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August 8, 2024

Jackson Family Investment III, LLC
Attn: Katy Stambaugh
425 Aviation Drive
Santa Rosa, CA 95403

SUBJECT: CALIFORNIA TIGER SALAMANDER HABITAT EVALUATION – 3225 BLOOMFIELD ROAD, SEBASTOPOL, CA

Katy Stambaugh:

Wiemeyer Ecological Sciences has prepared this California Tiger Salamander Habitat Evaluation for the site located at 3225 Bloomfield Road in Sebastopol, CA (Figure 1). The habitat evaluation was performed by Darren Wiemeyer, a qualified biologist, on September 13, 2023 to evaluate four specific areas where areas of possible developments may occur in the future to determine if these four areas exhibit suitable upland aestivation habitat for California tiger salamanders. A second site visit was performed on May 8, 2024 to evaluate aquatic habitats at the site, which consist of two perennial ponds, a large perennial reservoir, a seasonal wetland, a perennial drainage and several seasonal tributary drainages (Figure 3). California tiger salamander (*Ambystoma californiense*) (CTS) is a federally and state listed endangered species. California tiger salamander occurs in pastureland and vernal pool habitat in the Santa Rosa Plain.

Site Designations

The site is located within the potential range of the California tiger salamander as mapped by the United States Fish and Wildlife Service (USFWS) (Figure 1, "CTS Recovery Area"). However, the site is located just outside of listed critical habitat for California tiger salamander (Federal Register, 2011) (Figure 1). According to the Programmatic Biological Opinion (PBO) – Re-initiation of Formal Consultation of Issuance of Clean Water Act, Section 404 Permits by the U.S. Army Corps of Engineers (Corps) on the Santa Rosa Plain, Sonoma County, California dated June 11, 2020 (USFWS, 2020), the site is located outside of the Programmatic Biological Opinion Action Area.

California Tiger Salamander Biology

The California tiger salamander (*Ambystoma californiense*) is an amphibian in the family Ambystomatidae. It is a large, stocky, terrestrial salamander with a broad, rounded snout. Adult males are about 20 centimeters (8 inches) long, females a little less than 18 centimeters (7 inches). Coloration consists of white or pale yellow spots or bars on a black background on the back and sides. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. The salamander's small eyes protrude from their heads. They have black irises. Males can be distinguished from females, especially during the breeding season, by their swollen *cloacae*, a common chamber into which the intestinal, urinary, and reproductive canals discharge. They also have more developed tail fins and, as mentioned above, larger overall size.

The species is restricted to grasslands and low (typically below 2000 feet/610 meters) foothill regions where lowland aquatic sites are available for breeding. They prefer natural ephemeral pools or ponds that mimic them (stock ponds that are allowed to go dry). Larvae require significantly more time to transform into juvenile adults than other amphibians such as the western spadefoot toad (*Scaphiopus hammondii*) and Pacific chorus frog (*Pseudacris regilla*). Compared to the western toad (*Bufo boreas*) or western spadefoot toad, California tiger salamanders are poor burrowers. They require refuges provided by ground squirrels and other burrowing mammals in which to enter a dormant state called *estivation* during the dry months.

This species is restricted to California and does not overlap with any other species of tiger salamander. California tiger salamanders are restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities, predominantly from sea level to 2,000 feet, in central California. In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County (up to elevations of 3,500 feet/1067 meters), and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (up to 2,000 feet/610 meters). The Sonoma population appears to have been geographically isolated from the remainder of the California tiger salamander population by distance, mountains and major waterway barriers for more than 700,000 years.

The primary cause of the decline of California tiger salamander populations is the loss and fragmentation of habitat from human activities and the encroachment of nonnative predators. All of the estimated seven genetic populations of this species have been significantly reduced because of urban and agricultural development, land conversion, and other human-caused factors.

A typical salamander breeding population in a pond can drop to less than twenty breeding adults and/or recruiting juveniles in some years, making these local populations prone to extinction. California tiger salamanders therefore require large contiguous areas of vernal pools (vernal pool complexes or comparable aquatic breeding habitat) containing multiple breeding ponds to ensure re-colonization of individual ponds. Louisiana swamp crayfish, mosquito fish, green sunfish and other introduced fish's prey on adult or larval salamanders.

Study Area

The project site is located at 3225 Bloomfield Road in Sebastopol, CA (Figure 1). The Assessor's Parcel Number is 025-100-043. The entire site totals 178.17-acres in size. Habitat types within the study area consists of annual grassland, mixed woodland, vineyard, two perennial ponds, a perennial reservoir, a seasonal wetland, riparian woodland, a perennial drainage and several seasonal tributary drainages (Figure 3). The seasonal wetland and the northern perennial pond are just outside of the project site.

