	AAABH01050	2054	2	None	Candidate Threatened	Q3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive		Aquatic, Chaparral, Coast Range woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & sump, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rana dreyfoxi	California red-legged frog	Amphibians	AAABH01022	1497	5	Threatened	None	Q2Q3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable		Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	415	1	None	None	Q3Q4	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive		Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	POMAL110E0	138	5	None	None	Q3	S3	4.2	null	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
Sidalcea maliflora ssp. purpurea	purple-stemmed checkerbloom	Dicots	POMAL110FL	19	1	None	None	Q5T1	S1	1B.2	null	null	Broadleaved upland forest, Coastal prairie
		Insects	ILEPJ0058	9	4	Endangered	None	Q5T1	S1	null	XERCES_CI-Critically Impaired		Coastal prairie

Speyeria zerene baterail	Behren's silverspot butterfly											
Tribolium trichoclyx	Monterey clover	Dicots	POFA5402JG	8	1	Endangered	Endangered	G1	SI	1B.1	SR_USDA-US Dept of Agriculture	Closed-cone coniferous forest



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

Scientific Name	Common Name	Global & State Rank
Woodland and Forest Alliances and Stands		
<i>Abies grandis</i> Alliance	Grand fir forest	G4 S2
<i>Acer macrophyllum</i> Alliance	Bigleaf maple forest	G4 S3
<i>Alnus rubra</i> Alliance	Red alder forest	G5 S4
<i>Arbutus menziesii</i> Alliance	Madrone forest	G4 S3
<i>Hesperocyparis pigmaea</i> Alliance	Mendocino pygmy cypress woodland	G2 S2
<i>Hesperocyparis sargentii</i> Alliance	Sargent cypress woodland	G3 S3
<i>Notholithocarpus densiflorus</i> Alliance	Tanoak forest	G4 S3
<i>Picea sitchensis</i> Alliance	Sitka spruce forest	G5 S2
<i>Pinus attenuata</i> Alliance	Knobcone pine forest	G4 S4
<i>Pinus contorta</i> ssp. <i>contorta</i> Alliance	Beach pine forest	G5 S3
<i>Pinus muricata</i> Alliance	Bishop pine forest	G3 S3
<i>Pseudotsuga menziesii</i> Alliance	Douglas fir forest	G5 S4
<i>Pseudotsuga menziesii</i> - <i>Lithocarpus densiflorus</i> Alliance	Douglas fir - tanoak forest	G4 S4
<i>Salix laevigata</i> Alliance	Red willow thickets	G3 S3
<i>Salix lucida</i> Alliance	Shining willow groves	G4 S3
<i>Sequoia sempervirens</i> Alliance	Redwood forest	G3 S3
<i>Tsuga heterophylla</i> Alliance	Western hemlock forest	G5 S2
<i>Umbellularia californica</i> Alliance	California bay forest	G4 S3
Shrubland Alliances and Stands		
<i>Arctostaphylos</i> (<i>canescens</i> , <i>manzanita</i> , <i>stanfordiana</i>) Alliance	Hoary, common and Stanford manzanita chaparral	G3 S3
<i>Arctostaphylos glandulosa</i> Alliance	Eastwood manzanita chaparral	G4 S4
<i>Arctostaphylos</i> (<i>nummularia</i> , <i>sensitiva</i>) Alliance	Glossy leaf manzanita chaparral	G2 S2
<i>Baccharis pilularis</i> Alliance	Coyote brush scrub	G5 S5
<i>Broom</i> (<i>Cytisus scoparius</i> and Others)	Broom patches	
<i>Ceanothus cuneatus</i> Alliance	Wedge leaf ceanothus chaparral; Buck brush chaparral	G4 S4
<i>Ceanothus thyrsiflorus</i> Alliance	Blue blossom chaparral	G4 S4
<i>Chrysolepis chrysophylla</i>	Gloden chinquapin thickets	G2 S2
<i>Corylus cornuta</i> var. <i>californica</i> Alliance	Hazelnut scrub	G3 S2?
<i>Frangula californica</i> Alliance	California coffee berry scrub	G4 S4
<i>Garrya elliptica</i> Provisional Alliance	Coastal silk tassel scrub	G3? S3?
<i>Diplazas aurantiacus</i> Alliance	Bush monkeyflower scrub	G3 S3?
<i>Holodiscus discolor</i> Alliance	Ocean spray brush	G4 S3
<i>Lupinus arboreus</i> scrub	Yellow bush lupine scrub	G4 S4
<i>Morella californica</i> Alliance	Wax myrtle scrub	G3 S3
<i>Rhododendron columbianum</i> Alliance	Western Labrador-tea thickets	G4 S2?
<i>Rhododendron occidentale</i> Provisional Alliance	Western azalea patches	G3 S2?
<i>Rosa californica</i> Alliance	California rose briar patches	G3 S3
<i>Rubus</i> (<i>parviflorus</i> , <i>spectabilis</i> , <i>ursinus</i>) Alliance	Coastal brambles	G4 S3
<i>Salix hookeriana</i> Alliance	Coastal dune willow thickets	G4 S3
<i>Salix lasiolepis</i> Alliance	Arroyo willow thickets	G4 S4
<i>Salix sitchensis</i> Alliance	Sitka willow thickets	G4 S3?
Herbaceous Alliances and Stands		
<i>Sphagnum</i> Bog	Sphagnum bog	G3 S1.2
<i>Toxicodendron diversilobum</i> Alliance	Poison oak scrub	G4 S4
<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i> Alliance	Dune mat	G3 S3
<i>Argentina egedii</i> Alliance	Pacific silverweed marshes	G4 S2
<i>Bolboschoenus maritimus</i> Alliance	Salt marsh bulrush marshes	G4 S3

<i>Bromus carinatus</i> – <i>Elymus glaucus</i> Alliance	California brome – blue wildrye prairie	G3 S3
<i>Calamagrostis nutkaensis</i> Alliance	Pacific reed grass meadows	G4 S2
<i>Camassia quamash</i> Alliance	Small camas meadows	G4? S3?
<i>Carex obnupta</i> Alliance	Slough sedge swards	G4 S3
<i>Carex pansa</i> Alliance	Sand dune sedge swaths	G4? S3?
<i>Danthonia californica</i> Alliance	California oat grass prairie	G4 S3
<i>Deschampsia caespitosa</i> Alliance	Tufted hair grass meadows	G5 S4?
<i>Distichlis spicata</i> Alliance	Salt grass flats	G5 S4
<i>Eleocharis macrostachya</i> Alliance	Pale spike rush marshes	G4 S4
<i>Elymus glaucus</i> Alliance	Blue wild rye meadows	G3? S3?
<i>Festuca rubra</i> Alliance	Red fescue grassland	G4 S3?
<i>Festuca idahoensis</i> Alliance	Idaho fescue grassland	G4 S3?
<i>Glyceria occidentalis</i>	Northwest manna grass marshes	G3? S3?
<i>Grindelia (stricta)</i> Provisional Alliance	Gum plant patches	G3? S3?
<i>Heterotheca (sessiflora)</i> Alliance	Goldenaster patches	G3 S3
<i>Hordeum brachyantherum</i> Alliance	Meadow barley patches	G4 S3?
<i>Juncus articus</i> (var. <i>balticus</i> , <i>mexicanus</i>)	Baltic and Mexican rush marshes	G5 S4
<i>Juncus effusus</i> Alliance	Soft rush marshes	G4 S4?
<i>Juncus (oxymeris, xiphioides)</i> Provisional Alliance	Iris-leaf rush seeps	G2? S2?
<i>Juncus lescurei</i> Alliance	Salt rush swales	G3 S2?
<i>Juncus patens</i> Provisional Alliance	Western rush marshes	G4? S4?
<i>Lasthenia californica</i> – <i>Plantago erecta</i> – <i>Vulpia microstachys</i> Alliance	California goldfields – dwarf plantain – small fescue flower fields	G4 S4
<i>Leymus mollis</i> Alliance	Sea lyme grass patches	G4 S2
<i>Leymus triticoides</i> Alliance	Creeping rye grass turfs	G5 S3
<i>Mimulus (guttatus)</i> Alliance	Common monkey flower seeps	G4? S3?
<i>Nassella pulchra</i> Alliance	Purple needle grass grassland	G4 S3?
<i>Poa secunda</i> Alliance	Curley bluegrass grassland	G4 S3?
<i>Schoenoplectus acutus</i> Alliance	Hardstem bulrush marsh	G5 S4
<i>Schoenoplectus californicus</i> Alliance	California bulrush marsh	G5 S4?
<i>Scirpus microcarpus</i> Alliance	Small-fruited bulrush marsh	G4 S2
<i>Solidago canadensis</i> Provisional Alliance	Canada goldenrod patches	G4? S4?
<i>Woodwardia fimbriata</i>	Woodwardia thicket	G3 S3.2
Aquatic Vegetation		
<i>Azolla (filiculoides, mexicana)</i> Provisional Alliance	Mosquito fern mats	G4 S4
<i>Hydrocotyle (ranunculoides, umbellata)</i> Alliance	Mats of floating pennywort	G4 S3?
<i>Lemna (minor)</i> and Relatives Provisional Alliance	Duckweed blooms	G5 S4?
<i>Nuphar lutea</i> Provisional Alliance	Yellow pond-lily mats	G5 S3?
<i>Oenanthe sarmentosa</i> Alliance	Water-parsley marsh	G4 S2?
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>) Alliance	Pickleweed mats	G4 S3
<i>Sparganium (angustifolium)</i> Alliance	Mats of bur-reed leaves	G4 S3?
<i>Typha (angustifolia, domingensis, latifolia)</i> Alliance	Cattail marshes	G5 S5

Appendix B. References

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Appendix C. List of All Plant Species Documented in the Study Area.






GROUP	Family	Binomial	Common name	Native Status
FERNS AND ALLIES				
	Dennstaedtiaceae			
		<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken; western bracken; hairy bracken fern	Y
	Dryopteridaceae			
		<i>Polystichum munitum</i>	western sword fern	Y
	Equisetaceae			
		<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail	Y
GYMNOSPERMS				
	Cupressaceae			
		<i>Hesperocyparis</i> sp.	cypress	Y
	Pinaceae			
		<i>Abies grandis</i>	grand fir; lowland fir	Y
		<i>Pinus muricata</i>	Bishop pine; pricklycone pine; bull pine	Y
		<i>Pinus radiata</i>	Monterey pine	Y
		<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas fir	Y
DICOTS				
	Anacardiaceae			
		<i>Toxicodendron diversilobum</i>	poison oak	Y
	Apiaceae			
		<i>Foeniculum vulgare</i>	sweet fennel, fennel, biscuit root	N
	Aristolochiaceae			
		<i>Asarum caudatum</i>	creeping wild-ginger, longtail wild ginger	Y
	Asteraceae			
		<i>Achillea millefolium</i>	yarrow	Y
		<i>Artemisia douglasiana</i>	mugwort, wormwood, Douglas' sagewort	Y
		<i>Baccharis pilularis</i>	coyote brush	Y
		<i>Bellis perennis</i>	English daisy	N
		<i>Cirsium vulgare</i>	bull thistle	N
		<i>Hypochaeris radicata</i>	rough cat's ear, hairy cat's ear	N
		<i>Petasites frigidus</i> var. <i>palmatus</i>	coltsfoot, sweet coltsfoot	Y

