“E”

Biological Studies

Napa Airport Self-Storage Facility P16-00329-UP
Planning Commission Hearing Date February 7, 2018

DUDEK

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MEMORANDUM

To: Ryan Smith
From: Lisa Achter
Subject: Rare Plant Survey – Update to Biological Technical Report
Date: January 3, 2017
Project: Napa Airport Self Storage Project
Attachments: Revised PTO table

Dear Mr. Smith,

Dudek prepared a Biological Technical Report (BTR) to describe existing conditions and make a preliminary assessment of potential constraints to development of the Napa Airport Self Storage site in May of 2016. In the report, Dudek recommended a rare plant survey be completed by a qualified botanist to determine the presence of rare plants on the site. Of the 11 special-status plants with potential to occur on the project site that were identified in the report, seven were removed from consideration due to lack of suitable habitat. The remaining four are vernal pool species and include Contra Costa goldfields (*Lasthenia conjugens*), Sebastopol meadowfoam (*Limnanthes vinculans*), two fork clover (*Trifolium amoenum*) and Sonoma sunshine (*Blennosperma bakeri*).

After the September 23, 2016 wetland delineation of the site by Dudek botanist Laura Burris it was determined that the site does not contain potentially suitable habitat for the four special-status plant species listed in the May 2016 report. Additionally, the project will avoid the three seasonal wetland areas that occur on the southern edge of the site near Sheehy Creek, so impacts to rare plants associated with this wetland habitat would not occur due to project activities.

Due to the lack of suitable habitat for special-status plant species on the Napa Airport Self Storage project site, we do not believe a rare plant survey is necessary prior to the onset of construction of the project. If you have any further questions regarding this memorandum, please contact me via telephone at 530.217.8952 or email at lachter@dudek.com.

Thank you,

Lisa Achter
Wildlife Biologist
DUDEK

Appendix B. Special-Status Species with Known or Potential Occurrence in the Vicinity of the Proposed Napa Self Storage Project in Napa County, California.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
Invertebrates				
California freshwater shrimp	*Syncaris pacifica*	Endangered/Endangered	The California freshwater shrimp is found in low to moderate gradient creeks and streams where there is some emergent vegetation, high water quality, low levels of pollution and good oxygen levels. Some salinity is tolerated, although they are not found in any tidally influenced or brackish waters. Oviposition occurs in late spring and eggs hatch in June.	No potential to occur due to lack of suitable habitat.
conservancy fairy shrimp	*Branchinecta conservatio*	Endangered/None	The conservancy fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Low potential to occur. Suitable habitat for this species is present within the wetlands on the south side of the project area.
valley elderberry longhorn beetle	*Desmocerus californicus dimorphis*	Threatened/None	The valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus nigra* ssp. *cerulea*), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	No potential to occur within the project area. No elderberry shrubs occur on the project site.
vernal pool fairy shrimp	*Branchinecta lynchi*	Threatened/None	The vernal pool fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Low potential to occur. Suitable habitat for this species is present within the wetlands on the south side of the project area.
Fish				
Central California coastal steelhead	*Oncorhynchus mykiss* (NMFS)	Threatened (Designated Critical Habitat)/None	Juvenile central California coastal steelhead spends one to two years rearing in freshwater before migrating to estuaries as smolts, and then to the ocean to mature. They remain at sea for up to three years before returning to fresh water to spawn in December-March. They require cold water streams with adequate amounts of dissolved oxygen and gravel substrate free of excessive silt to spawn.	Moderate potential to occur in Sheehy Creek via the Napa river.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
delta smelt	*Hypomesus transpacificus*	Threatened/Endangered	Delta smelt are a euryhaline species (tolerant of a wide salinity range). They have been collected from estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally influenced backwater sloughs and channel edgewaters.	Low potential to occur in Sheehy Creek via the Napa River.
longfin smelt	*Spirinchus thaleicthys*	Threatened/SSC	The longfin smelt is a pelagic estuarine fish. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to mature. The life cycle of most longfin smelt generally requires estuarine conditions. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand. Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (°C). Most longfin smelt in the San Francisco Bay are believed to breed in the lower reaches of the Sacramento and San Joaquin Rivers.	Low potential to occur in Sheehy Creek via the Napa River.
tidewater goby	*Eucyclogobius newberryi*	Endangered/None	The tidewater goby, a species endemic to California, is found primarily in waters of coastal lagoons, estuaries, and marshes. The species is benthic in nature, and its habitat is characterized by brackish, shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. Tidewater gobies prefer a sandy substrate for breeding, but they can be found on rocky, mud, and silt substrates as well. Tidewater gobies have been documented in waters with salinity levels from 0 to 42 parts per thousand, temperature levels from 8 to 25 degrees Celsius (46 to 77 degrees Fahrenheit), and water depths from 25 to 200 centimeters (10 to 79 inches). The tidewater goby appears to spend all life stages in lagoons, estuaries, and river mouths. Tidewater gobies may enter marine environments only when flushed out of lagoons, estuaries, and river mouths by normal breaching of the sandbars following storm events.	No potential to occur due to lack of suitable habitat.
Amphibians and Reptiles				