Four upland grassland areas, which are identified on the Tentative Map (attached) as "Areas of Possible Development" and shown on Figure 2 as areas A-D, are the four proposed areas of possible development. Representative photos of these areas are included as Photo Plate A and Photo Plate B. Representative photos of the two perennial ponds and the perennial reservoir are included as Photo Plate C. The entire site was not surveyed. Only the four "Areas of Possible Development", the two perennial ponds, the perennial reservoir and portions of the perennial and seasonal drainages were surveyed and evaluated for this habitat evaluation.

Habitat Types

Upland habitat types at the site include annual grassland, mixed woodland, riparian woodland, and vineyard (Figure 3). Aquatic habitat types at the site include seasonal wetland, two perennial ponds, a perennial reservoir and perennial and seasonal drainages (Figure 3). Dominant species within the annual grassland habitat in all four of the "Areas of Possible Development" consist of wild oats (*Avena fatua*), soft chess (*Bromus mollis*), Bermuda grass (*Cynodon dactylon*), vernal grass (*Anthoxanthum odoratum*), perennial ryegrass (*Festuca perennis*), small quacking grass (*Briza minor*), cut-leaf geranium (*Geranium dissectum*), English plantain (*Plantago lanceolata*) and bindweed (*Convolvulus arvensis*). All four of these areas of possible developments consisted of a moderate density of fossorial mammal burrows, which would provide potentially suitable upland aestivation for CTS.

The seasonal wetland at the north end of the site consists of annual and perennial grasses and rushes (*Juncus* spp.). This seasonal wetland was only viewed from the fence line and appears to be an area that becomes saturated and only slightly inundated in the winter from overflow of the perennial drainage.

The two perennial ponds are fed by well water and do not go dry during the summer. They are steep banked ponds. Emergent aquatic vegetation consists of areas of bulrush (*Scirpus* spp.). Additional species on the pond's edge include umbrella sedge (*Cyperus eragrostis*) and spikerush (*Eleocharis* spp.). The southern pond also has mannagrass (*Glyceria elata*). Several American bullfrogs were observed in both the north and south ponds.

The large perennial reservoir is a deep reservoir. Emergent aquatic vegetation consists of areas of bulrush, water plantain (*Alisma* spp.), pondweed (*Potamogeton nodosus*) and starwort (*Callitriche* spp.). Additional species on the pond's edge include umbrella sedge, spikerush and curly doc (*Rumex crispus*). Bullfrogs and large-mouth bass were observed in this reservoir.

Dominant species within the riparian woodland habitat consists primarily of arroyo willow (*Salix lasiolepis*), poison oak (*Toxidendron diversilobum*) and Himalaya berry (*Rubus armeniacus*). A perennial drainage with an associated riparian woodland corridor flows through the site. The drainage channel width is 6-8 feet wide with a bankfull channel width from 20-25 feet wide and a depth of 8-12 feet deep. The substrate is primarily cobbles and gravel and is heavily vegetated with minimal meandering. The several seasonal tributary drainages to the perennial drainage varied in length and size. The average drainage channel with is 3-4 feet wide with a bankfull channel width from 5-6 feet wide and a depth of 2-3 feet deep. The substrate is primarily gravel and soil.

Off-Site Aquatic Habitats

Figure 4 identifies several aquatic habitats within 1.3-miles from the subject site. These aquatic features were not directly observed but were only evaluated based on aerial imagery. Several aerial image dates were viewed to determine if aquatic habitats were ephemeral or perennial.

1 – three perennial stockponds associated with Duckworth Family Farm

2 – ephemeral pond in open pastureland

3 – perennial pond surrounded by oak woodland

4 – two small perennial stockponds in pasture land

5 – one large perennial stockpond in pasture land

6 – perennial pond surrounded by riparian/oak woodland

7 – ephemeral stockpond in pasture land

8 – small perennial stockpond in pasture land

9 – perennial stockpond in pasture land with some riparian woodland

10 & 11 – known CTS breeding pools at Roblar Quarry

12 – perennial stockpond in pasture land

13 – perennial stockpond in pasture land

14 – perennial stockpond in pasture land

15 – two perennial stock ponds; one is shaded by oak woodland habitat

All of the perennial stockponds identified most likely do not provide suitable breeding habitat for CTS as these stockponds routinely contain American bullfrogs. The larger stockpond/reservoirs can also contain fish species such as large-mouth bass. The two identified ephemeral stockponds (#2 & #7) have the potential to provide suitable breeding habitat for CTS. However, it is unknown what the ponding duration is on these two ephemeral pools to determine if they pond water for a sufficient duration to support CTS breeding. There does not appear to be significant barriers to movement for CTS from stockponds #2 and #7 to the site, other than approximately 200 feet of elevation gain.

California Tiger Salamander Occurrences

All four areas of possible development are located beyond 1.3-miles of the two nearest CTS breeding sites (Figure 2). The nearest CTS breeding site (CNDDB Occurrence #74) is located at the Roblar Road Quarry, which is located on the south side of Roblar Road to the south of the southern boundary of the site. The second CTS breeding site (CNDDB Occurrence #67) is located on the north side of Roblar Road to the southwest of the southern boundary of the site (Figure 2).