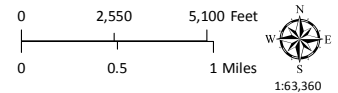
GROUP	Family	Binomial	Common name	Native Status
		<i>Senecio minimus</i>	little erechites, Australian fireweed	N
		<i>Silybum marianum</i>	milk thistle	N
		<i>Symphotrichum chilense</i>	california aster	Y
	Betulaceae			
		<i>Alnus rubra</i>	red alder, Oregon alder	Y
	Caprifoliaceae			
		<i>Lonicera hispidula</i>	hairy honeysuckle	Y
	Cucurbitaceae			
		<i>Marah oreganus</i>	coast wild-cucumber; wild cucumber, coast manroot	Y
	Ericaceae			
		<i>Gaultheria shallon</i>	salal	Y
		<i>Vaccinium ovatum</i>	California huckleberry	Y
		<i>Vaccinium parvifolium</i>	red huckleberry	Y
	Fabaceae			
		<i>Acmispon parviflorus</i>	Hill lotus	Y
		<i>Lotus corniculatus</i>	bird's-foot trefoil, Birdfoot deervetch	N
		<i>Lupinus sp.</i>	lupine	Y
		<i>Vicia sativa</i>	vetch	N
	Garryaceae			
		<i>Garrya elliptica</i>	coast silk tassel	Y
	Lamiaceae			
		<i>Prunella vulgaris</i>	self-heal	Y
		<i>Satureja douglasii</i>	yerba buena	Y
		<i>Stachys ajugoides</i>	bog hedge-nettle	Y
		<i>Stachys rigida</i>	rigid hedge-nettle	Y
	Linaceae			
		<i>Linum bienne</i>	pale flax	N
	Myricaceae			
		<i>Morella californica</i>	wax-myrtle	Y
	Papaveraceae			
		<i>Eschscholzia californica</i>	California poppy	Y
	Plantaginaceae			
		<i>Plantago lanceolata</i>	English plantain, ribwort, narrow leaved plantain, ribgrass	N

GROUP	Family	Binomial	Common name	Native Status
	Polygonaceae			
		<i>Rumex acetosella</i>	common sheep sorrel	N
	Primulaceae			
		<i>Lysimachia arvensis</i>	scarlet pimpernel, poor man's weathervane	N
	Rhamnaceae			
		<i>Ceanothus thyrsiflorus</i>	blueblossom	Y
		<i>Frangula californica</i>	California coffeeberry	Y
	Rosaceae			
		<i>Cotoneaster sp.</i>	cotoneaster	N
		<i>Fragaria vesca</i>	woodland strawberry, wood strawberry	Y
		<i>Rubus parviflorus</i>	thimbleberry	Y
		<i>Rubus ursinus</i>	California blackberry	Y
	Rubiaceae			
		<i>Galium sp.</i>	bedstraw	
	Scrophulariaceae			
		<i>Buddleja sp.</i>	butterfly bush	N
		<i>Scrophularia californica</i>	California figwort, California bee plant	Y
MONOCOTS				
	Cyperaceae			
		<i>Carex obnupta</i>	slough sedge	Y
	Iridaceae			
		<i>Iris douglasiana</i>	Douglas' iris	Y
	Poaceae			
		<i>Aira caryophyllea</i>	silver European hairgrass, hairgrass	N
		<i>Anthoxanthum odoratum</i>	sweet vernal grass	N
		<i>Avena barbata</i>	slender wild oat	N
		<i>Briza maxima</i>	big quaking grass; rattlesnake grass	N
		<i>Bromus hordeaceus</i>	soft chess	N
		<i>Calamagrostis nutkaensis</i>	Pacific reedgrass	Y
		<i>Holcus lanatus</i>	common velvetgrass	N



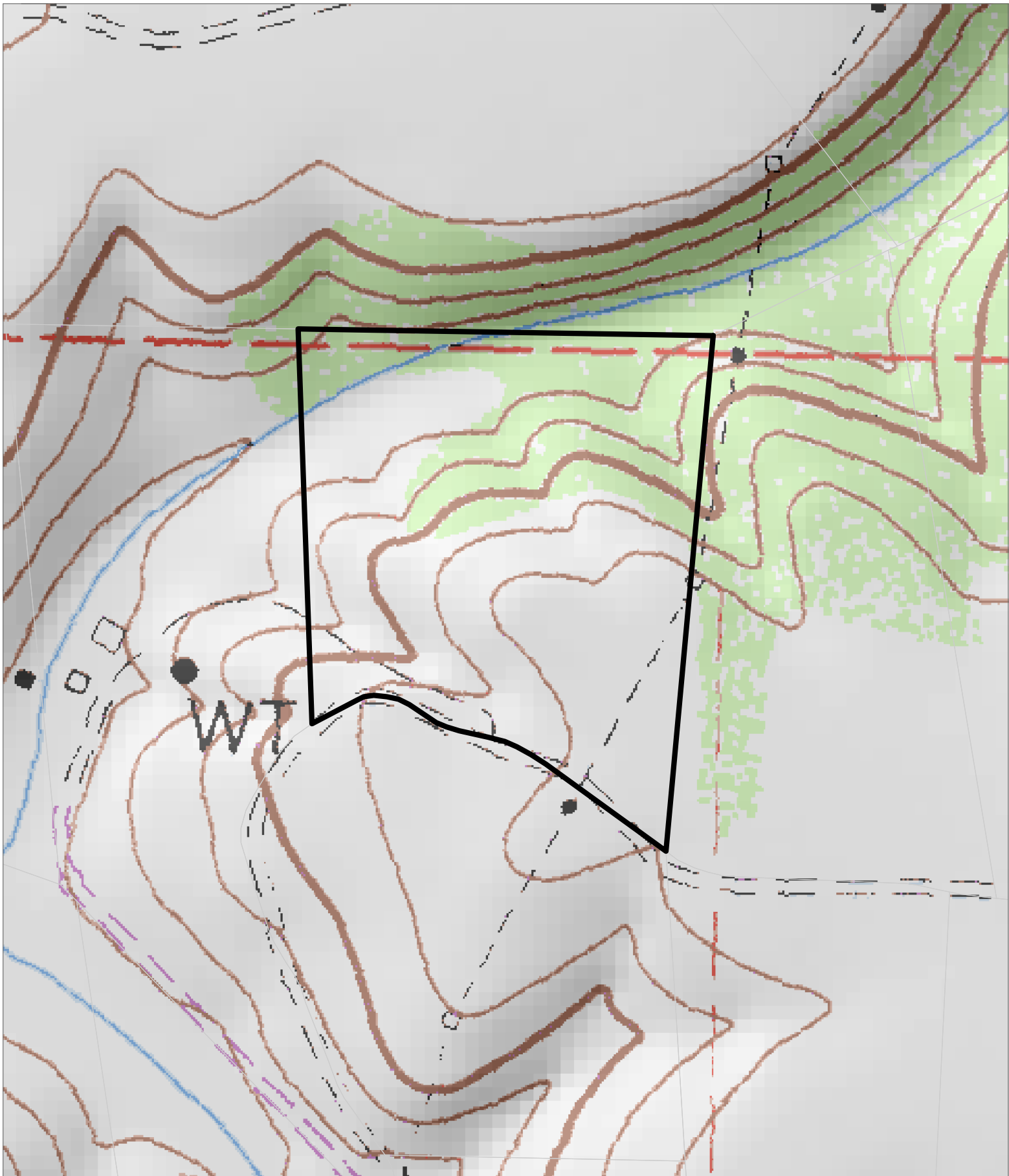
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-  Major Towns & Places
-  City Limits
-  Highways
-  Major Roads
-  Major Rivers

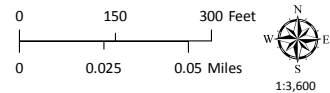


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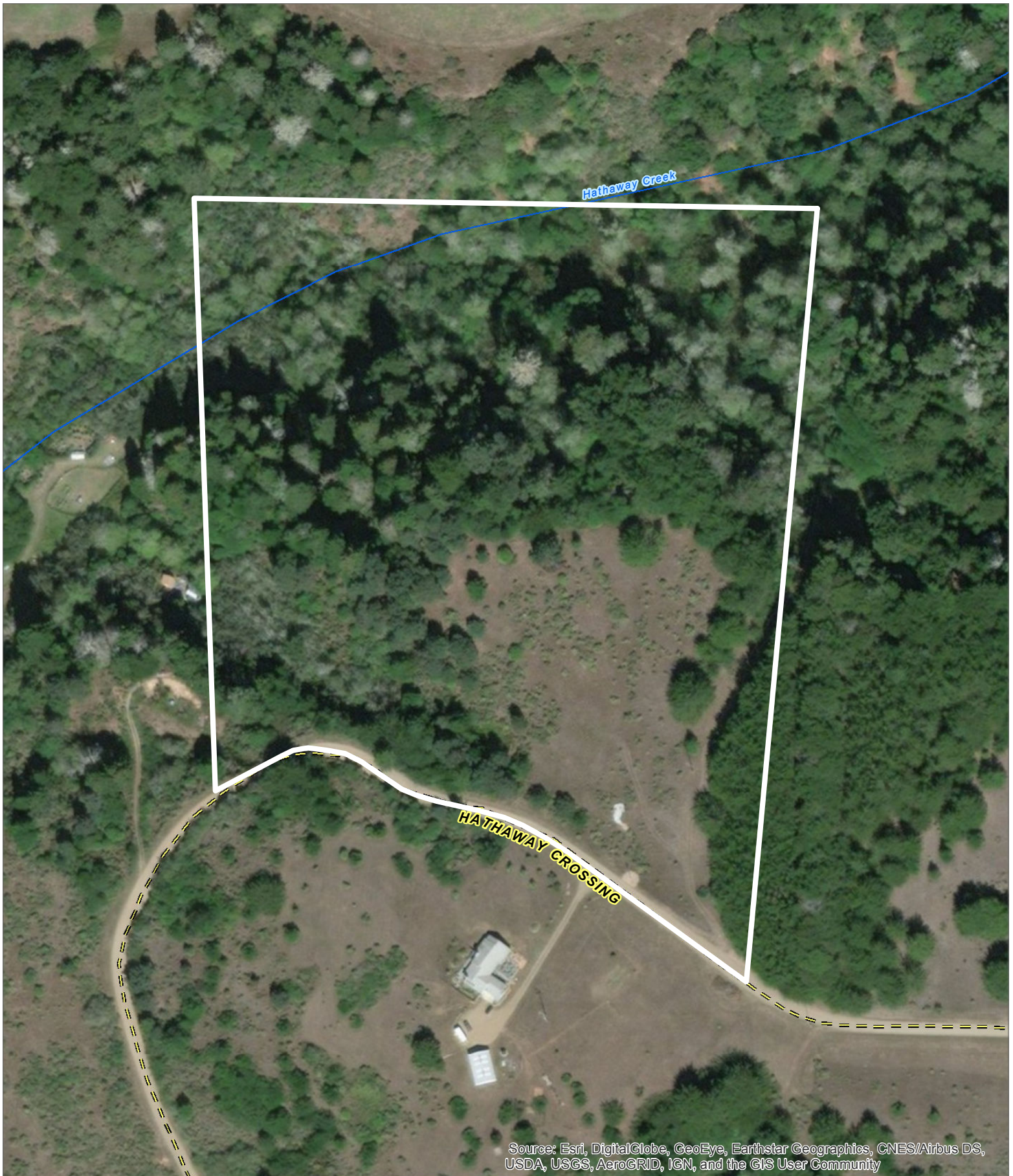