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
California red-legged frog	*Rana draytonii*	Threatened/None	California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. These frogs also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (*Salix* spp.), although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy. Adult frogs prefer dense, shrubby or emergent riparian vegetation near deep [≥2 to 3 feet (0.6 to 0.9 m)], still or slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail (*Typha* sp.) occur adjacent to open water.	Moderate potential to occur. Suitable habitat exists in Sheehy Creek and the closet occurrence is approximately 2.5 miles from the site.
giant gartersnake	*Thamnophis gigas*	Threatened/Threatened	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marsh and wetlands, irrigation ditches, low gradient streams and rice fields containing emergent vegetation. Adjacent upland habitat is necessary for cover and aestivation.	No potential to occur. Suitable habitat for this species is not present within or adjacent to the project area and the project area is outside of the species known range.
Birds				
bald eagle	*Haliaeetus leucocephalus*	Delisted, BGEPA/ Endangered, FP	Lives near large bodies of open water such as lakes, marshes, estuaries, seacoasts and rivers, where fish are abundant. Usually nests within one mile of water in tall trees with open branchwork bordering lakes or large rivers.	Moderate potential to occur. Suitable nesting and foraging habitat exists within one mile of the project site.
bank swallow	*Riparia riparia*	None/Threatened	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. Feeds predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland.	No potential to occur due to lack of suitable habitat.
burrowing owl	*Athene cunicularia*	None/SSC	The burrowing owl utilizes abandoned ground squirrel burrows in open habitats and grasslands, also disturbed areas. Diet consists of insects, small mammals, reptiles and amphibians. Commonly uses burrows on levees or mounds where there are unobstructed views of possible predators such as raptors or foxes.	Moderate potential to occur. There is one occurrence of burrowing owl on the site from 2006, and if the site is managed/mowed/ disked regularly, it could provide suitable habitat for burrowing owl.
California black rail	*Laterallus jamaicensis coturniculus*	None/Threatened, FP	Freshwater marshes along the margins of ponds, lakes, and water impoundments; also herb dominated wetlands on sloped ground associated with springs, canal leaks, seepage from impoundments, and agricultural irrigation. Requires water depth of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	No potential to occur due to lack of suitable habitat.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
California clapper rail	*Rallus longirostris obsoletus*	Endangered/Endangered, FP	Locally common yearlong in coastal wetlands and brackish areas. Forages in higher marsh vegetation, along vegetation and mudflat interface, and along tidal creeks. Along coast, preys on crabs, mussels, clams, snails, insects, spiders, and worms. Also takes mice during high tides, and may scavenge dead fish. Prefers fresh or brackish emergent wetland dominated by pickleweed, cordgrass, and bulrush.	No potential to occur due to lack of suitable habitat.
California least tern	*Sterna antillarum (=Sterna, =albifrons) browni*	Endangered/Endangered, FP	During the breeding season, California least tern forms colonies and nests on open, flat beaches along lagoon or estuary edges. Sometimes nests on mud or sand flats farther inland, or on artificial islands created by dredge spoils. Tends use the same nest from year to year and return to natal nest site. During the non-breeding season California least tern occurs singly or in small groups. Eats mainly small fish by diving from the air into shallow water.	No potential to occur due to lack of suitable habitat.
loggerhead shrike	*Lanius ludovicianus*	None/SSC	Loggerhead shrike is a year-round resident in most areas of California that contain grasslands, open areas, orchards and areas with scattered trees. Feeds on small vertebrates and invertebrates, impales prey on thorns or barbed wire.	Moderate potential to occur. Suitable nesting and foraging habitat exists on the project site.
northern spotted owl	*Strix occidentalis caurina*	Threatened/Candidate Threatened, SSC	The northern spotted owl requires old-growth forest or old unfragmented patches of mixed conifer stands. Preferred habitat characteristics include moderate to high canopy closure with a multilayered, multispecies canopy. They require cavities and broken top trees for nesting and heavy accumulation of decaying logs and woody decay on the forest floor to support a diet of rodents.	No potential to occur due to lack of suitable habitat.
Swainson's hawk	*Buteo swainsoni*	None/Threatened	Swainson's hawk spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. Diet consists of insects, small mammals and reptiles.	High potential to occur. The project site contains suitable foraging and nesting habitat and there are several occurrences within one-half mile of the site.
tricolored blackbird	*Agelaius tricolor*	None/Candidate Threatened	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in the past 6 years due to habitat loss and harvest of grain fields before young have fledged.	Moderate potential to occur. Suitable nesting and foraging habitat exists on the project site and there are occurrences within one-half mile of the site.
western snowy plover	*Charadris alexandrinus nivosus*	Threatened/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.	No potential to occur due to lack of suitable habitat.
Mammals				