CTS breeding site (CNDDB Occurrence #74) is approximately 1.42-miles to Area C and 1.55-miles to Area D. CTS breeding site (CNDDB Occurrence #67) is approximately 1.99-miles to Area C and 2.31-miles to Area D (Figure 2).

California Tiger Salamander Habitat Evaluation

The seasonal wetland at the north end of the site does not appear to pond water to a sufficient depth to provide suitable breeding habitat for CTS. The seasonal drainages and the perennial drainage at the site would not be considered suitable breeding habitat for CTS as CTS prefer natural ephemeral pools or ponds that mimic them (stock ponds that are allowed to go dry). It is highly unlikely CTS would breed in any drainage courses at or near the site.

The two perennial ponds at the site are mostly unsuitable as breeding habitat for CTS as CTS prefer ephemeral pools without the occurrence of predators such as American bullfrog, which are known to eat

CTS eggs. The large perennial reservoir at the site is unsuitable as breeding habitat for CTS as CTS prefer ephemeral pools without the occurrence of predators such as American bullfrog and large-mouth bass, which are known to eat CTS eggs. It is highly unlikely CTS would breed in these perennial ponds and reservoir with the occurrence of predators.

Adult CTS have been observed up to 1.3-miles from breeding sites (S. Sweet, 1998). It is highly unlikely that CTS travel farther than 1.3-miles from breeding sites to upland aestivation sites, especially if there is suitable upland aestivation habitat closer to their breeding pools. While all four of the areas of possible development could support potentially suitable upland aestivation habitat for CTS as they contain a moderate density of fossorial mammal burrows, which CTS use as underground refugia during the majority of their lifespan, they are all located beyond 1.3-miles from the two closest known CTS breeding sites (Figure 2). Although there does not appear to be any significant barriers to movement for CTS, the hilly terrain between the site and the two known CTS breeding sites further limits the likelihood that CTS would travel from the two known CTS breeding sites to any of the four areas of possible development at the site as they would prefer relatively flat, open grassland habitat when dispersing from breeding pools to aestivation sites.

Based on this information, it is highly unlikely that CTS utilize these four areas of potential development as upland aestivation habitat as their breeding sites are located too far for them to travel to these four areas of possible development and there is sufficient suitable upland aestivation habitat closer to the two known CTS breeding sites and within the critical habitat area / recovery plan area and acceptable ranges.

Based on this evaluation, any future development within the four areas of possible development would result in the minor loss of potentially suitable upland aestivation habitat for CTS, but this loss would not be considered a significant loss of suitable CTS upland aestivation habitat and would not result in the "take" of CTS or jeopardize the continued existence of CTS, particularly since the development areas are outside of designated critical habitat and known migratory ranges for the species. Take, as defined under the Endangered Species Act, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

Conclusion

A California tiger salamander habitat evaluation was prepared for the site located at 3225 Bloomfield Road in Sebastopol, CA by Darren Wiemeyer on September 13, 2023 and May 8, 2024. The site is located within the potential range of the California tiger salamander as mapped by the United States Fish and Wildlife Service (USFWS). However, the site is located just outside of listed critical habitat for California tiger salamander (Federal Register, 2011).

The aquatic habitats at the site do not provide suitable breeding habitat for CTS. There are two potentially suitable ephemeral stockponds within 1.3-miles of the site, but no determination has been made whether or not these ephemeral stockponds are CTS breeding sites. All four possible development areas at the site provide potentially suitable upland aestivation for CTS. However, the two closest CTS breeding sites are located beyond 1.3-miles to all four possible development areas at the site (Figure 2). It is highly unlikely that CTS travel farther than 1.3-miles from breeding sites to upland aestivation sites, especially if there is suitable upland aestivation habitat closer to their breeding pools.

Based on this evaluation, any future development within the four areas of possible development would result in the minor loss of potentially suitable upland aestivation habitat for CTS, but this loss would not be considered a significant loss of suitable CTS upland aestivation habitat and would not result in the "take" of CTS or jeopardize the continued existence of CTS, particularly since the development areas are outside of designated critical habitat and known migratory ranges for the species.

Sincerely,

Darren Wiemeyer

Darren Wiemeyer
Wiemeyer Ecological Sciences
darren@wiemeyerecologicalsciences.com

Attachments:
- Figure 1 – Site Vicinity Map
- Figure 2 – California Tiger Salamander CNDDB Occurrences Map
- Figure 3 – Habitat Map
- Figure 4 – Aquatic Habitats
- Tentative Map
- Photo Plate A
- Photo Plate B
- Photo Plate C