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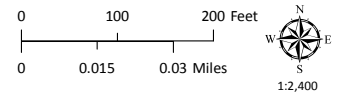
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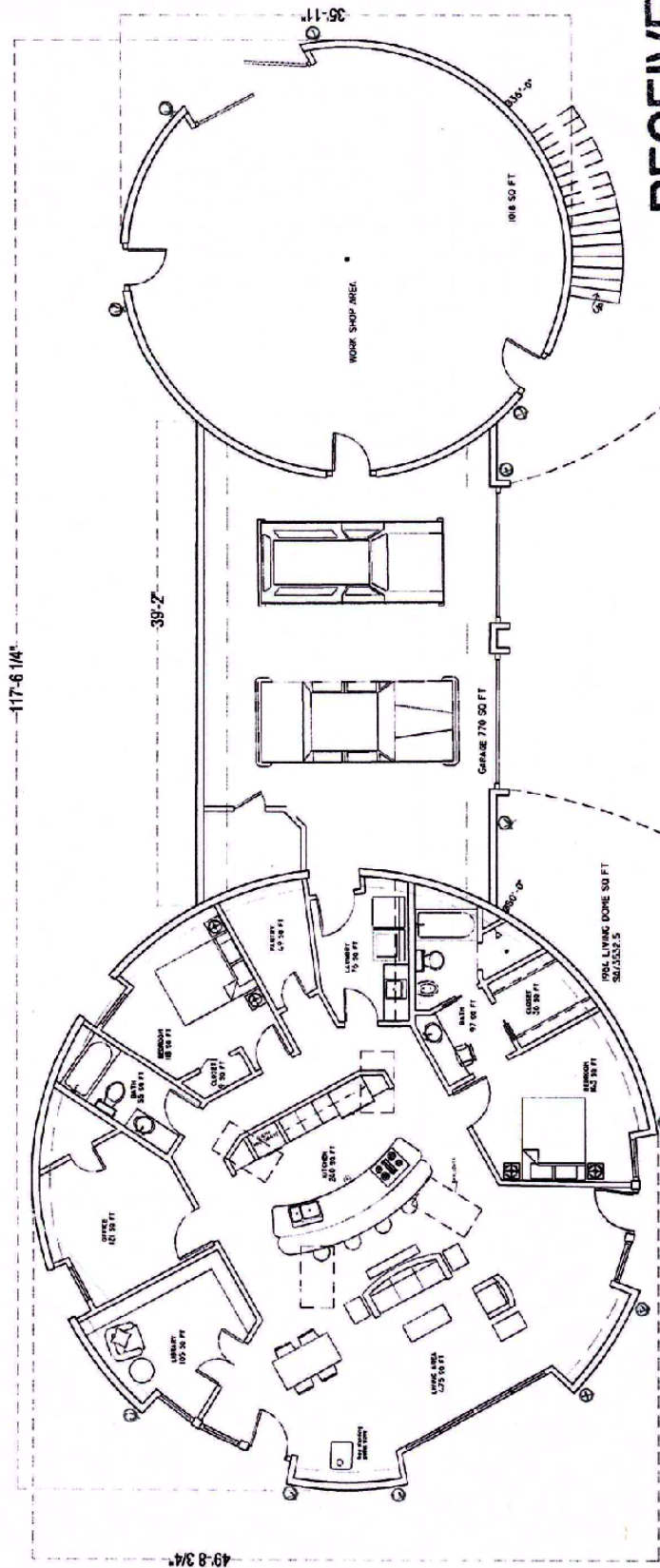
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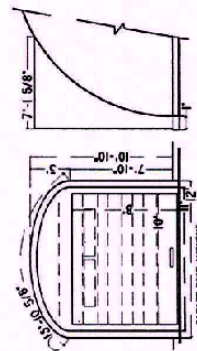
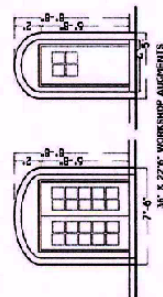
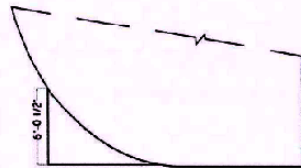
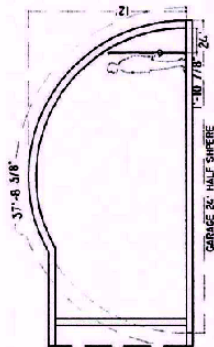
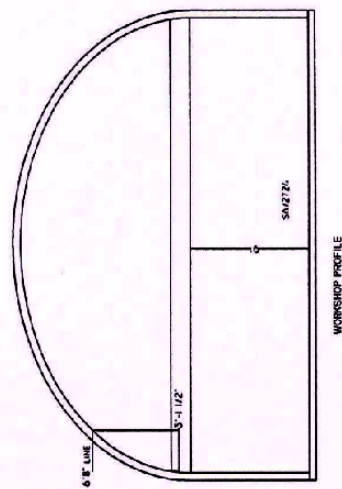
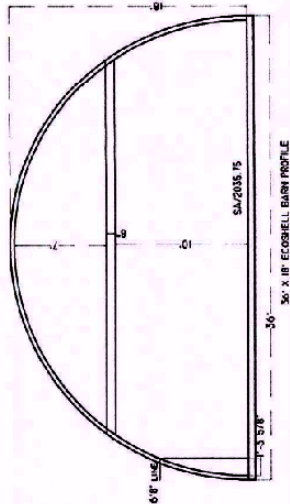
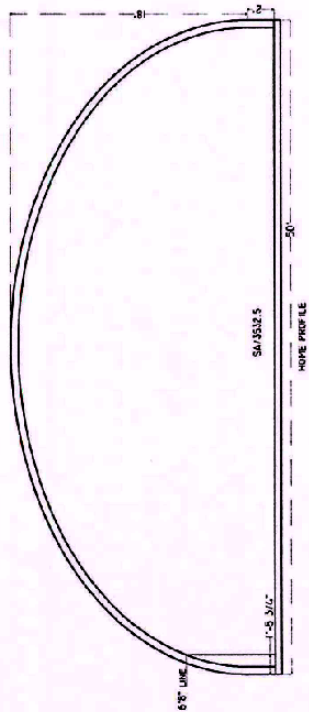
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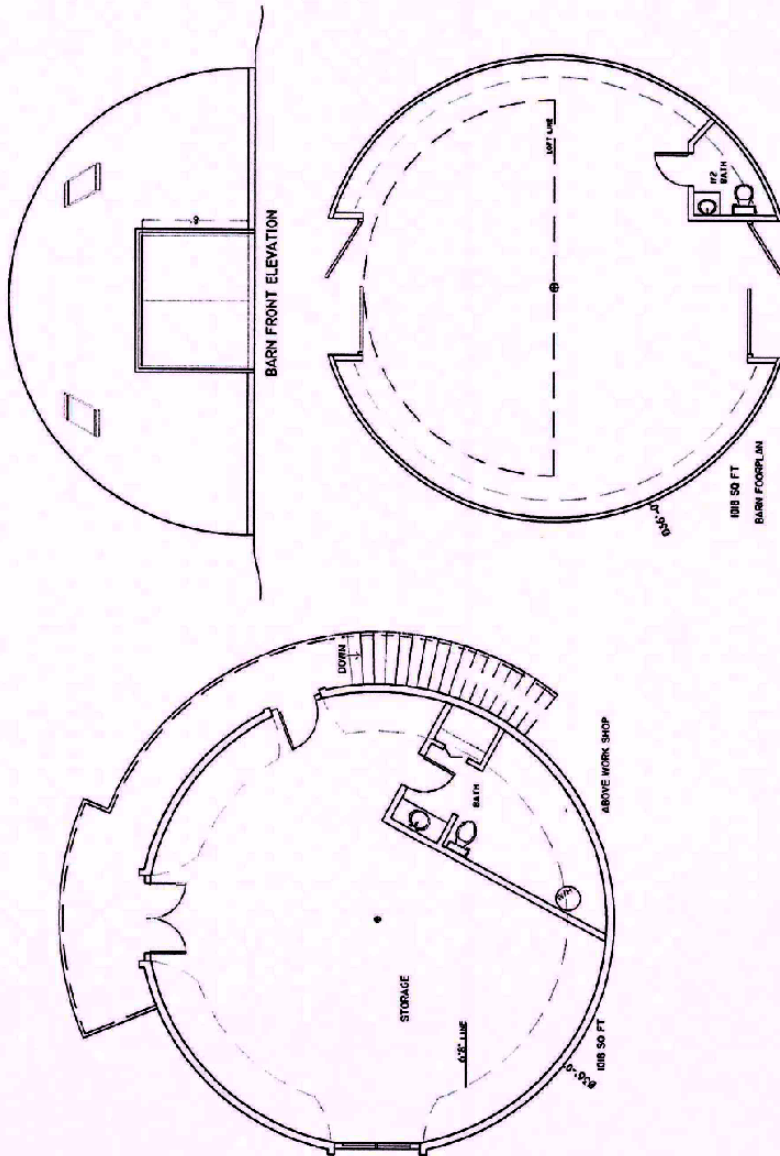
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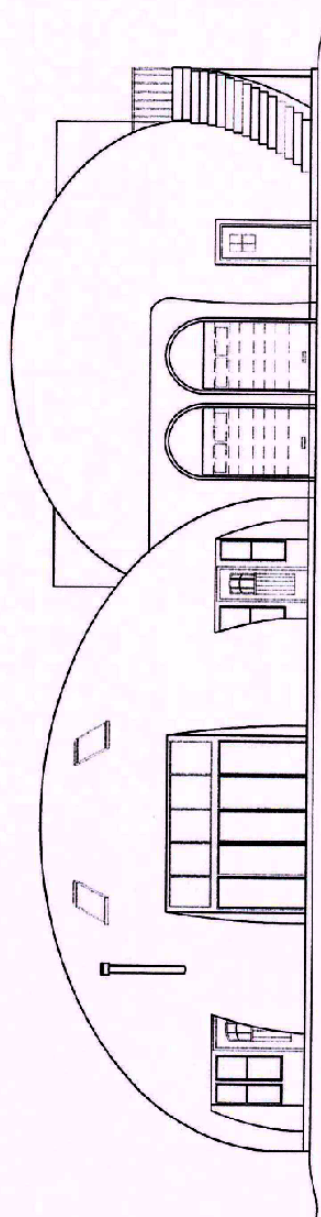
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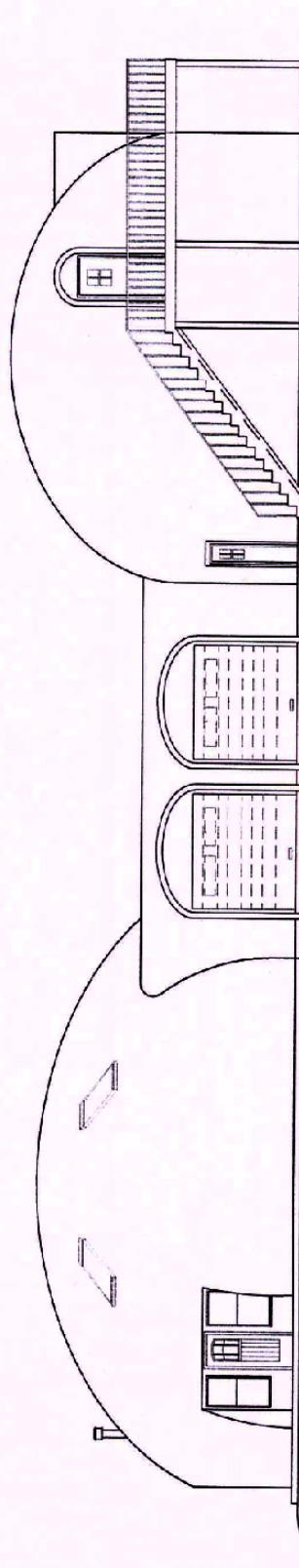
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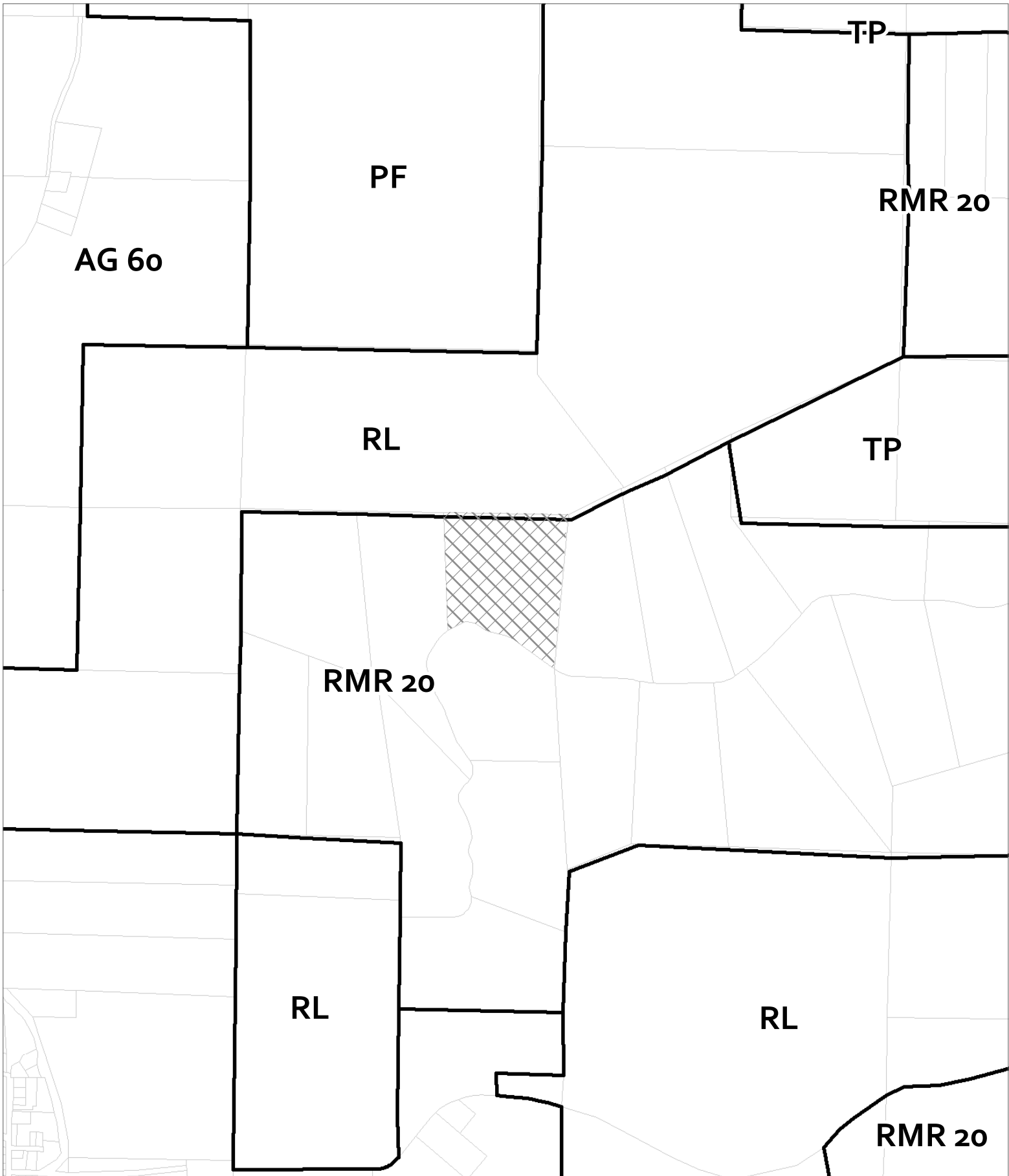
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NO SCALE