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
salt marsh harvest mouse	*Reithrodontomys raviventris*	Endangered/Endangered, FP	The salt marsh harvest mouse occurs in tidal flats and on the shore in estuarine habitats, and in herbaceous wetlands. Occurs in salt and brackish marshes where plants provide a dense mat for cover, with a high percentage of pickleweed, along with a complex structure of other plant species. The salt marsh harvest mouse needs access to high ground for refuge/cover, especially during high tides in the winter. Diet is composed of green vegetation including salt grass and pickleweed, along with some seeds. Diet varies by available vegetation.	No potential to occur due to lack of suitable habitat.
			Plants	
Clara Hunt's milk-vetch	*Astragalus claranus*	Endangered/Threatened, CRPR 1B.1	Clara Hunt's milk vetch is an annual herb from the Fabaceae family. It is found from 75-275 meters in serpentine or volcanic, rocky, clay soils. Preferred habitats include chaparral openings, cismontane grassland and valley and foothill grassland. Blooms March to May.	No potential to occur due to lack of suitable habitat.
Contra Costa goldfields	*Lasthenia conjugens*	Endangered/None, CRPR 1B.1	Contra Costa goldfields is an annual herb from the Asteraceae family. It is found from 0-180 meters in mesic (moist) habitats. Common in wetlands and vernal pools, although occasionally found in non-wetlands. Blooms from March to June.	No potential to occur. Although three seasonal wetlands occur on the southern border of the site along Sheehy Creek, these areas will be avoided during construction.
few-flowered navarretia	*Navarretia leucocephala ssp. pauciflora*	Endangered/Threatened, CRPR 1B.1	Few-flowered navarretia is an annual herb from the Polemoniaceae family. It is found in vernal pools from 400-855 meters. Blooms May to June.	No potential to occur. Although three seasonal wetlands occur on the southern border of the site along Sheehy Creek, these areas will be avoided during construction.
Keck's checkerbloom	*Sidalcea keckii*	Endangered/None CRPR 1B.1	Keck's checkerbloom is an annual herb from the Malvaceae family. It is found in serpentinite and clay cismontane woodland and valley and foothill grassland habitats from 75-650 meters. Blooms April-June.	No potential to occur due to lack of suitable habitat.
Santa Cruz tarplant	*Holocarpha macradenia*	Threatened/Endangered CRPR 1B.1	Santa Cruz tarplant is an annual herb in the Asteaceae family. It is found in often clayey, sandy soils in coastal prairie, coastal scrub and valley and foothill grassland habitats. It blooms from June to October.	No potential to occur due to lack of suitable habitat.
Sebastopol meadowfoam	*Limnanthes vinculans*	Endangered/Endangered, CRPR 1B.1	Sebastopol meadowfoam is an annual herb from the Limnanthaceae family. It occurs in vernally mesic meadows and seeps in valley and foothill grasslands from 15-305 meters. Blooms April to May.	No potential to occur. Although three seasonal wetlands occur on the southern border of the site along Sheehy Creek, these areas will be avoided during construction.
soft bird's-beak	*Cordylanthus mollis ssp. mollis*	Endangered/None CRPR 1B.2	Soft birds-beak is an annual herb in the Orobanchaceae family. It is found in coastal salt marshes and swamps from 0-3 meters. Blooms from July to November.	No potential to occur due to lack of suitable habitat.
Sonoma spineflower	*Chorizanthe valida*	Endangered/Endangered, CRPR 1B.1	Sonoma spineflower is an annual herb from the Polygonaceae family. It is found in sandy coastal prairie from 10-305 meters. Blooms June to August.	No potential to occur due to lack of suitable habitat.
Sonoma sunshine	*Blennosperma bakeri*	Endangered/Endangered, CRPR 1B.1	Sonoma sunshine is an annual herb from the Asteraceae family. It is found from 10-110 meters in vernal pools and wet grasslands. Blooms from March to May.	No potential to occur. Although three seasonal wetlands occur on the southern border of the site along Sheehy Creek, these areas will be avoided during construction.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
Tiburon paintbrush	*Castilleja affinis var. neglecta*	Endangered/Threatened CRPR 1B.2	Tiburon Paintbrush is a semi-parasitic perennial herb in the Orobanchaceae family. It grows in serpentine grassland habitat between 60 and 400 meters Blooms from April to June.	No potential to occur due to lack of suitable habitat.
two-fork clover	*Trifolium amoenum*	Endangered/None CRPR 1B.1	Two-fork clover is an annual herb from the Fabaceae family. It is found from 5-160 meters in coastal bluff scrub, wetland riparian and valley/foothill grassland habitats. It is common in vernal pools and wetlands, although sometimes found in non-wetlands. Blooms from April to June.	No potential to occur. Low quality habitat exists for this species in the project area and it is presumed to be extirpated from the Cuttings Wharf quad. Although three seasonal wetlands occur on the southern border of the site along Sheehy Creek, these areas will be avoided during construction.