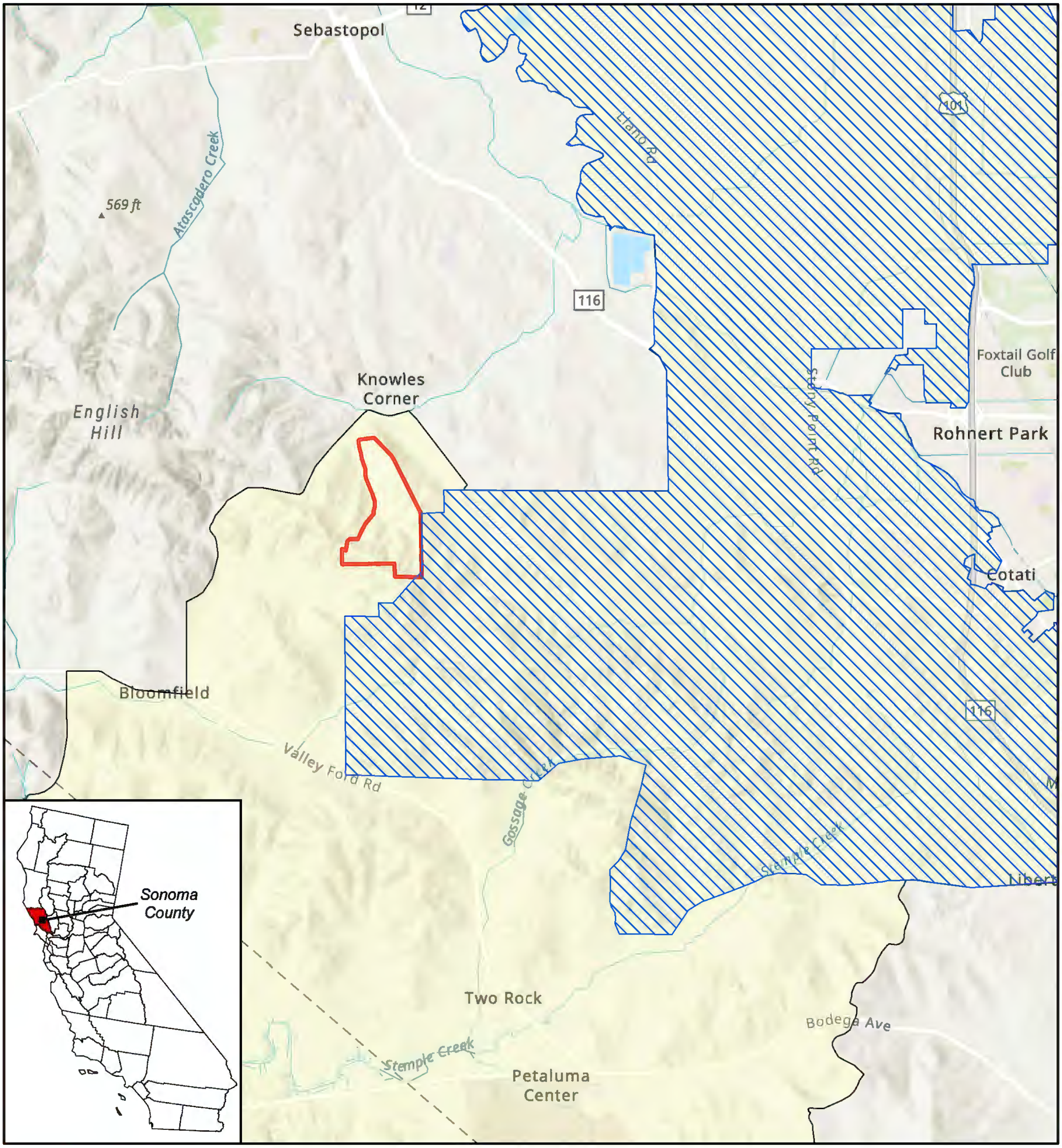
REFERENCES

Federal Register. 2011. 76 FR 54346 54372. 50 CFR Part 17. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Sonoma County Distinct Population Segment of California Tiger Salamander; Final Rule

Santa Rosa Plain Conservation Strategy Team (SRPCST). 2005. Santa Rosa Plain Conservation Strategy (Final). December 1, 2005.

Sweet, S. 1998. Vineyard development posing an imminent threat to Ambystoma californiense in Santa Barbara County, California. Department of Ecology and Evolutionary Biology, University of California, Santa Barbara, CA

United States Fish and Wildlife Service (USFWS). 2020. Reinitiation of Formal Consultation of Issuance of Clean Water Act, Section 404 Permits by the U.S. Army Corps of Engineers (Corps) on the Santa Rosa Plain, Sonoma County, California dated June 11, 2020