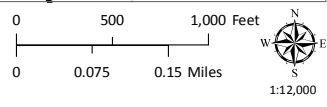
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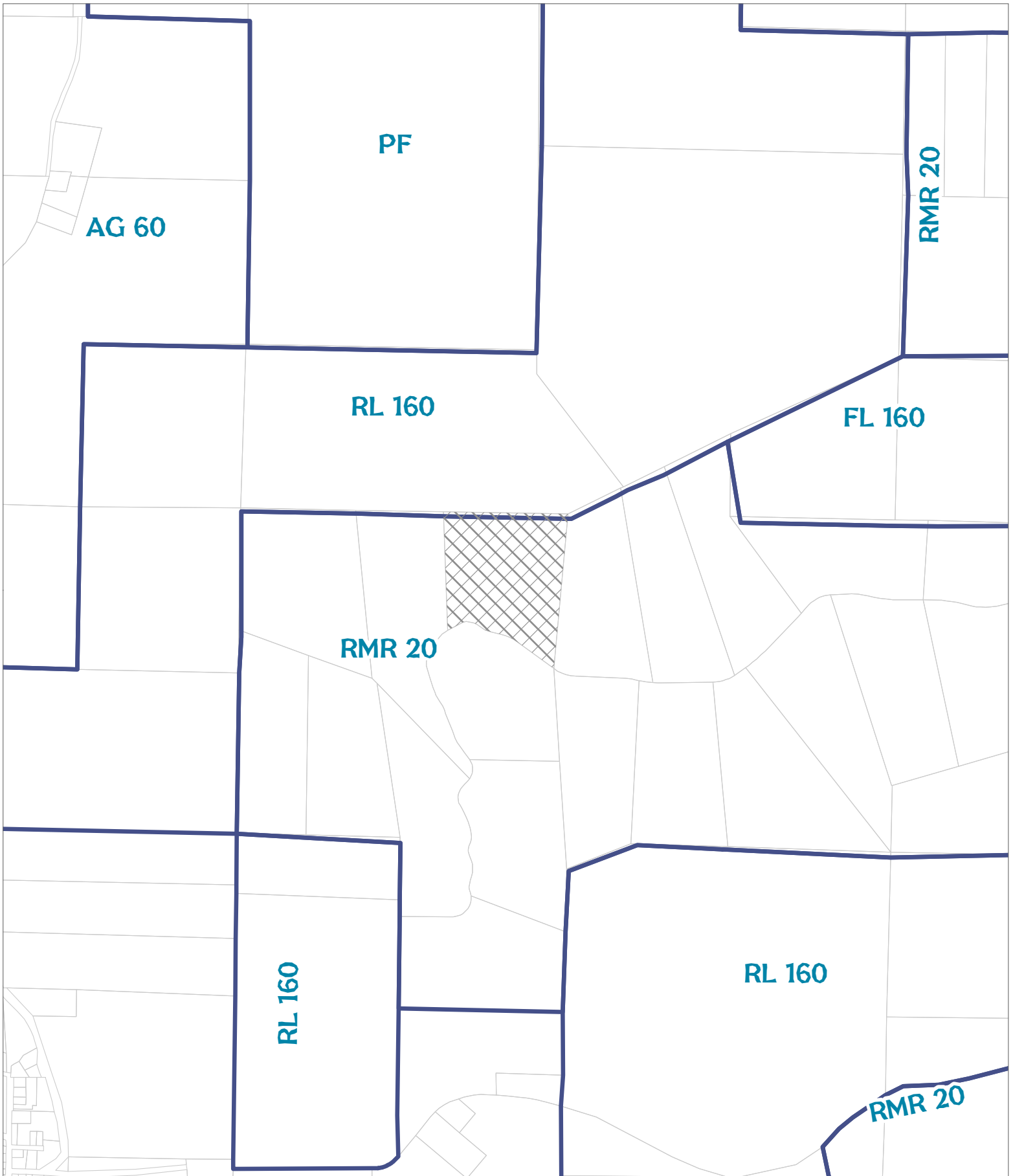
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ADDRESS: 43300 Hathaway Crossing, Point Arena

 Zoning Districts




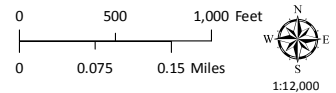
ZONING DISPLAY MAP

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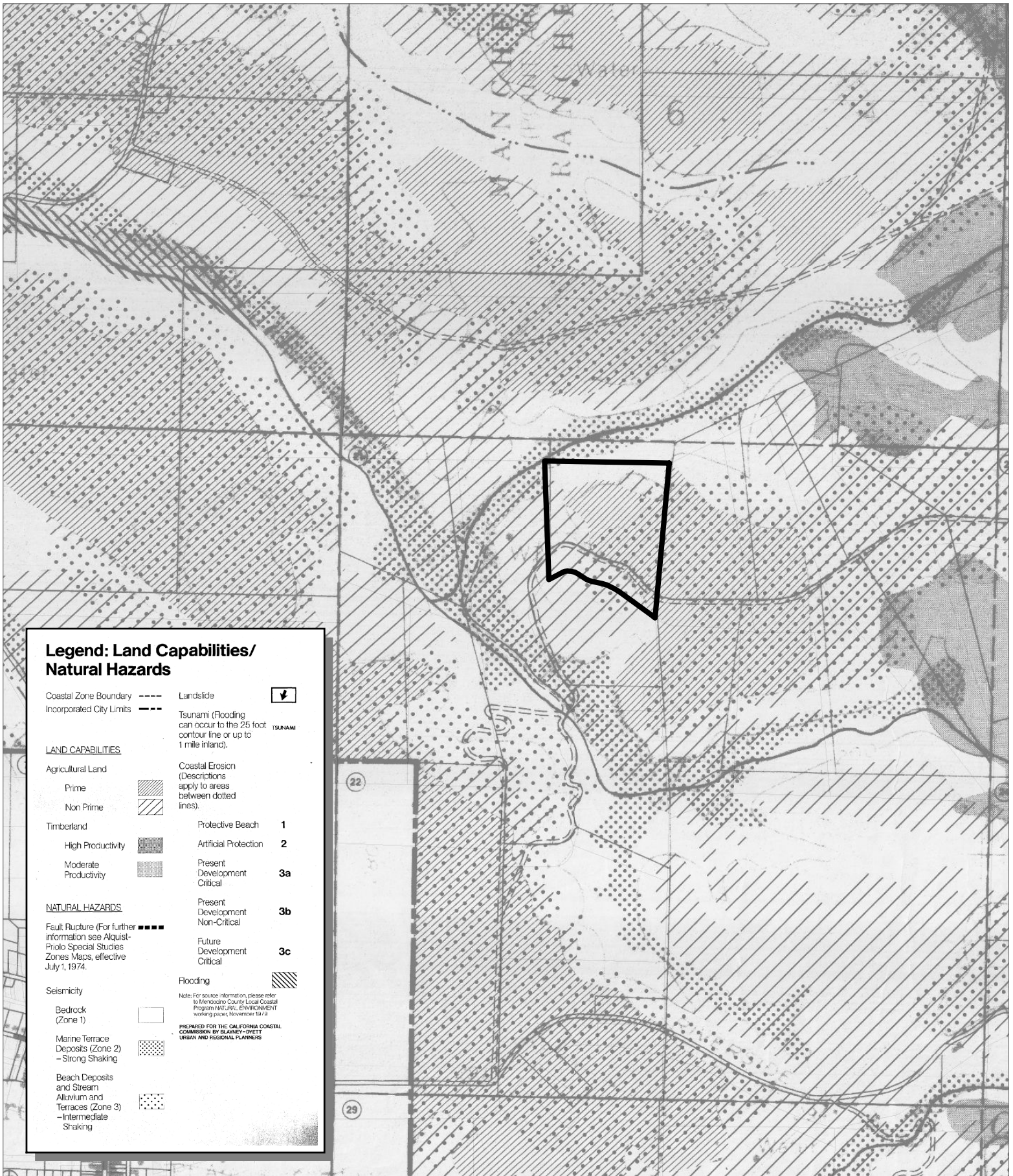
CASE: CDP 2018-0014
OWNER: HARRISON, Kevin
APN: 027-211-03
APLCT: Kevin Harrison & Elizabeth Herbert
AGENT:
ADDRESS: 43300 Hathaway Crossing, Point Arena