SSC: Species of Special Concern
FP: Fully Protected

The following list of wildlife potentially occurring in the project area was generated from the following resources:

- USFWS IPaC Report (Sacramento Fish and Wildlife Office)
- CDFW CNDDB Report
- CNPS Online Inventory of Rare and Endangered Plants

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MEMORANDUM

To: Ryan Smith
From: Lisa Achter
Subject: Addendum to Biological Resources Assessment for the Napa Airport Self Storage Project in Napa, California
Date: November 21, 2016
Attachment(s): Figure 1 - Swainson's Hawk CNDDB Nest Locations

This memo serves to update the Biological Resources Assessment (BRA) prepared by Dudek for the Napa Airport Self Storage Project at 388 Devlin Road in Napa, California, in May of 2016.

The BRA described sensitive biological resources present or potentially present on the site and potential biological constraints associated with the development of the property. During the analysis of the site, Dudek biologist Lisa Achter documented the potential for the State-threatened Swainson's hawk (*Buteo swainsoni,* SWHA) to occur on the site due to the presence of suitable foraging habitat on and adjacent to the site, as well as due to known historical occurrences of nesting SWHA within a one-mile radius of the site.

To determine the potential need for mitigation for loss of SWHA foraging habitat due to development of the site, additional analysis of the habitat on and surrounding the site was performed, as directed by Sean Trippi of the Napa County Planning Department and Ryan Smith of Thomastown Builders Inc., by means of a desktop review and field survey. The results of the analysis are presented below.

SITE LOCATION AND DESCRIPTION

The 7.4-acre project site (APN 057-250-008) is located in Section 1, Township 4 North, and Range 4 West of the U.S. Geological Survey (USGS) Cuttings Wharf 7.5' quadrangle. The approximate center of the site corresponds to 38°13'39.42 north latitude and 122°15'37.33" west longitude (Figure 1).

The project site is characterized as undeveloped but previously disturbed annual and perennial grassland, which occurs throughout the majority of the site, and coyote brush (*Baccharis*

pilularis) scrub habitat which occurs primarily in the center of the site. The site is relatively flat and elevation ranges between 40-55 feet above mean sea level (AMSL). The site is bounded on the north by commercial development, on the east by State Highway 12, on the south by Sheehy Creek and on the west by Devlin Road (Figure 2).

METHODS

A desktop review of California Natural Diversity Database (CNDDB) occurrences of Swainson's hawk nest sites within a one-mile radius of the site was conducted prior to the field survey. Dates of nesting and descriptions of nest locations were noted. On November 2, 2016, a field survey was performed by Ms. Achter to determine the status of documented nests in the CNDDB and to determine if there has been any recent activity at each nest during the 2016 breeding season. Nest sites were viewed with and without binoculars to determine the overall activity status of the nest based on the presence of white wash, feathers, and other sign and to determine if the nest structure was intact enough to be used this past year by breeding raptors.