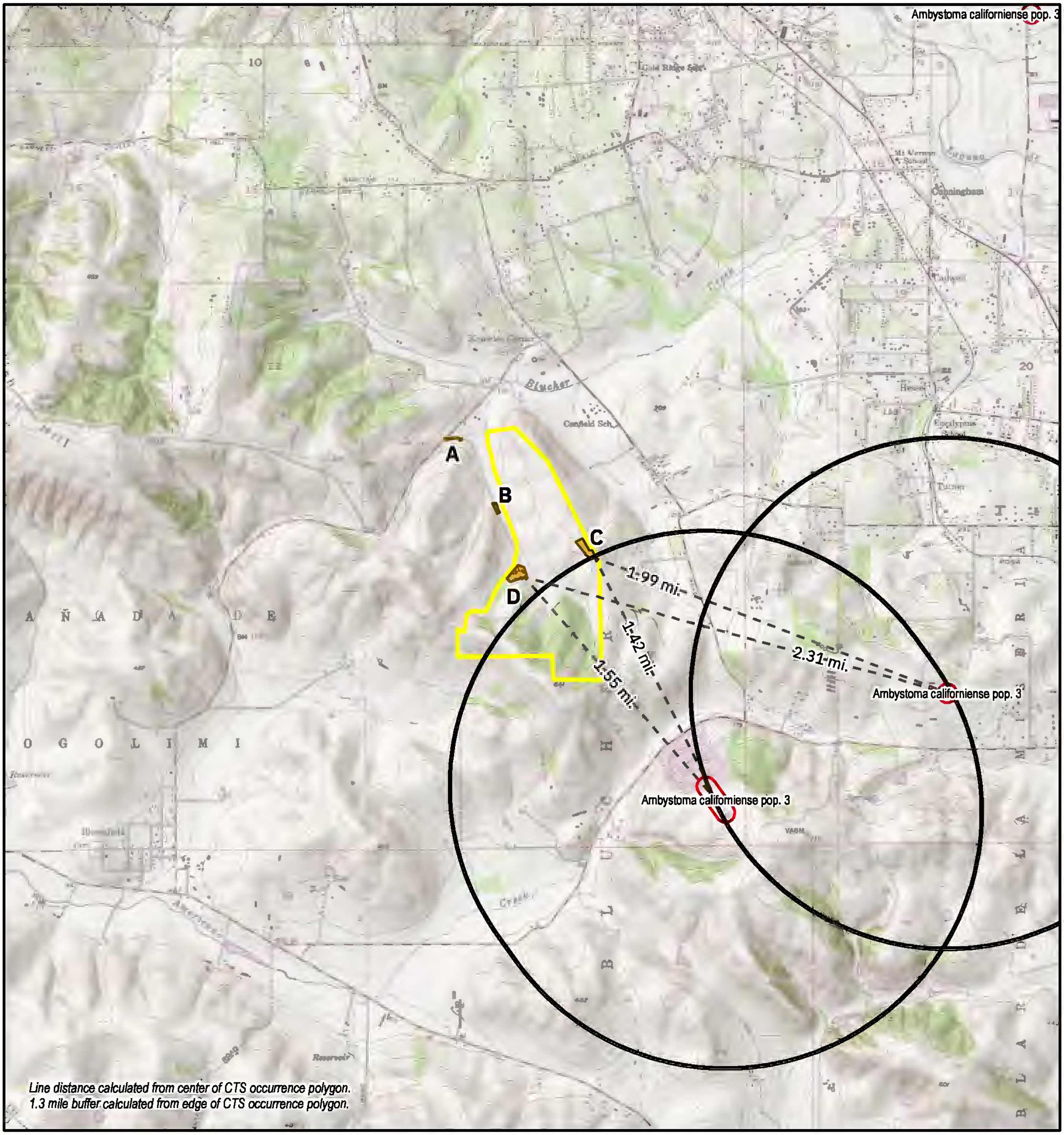
Site Boundary

CTS Recovery Area

CTS Final Critical Habitat

0 1 2 4 Miles

Figure 1 - Site Vicinity Map	N
3225 Bloomfield Rd, Sebastopol, CA 95407 | APN: 025-100-043	Wiemeyer Ecological Sciences 4000 Montgomery Drive, Suite L-5 Santa Rosa, CA 95405 Parcel boundary provided by Sonoma County CTS data via FWS Map date: 5/2024



Site Boundary
California Tiger Salamander Occurrences
1.3 mi buffer
Areas of Potential Development

0 1 2 4 Miles

Figure 2 – California Tiger Salamander CNDDB Occurrences	N	Wiemeyer Ecological Sciences 4000 Montgomery Drive, Suite L-5 Santa Rosa, CA 95405	Parcel boundary provided by Sonoma County CNDDB provided by CDFW (v. 6/2023) Map date: 2/2024
3225 Bloomfield Rd, Sebastopol, CA 95407 | APN: 025-100-043			