 General Plan Classes



GENERAL PLAN CLASSIFICATIONS

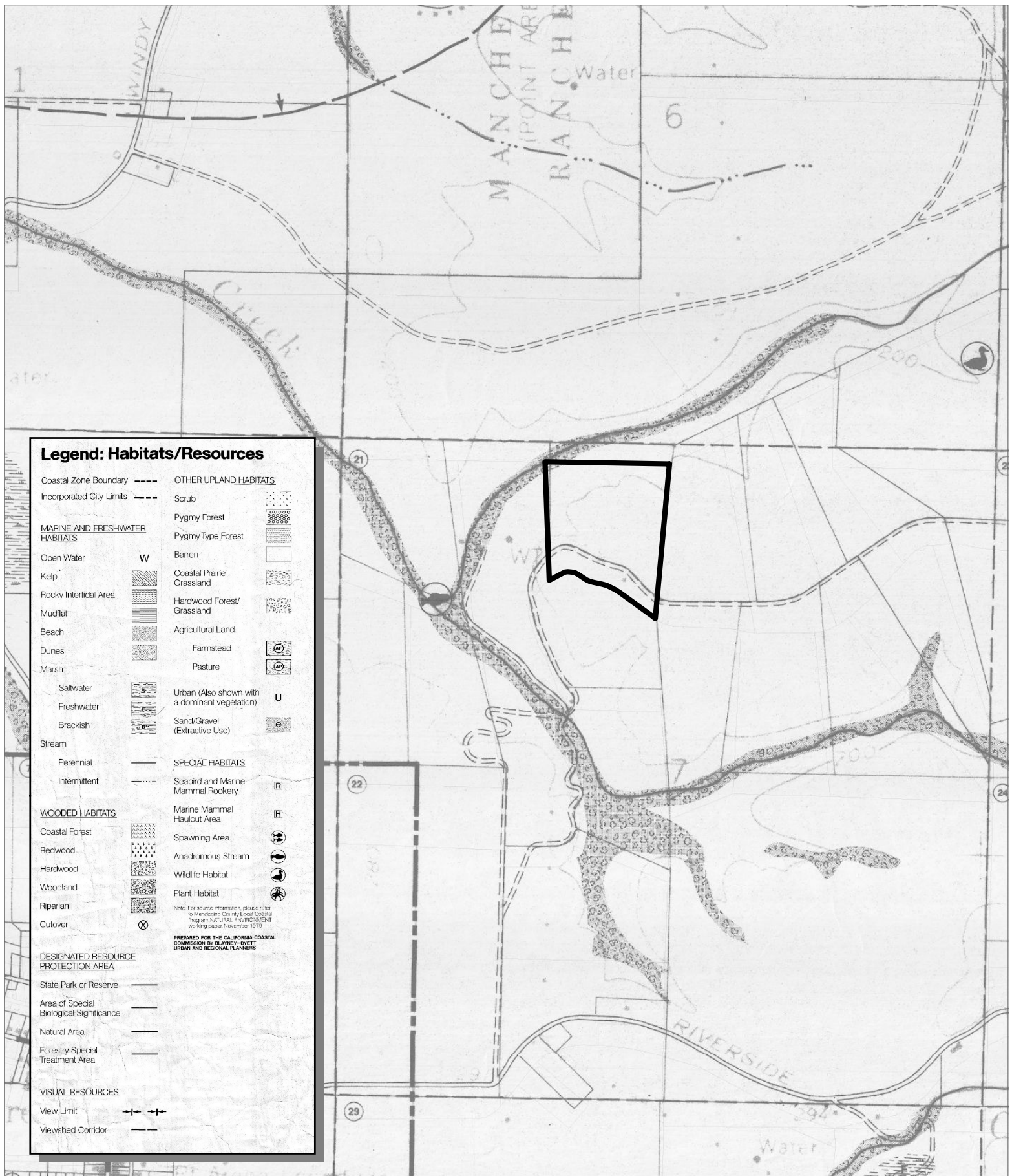
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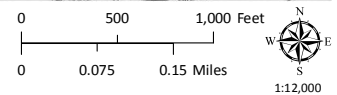
CASE: CDP 2018-0014
OWNER: HARRISON, Kevin
APN: 027-211-03
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LCP LAND CAPABILITIES & NATURAL HAZARDS

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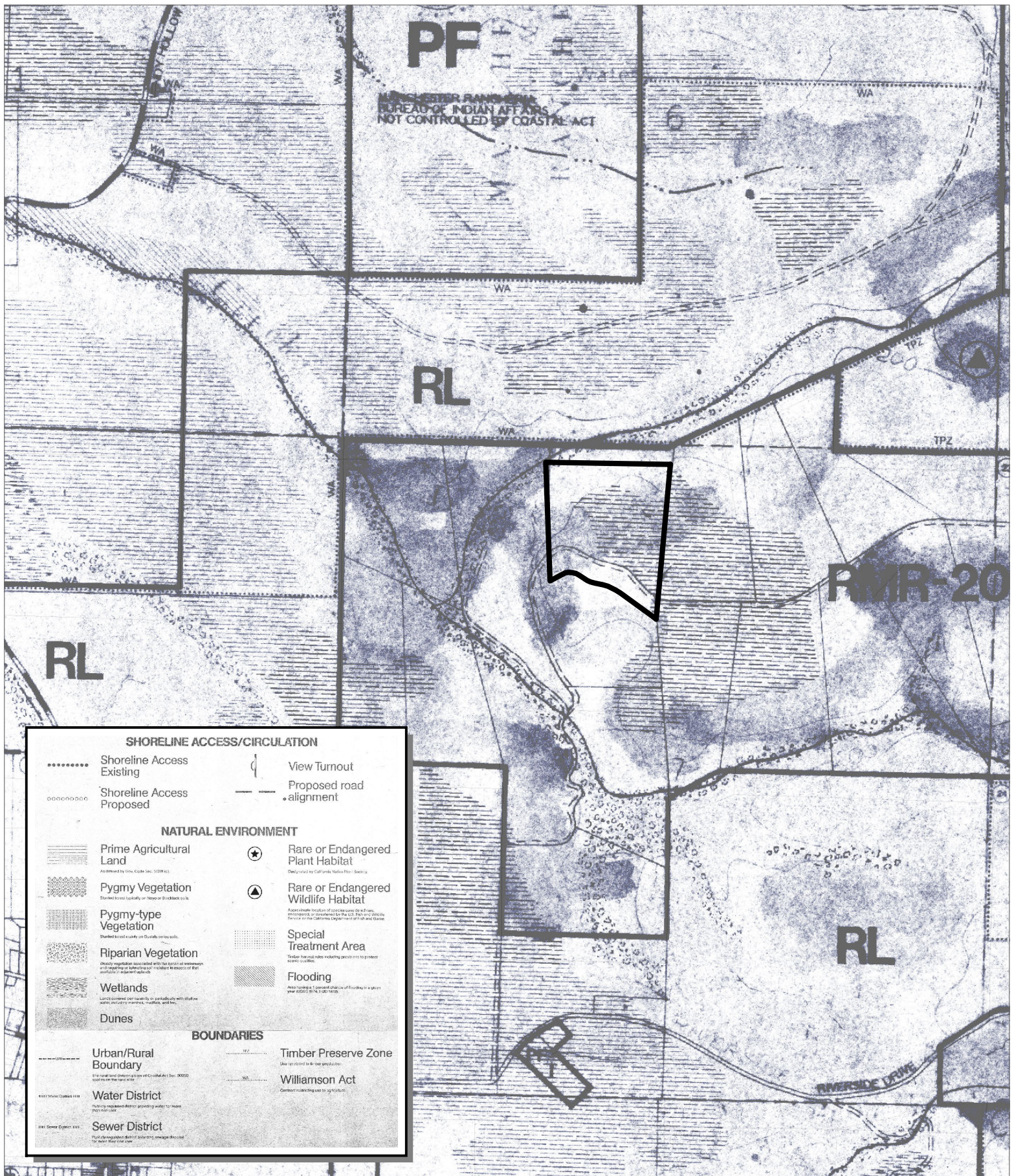


CASE: CDP 2018-0014
 OWNER: HARRISON, Kevin
 APN: 027-211-03
 APLCT: Kevin Harrison & Elizabeth Herbert
 AGENT:
 ADDRESS: 43300 Hathaway Crossing, Point Arena

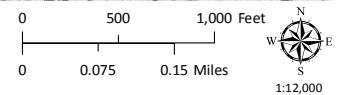


LCP HABITATS & RESOURCES

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CASE: CDP 2018-0014
 OWNER: HARRISON, Kevin
 APN: 027-211-03
 APLCT: Kevin Harrison & Elizabeth Herbert
 AGENT:
 ADDRESS: 43300 Hathaway Crossing, Point Arena

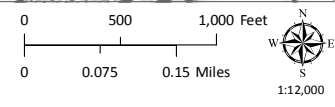


LCP LAND USE MAP 25: POINT ARENA

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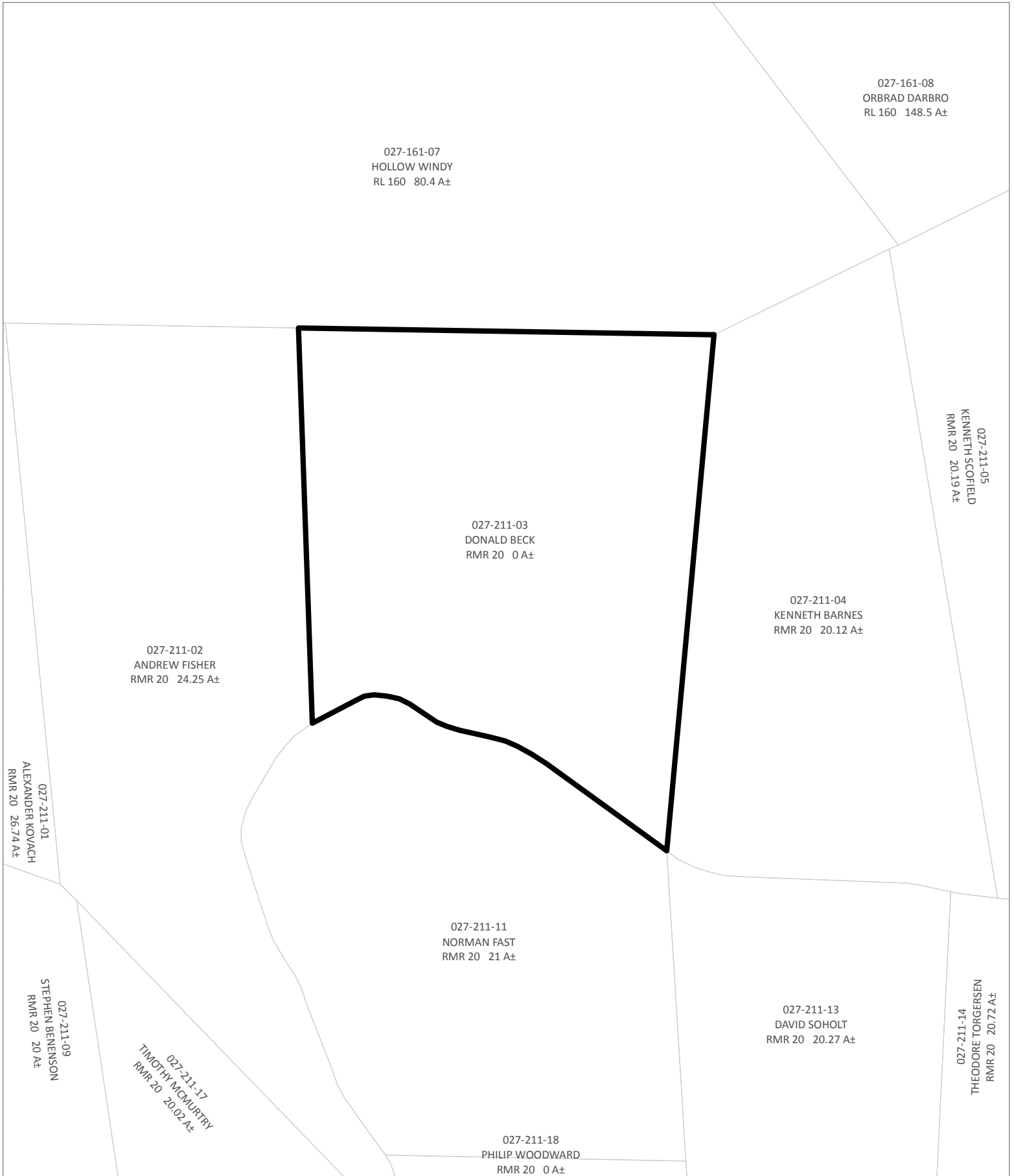


CASE: CDP 2018-0014
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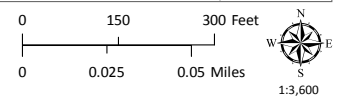


APPEALABLE AREAS

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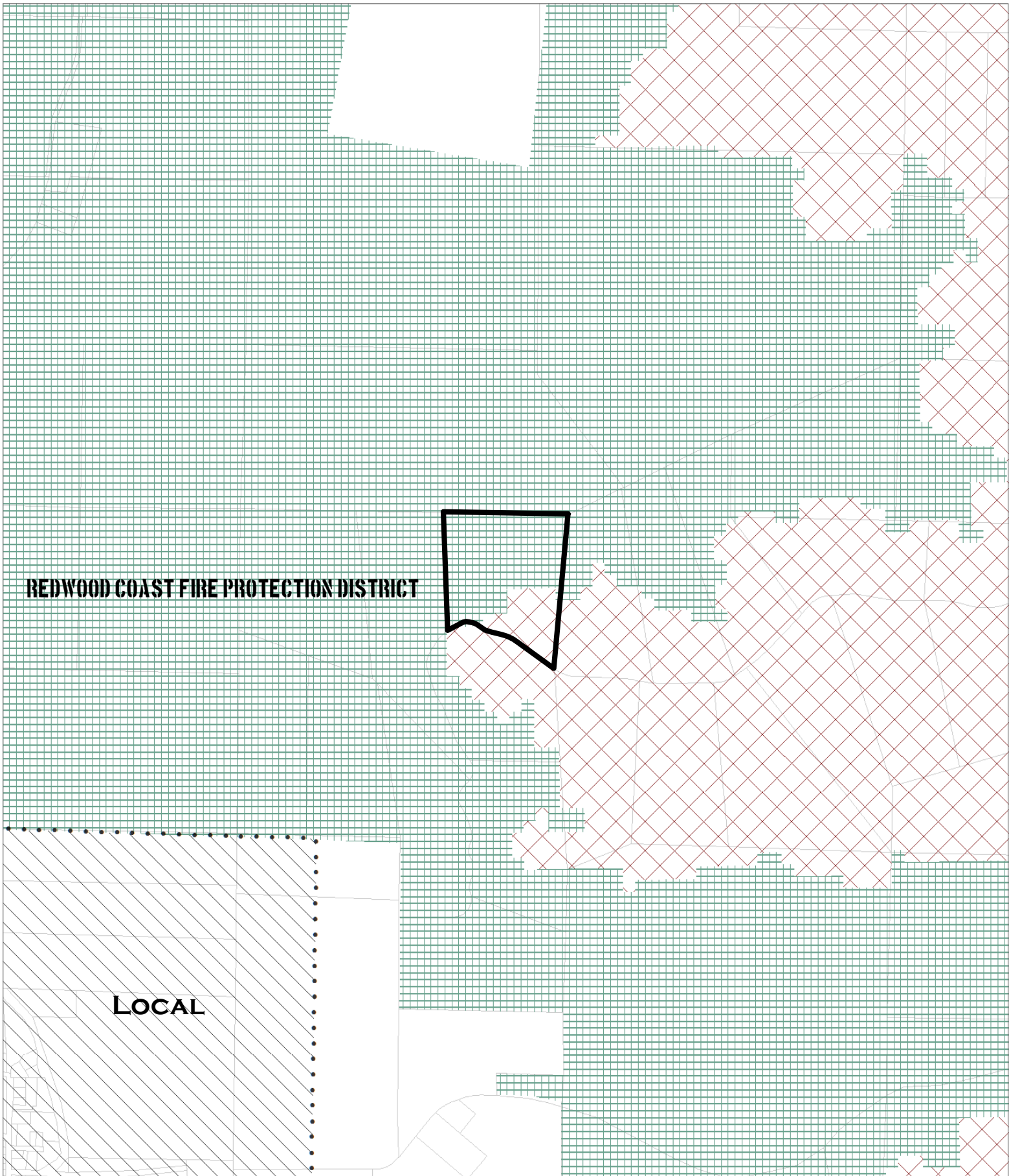


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ADJACENT PARCELS




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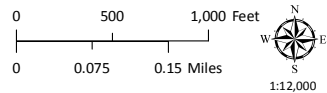
REDWOOD COAST FIRE PROTECTION DISTRICT

LOCAL

CASE: CDP 2018-0014
OWNER: HARRISON, Kevin
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APLCT: Kevin Harrison & Elizabeth Herbert
AGENT:
ADDRESS: 43300 Hathaway Crossing, Point Arena

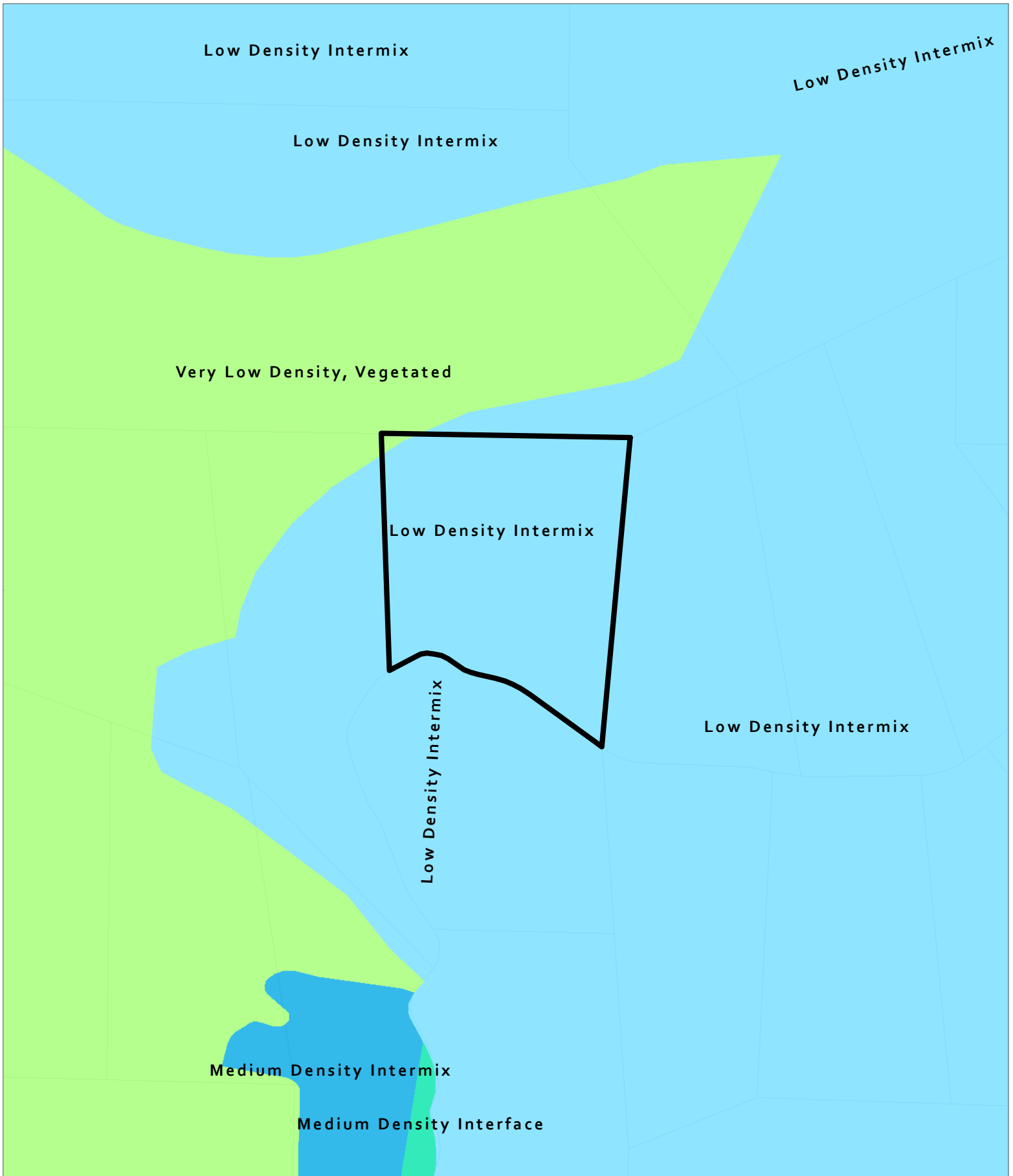
-  County Fire Districts
-  Local Responsibility Areas
-  High Fire Hazard