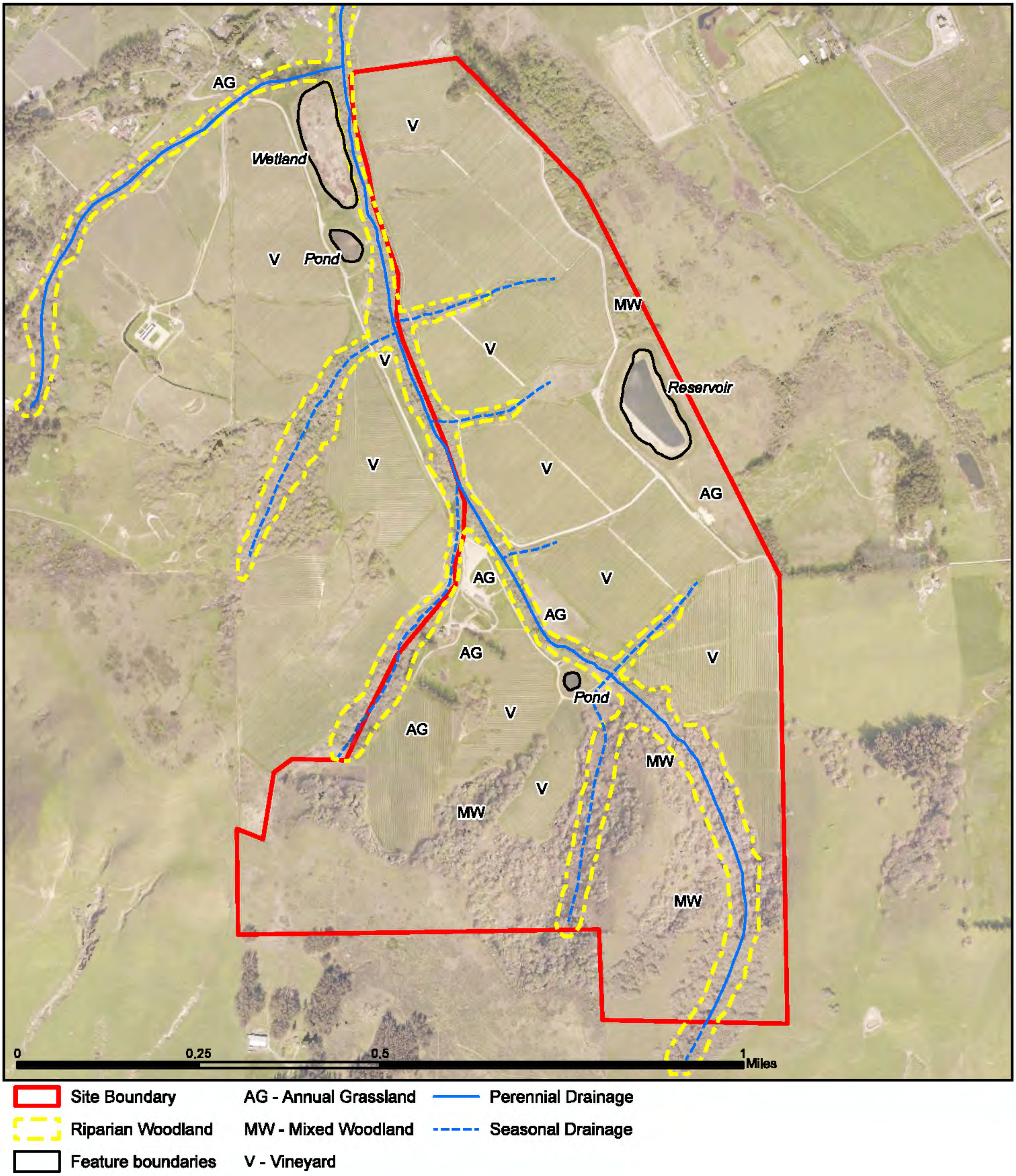


Figure 3 – Habitat	Wiemeyer Ecological Sciences 4000 Montgomery Drive, Suite L-5 Santa Rosa, CA 95405	Parcel boundary provided by Sonoma County Map date: 6/2024
3225 Bloomfield Rd, Sebastopol, CA 95407 | APN: 025-100-043		

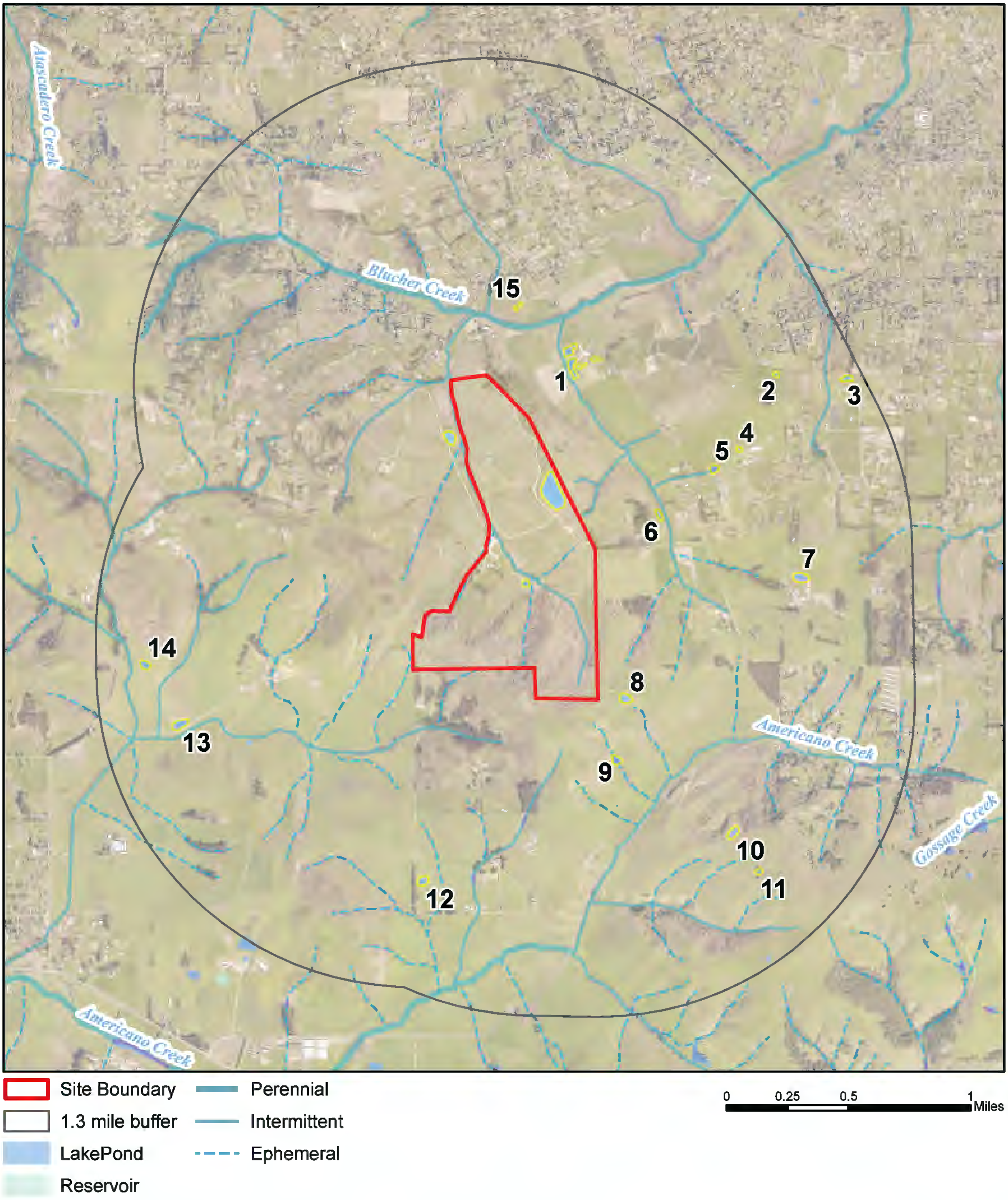
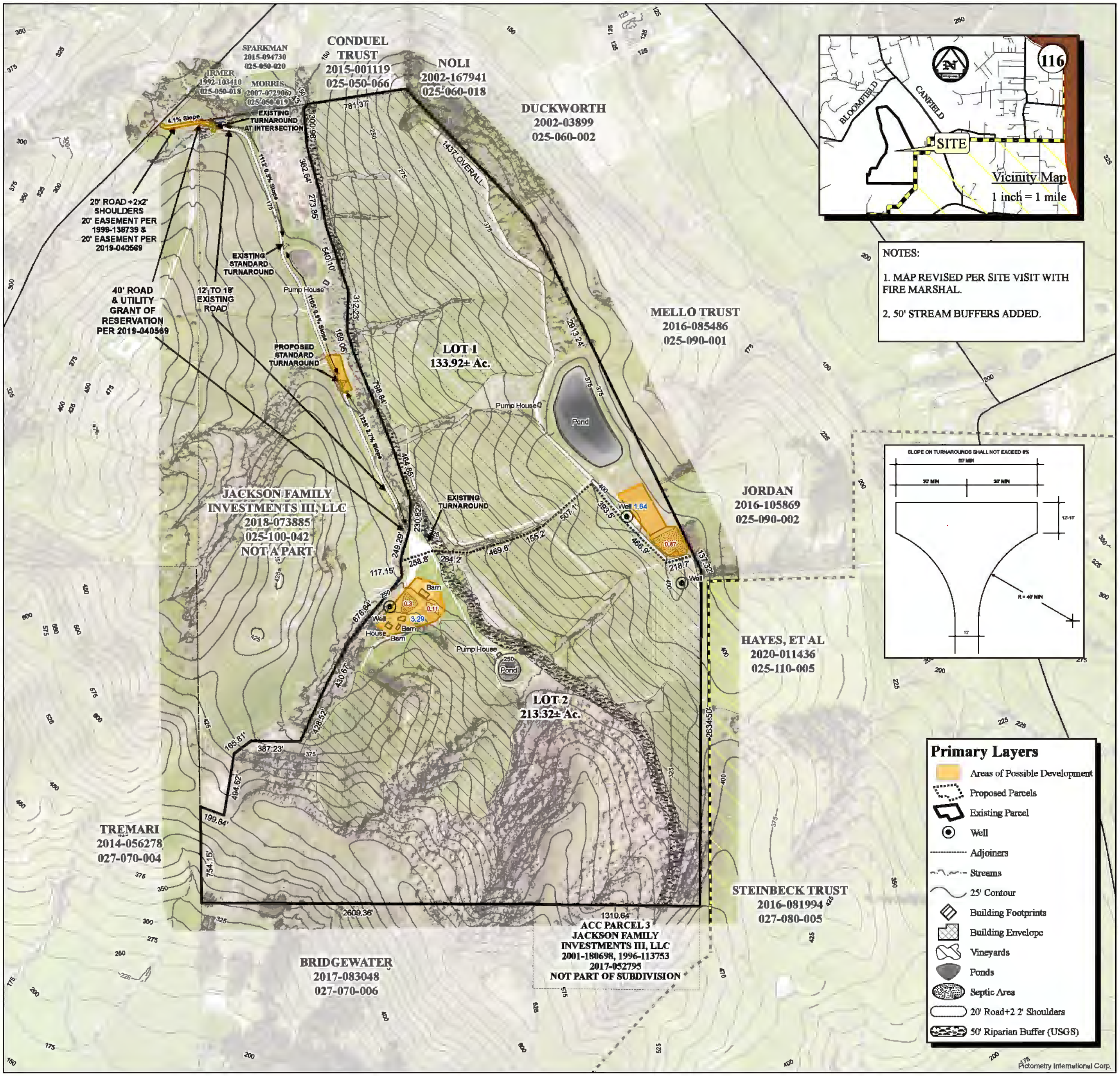