 Moderate Fire Hazard



FIRE HAZARD ZONES & RESPONSIBILITY AREAS
STATE RESPONSIBILITY AREA

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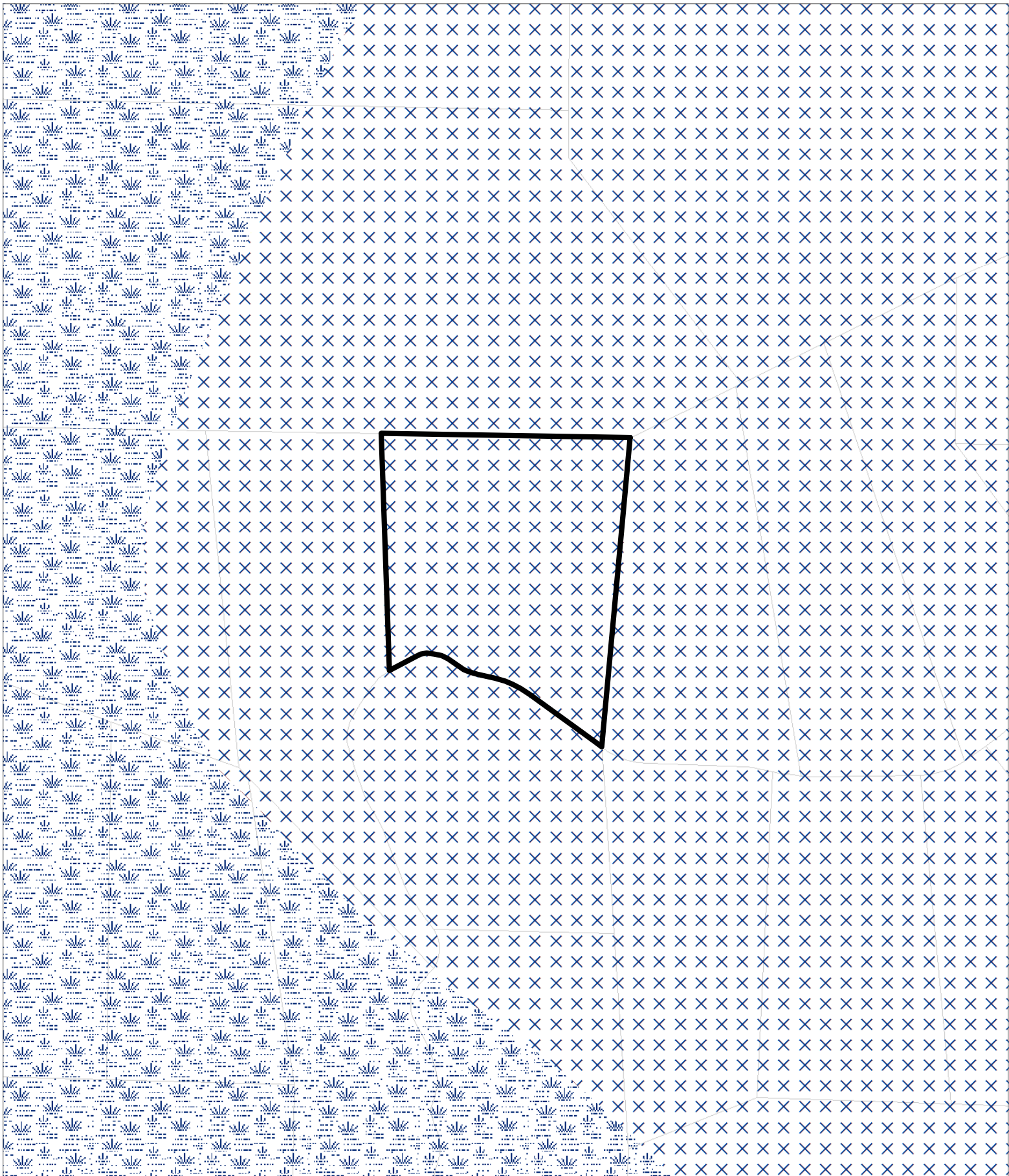


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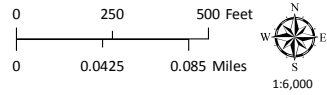
WILDLAND-URBAN INTERFACE ZONES

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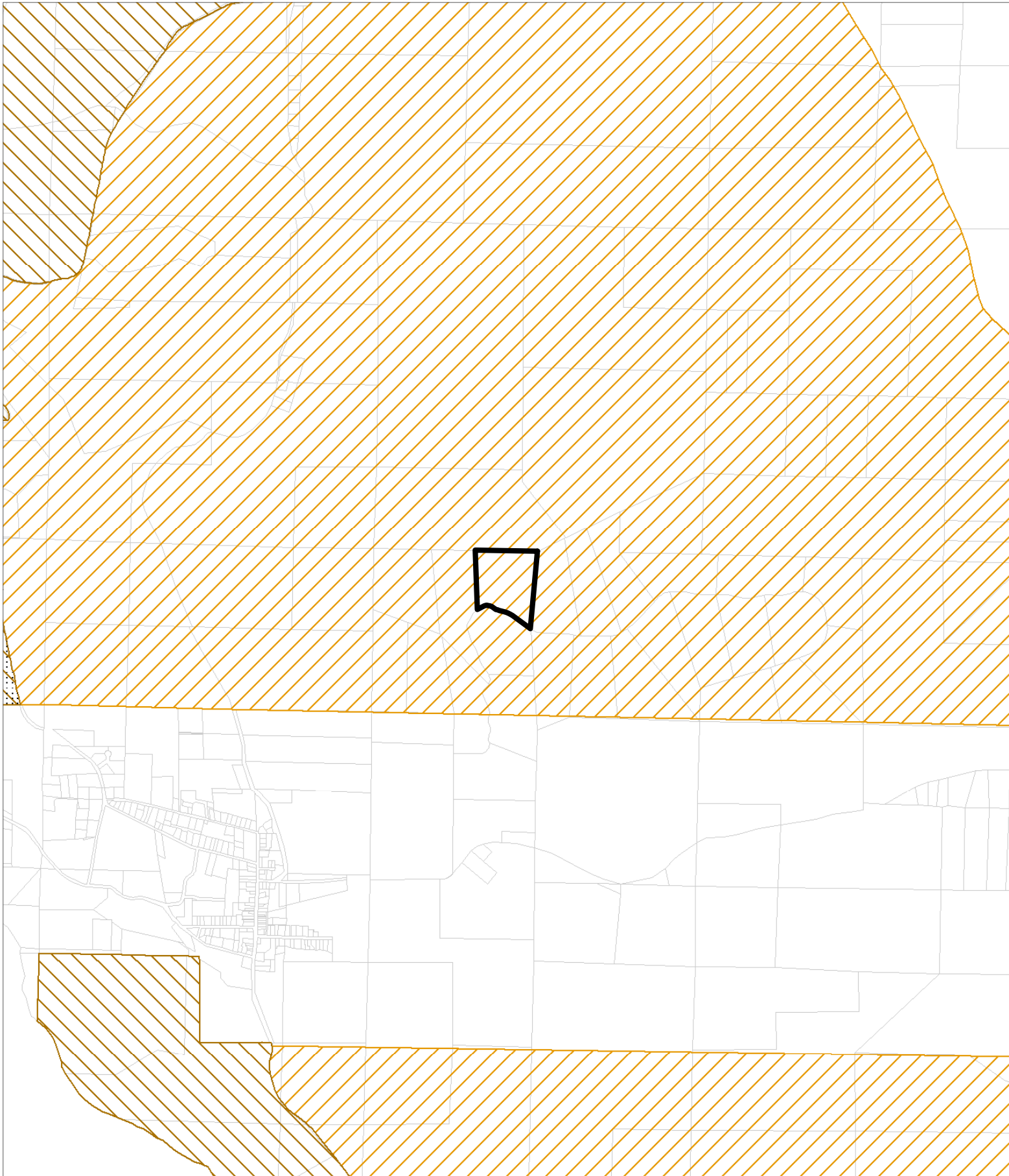
CASE: **CDP 2018-0014**
OWNER: **HARRISON, Kevin**
APN: **027-211-03**
APLCT: **Kevin Harrison & Elizabeth Herbert**
AGENT:
ADDRESS: **43300 Hathaway Crossing, Point Arena**

-  Critical Water Areas
-  Marginal Water Resources






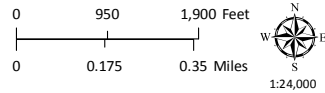
GROUND WATER RESOURCES

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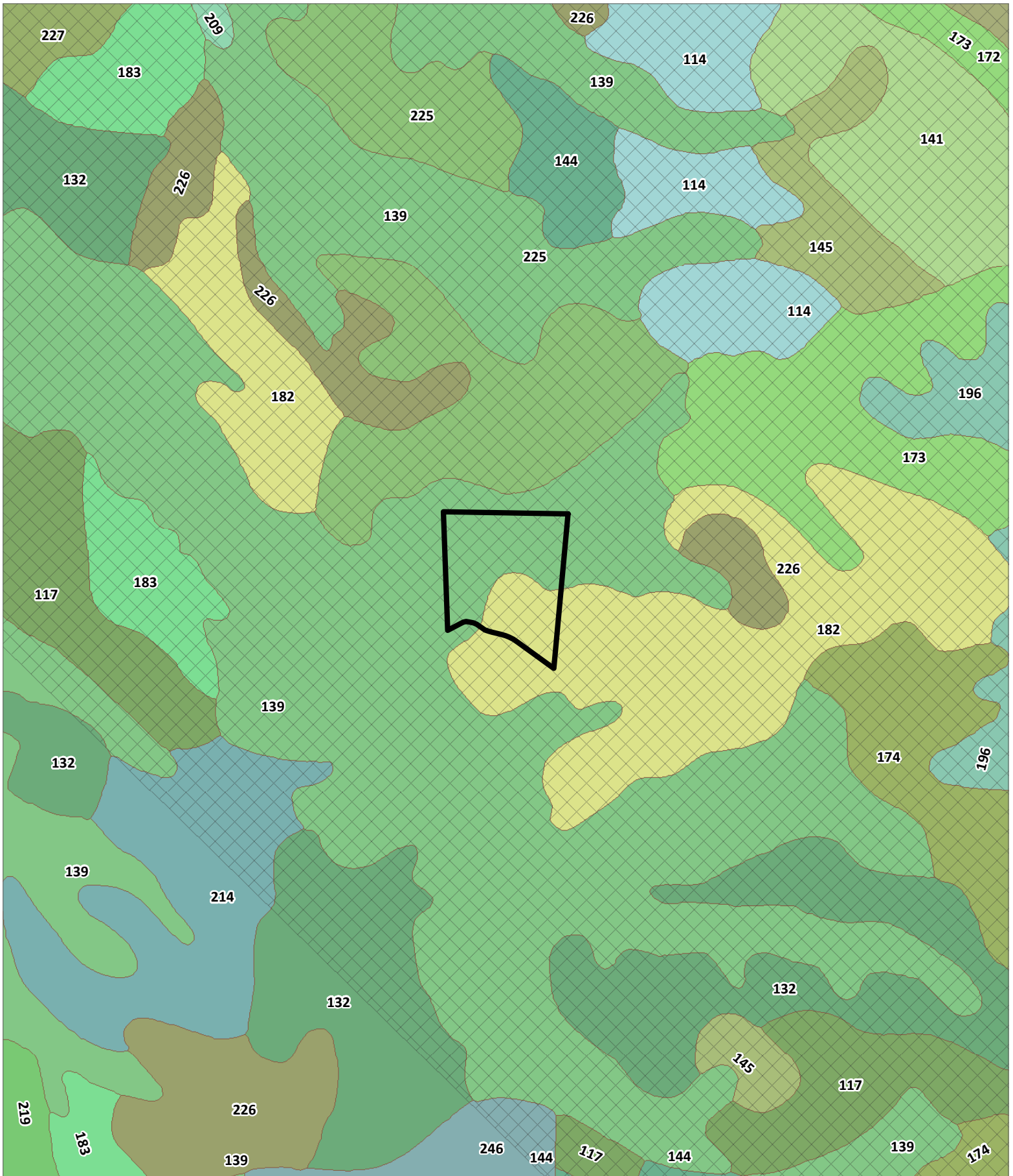
CASE: CDP 2018-0014
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-  Tree Removal Area
-  Highly Scenic Area
-  Highly Scenic Area (Conditional)