Figure 4 – Aquatic Habitats	Wiemeyer Ecological Sciences 4000 Montgomery Dr., Ste. L-5 Santa Rosa, CA 95405	Parcel boundary provided by Sonoma County Hydrology via NHDPlus Map date: 6/2024
3225 Bloomfield Rd, Sebastopol, CA 95407 | APN: 025-100-043		



PROJECT INFORMATION

OWNER/APPLICANT	JACKSON FAMILY INVESTMENTS III, LLC
ADDRESS	425 AVIATION ROAD SANTA ROSA, CA 95403
PHONE	707-535-0146
APN	025-100-043 PTN
SITE ADDRESS	3225 BLOOMFIELD ROAD, SEBASTOPOL
ZONING	LEA B6 160 Z, RC50/50 RC 100/50
SEWAGE DISPOSAL	SEPTIC
WATER SUPPLY	WELL
LAND USE	LEA 160
FIRE DISTRICT	GOLD RIDGE FPD
FIRE PROTECTION RESPONSE AREA	SRA = STATE
LOT 1	133.92± Ac.
LOT 2	213.32± Ac.

Areas	Acres
Vineyard Lot 1	92.84 Ac
Vineyard Lot 2	85.33 Ac
Total	**178.17 Ac**

1 inch = 500 feet

Feet
0 250 500 1,000

NOTE: THIS MAP WAS CREATED BY RAY CARLSON & ASSOCIATES, INC. STREET AND CREEK DATA PROVIDED BY COUNTY OF SONOMA, SUBJECT TO STANDARD CONDITIONS. ELEVATION DERIVED FROM SONOMA VEG MAP PROJECT (Creek & Road layer edited to fit this data).

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BUILDING FOOTPRINT AND LIDAR ELEVATION DATA (2013) PER SONOMA VEG MAP. ORTHOPHOTOGRAPHY (2021 per SO CO & Pictometry).

SURVEYOR'S STATEMENT

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RAY C. CARLSON LS 3890 DATE

Preliminary Draft - 6/8/23
For Internal Use Only

TENTATIVE MAP

SHOWING PROPOSED SUBDIVISION OF THE LANDS OF JACKSON FAMILY INVESTMENTS III, LLC AS DESCRIBED IN THAT DEED RECORDED IN OFFICIAL RECORDS AS DOCUMENT NUMBER 2018-073886, SONOMA COUNTY RECORDS.

LOCATED WITHIN THE BLUCHER RANCHO

COUNTY OF SONOMA STATE OF CALIFORNIA

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025-100-043 NOVEMBER 2021 Sheet 1 of 1 JOB 2016-041


A-1: View of area of possible development (Area A).


A-2: Close up view of area of possible development (Area A).


A-3: View of area of possible development (Area A).


A-4: View area of possible development (Area B).


A-5: View of area of possible development (Area B).


A-6: Close up view of area of possible development (Area B).

3225 Bloomfield Road
Sebastopol, CA
PHOTO PLATE A

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B-1: View of area of possible development (Area C).

B-2: View of area of possible development (Area C).

B-3: Close up view area of possible development (Area C).

B-4: View of area of possible development (Area D).

B-5: View of area of possible development (Area D).

B-6: Close up view of area of possible development (Area D).

3225 Bloomfield Road
Sebastopol, CA
PHOTO PLATE B

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C-1: View of north perennial pond..

C-2: View of north perennial pond.

C-3: View of south perennial pond.

C-4: View of south perennial pond.

C-5: View of large perennial reservoir.

C-6: View of large perennial reservoir.

3225 Bloomfield Road
Sebastopol, CA
PHOTO PLATE C

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