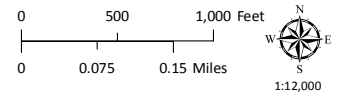
HIGHLY SCENIC & TREE REMOVAL AREAS

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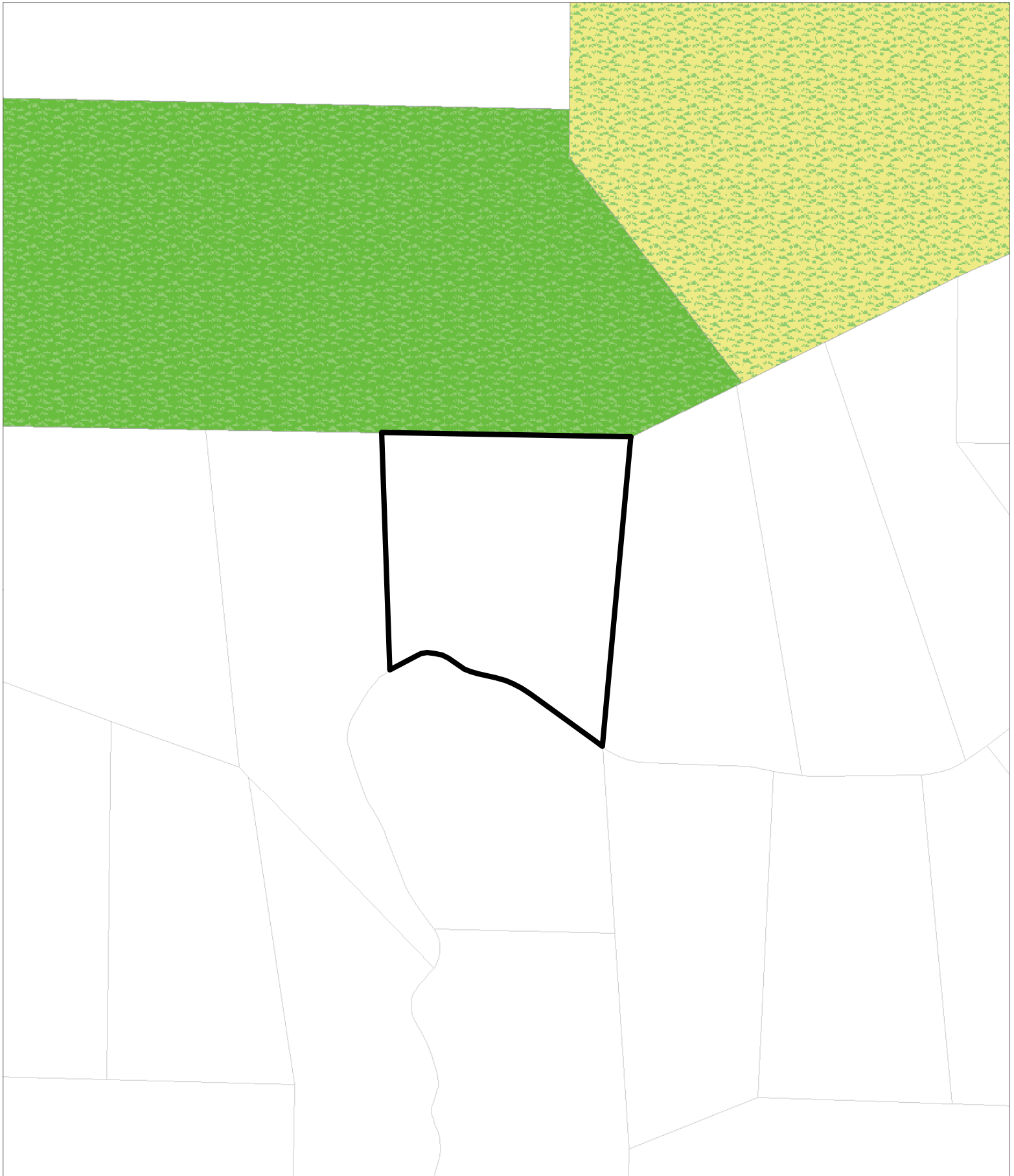
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 Bishop Pine
 Western Study Soil Types



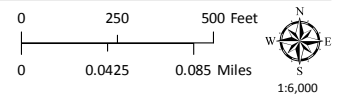
LOCAL SOILS

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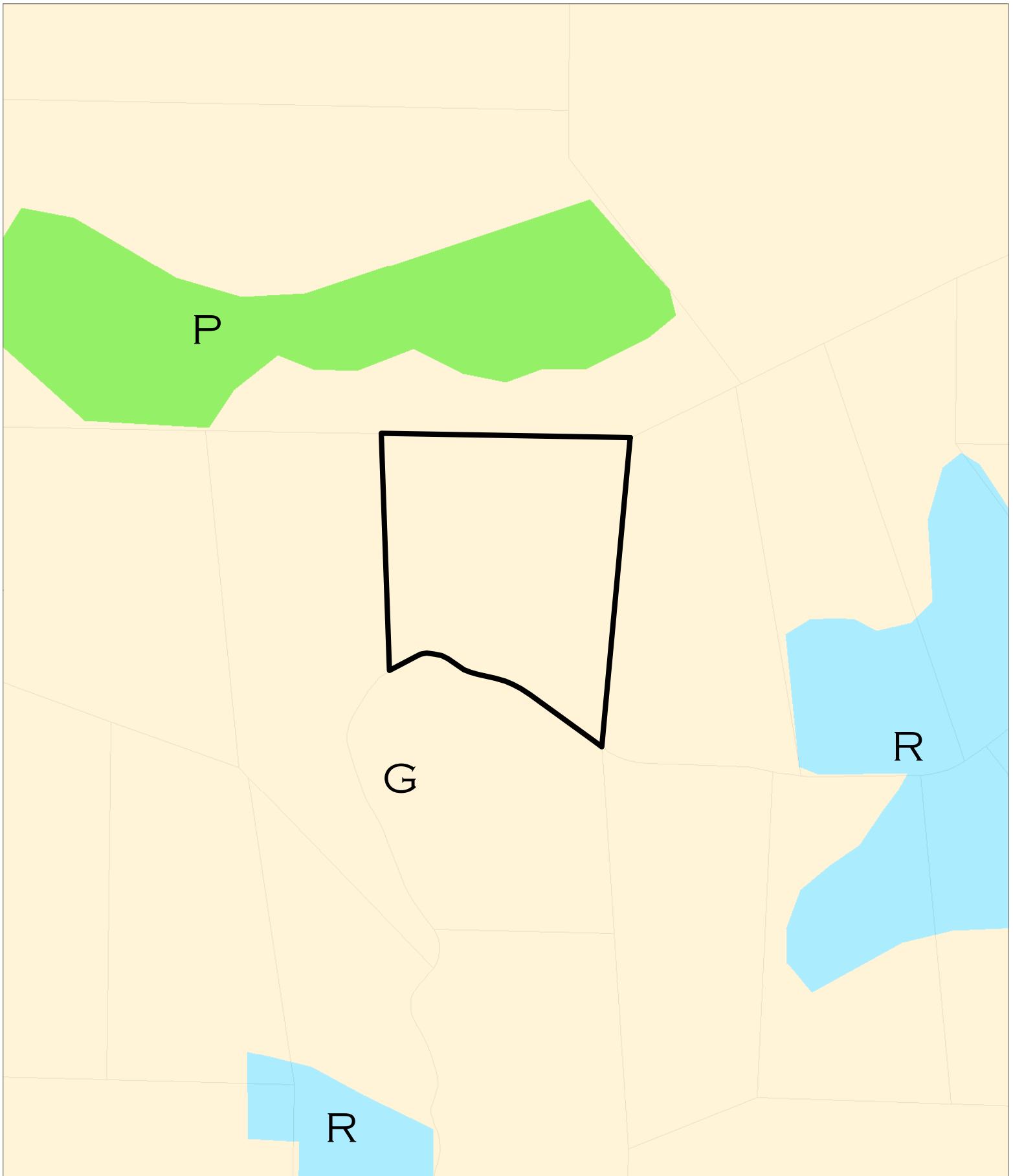
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AGENT:
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 Williamson Act 2017
 Prime Ag 2017
 Non-Prime Ag 2017






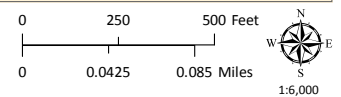
LANDS IN WILLIAMSON ACT CONTRACTS

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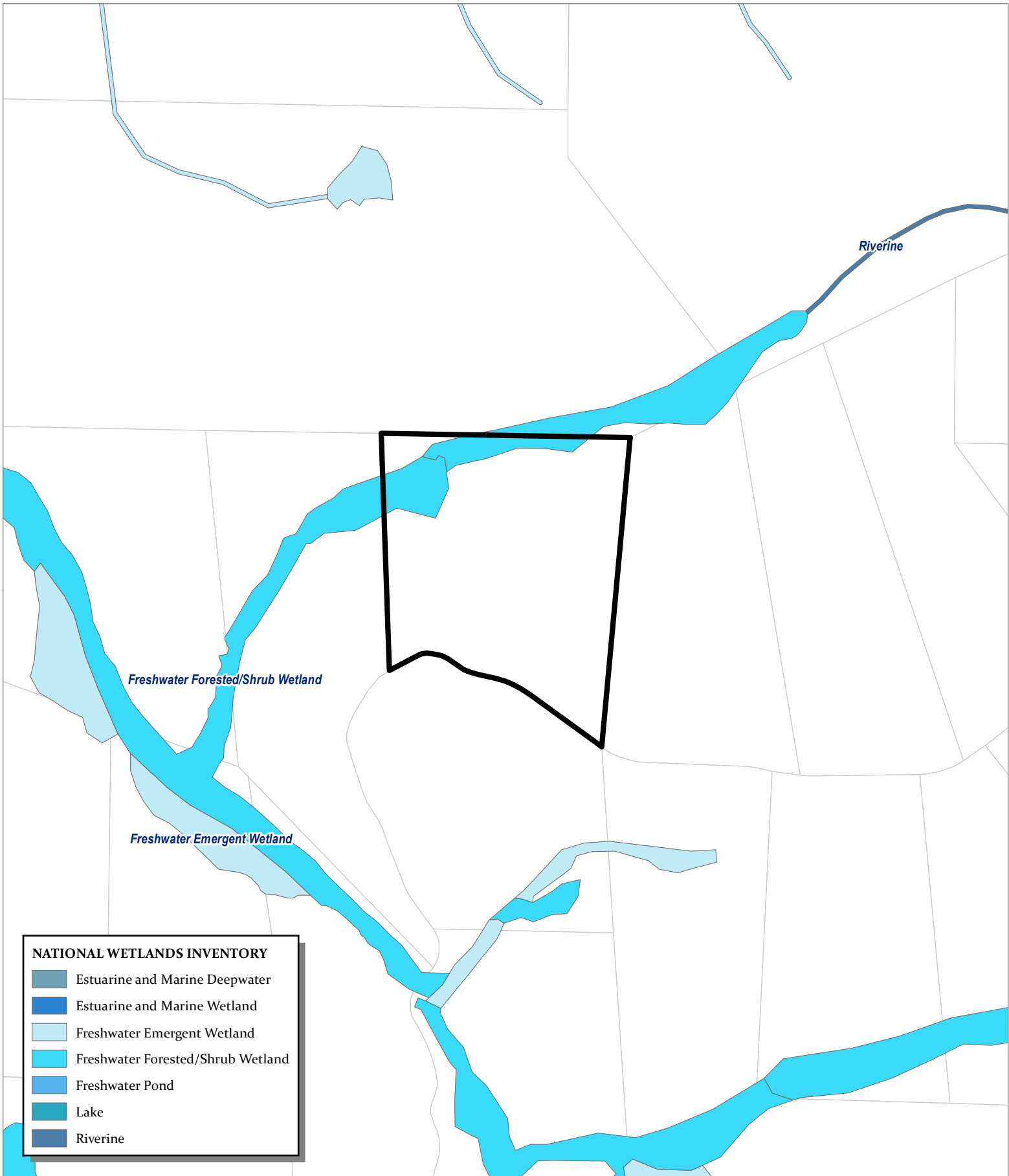
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-  Grazing Land (G)
-  Prime Farmland (P)
-  Rural Residential & Rural Commercial (R)



IMPORTANT FARMLAND

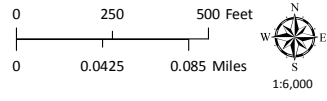
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NATIONAL WETLANDS INVENTORY

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

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WETLANDS

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