RESULTS

The desktop review of the CNDDB occurrences revealed the presence of five SWHA nests within a one-mile radius of the site (Figure 3), all of which have been intermittently active from 2005-2012.

The first nest record is located approximately .25 mile north of the project site and was most recently active in 2012, but was also reported to have been active in 2007. Upon observation of the nest site during the field survey, the nest looked to be intact and actively used actively during the 2016 breeding season; however, it could not be determined if the raptor species using the nest was SWHA or some other raptor such as red-tailed hawk or great horned owl. The second nest record is located approximately .65 mile northwest of the site, but was on private property so it could not be accessed. It was most recently observed to be active in 2008. The third nest record is located approximately one mile northwest of the site along Suscol Creek (the CNDDB record shows two potential nests within several hundred feet of each other) and the record states that one of the nests was active in 2005 and 2012; the second nest may be an alternate nest often constructed by SWHA and other large raptors given its proximity to the first nest. Because these nests are located on private property and could not be accessed, due to tree canopy foliage and the distance from which observations from across the creek had to be made during the survey, the actual presence of either nest could not be confirmed. The fourth nest record is located

approximately one mile north of the project site along Suscol Creek. The CNDDB record states there was a nesting pair early in 2012 but the success of the nest was unknown. This nest was not found during the field survey. The fifth nest record is located on the eastern boundary of the Napa Sanitation District wastewater treatment plant, approximately one mile west of the project site. The record states the nest was active in 2008. This nest was also not found during the field survey. It is possible that both nests could have been destroyed during winter storms, or that the location documented in the CNDDB record was not accurate.

During the field survey, information was gathered from personnel at the Napa Sanitation District about the types of crops that are planted in the fields to the east of the facility, between the facility and the project site. The type of crops planted in these fields rotates, but seem to be composed mostly of grain crops although alfalfa (a crop type particularly favored by SWHA for foraging) has been planted within the last five years. Other habitat surrounding the project site consists of private property that contains annual grassland, eucalyptus groves, agriculture, oak woodland and commercial development.

The project site has been minimally maintained for the last several years, but is generally disked or mowed sometime in June or July of each year.

CONCLUSIONS

The California Department of Fish and Wildlife (CDFW) Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (1994) considers whether proposed projects "will adversely affect suitable foraging habitat within a ten (10) mile radius of an active (used during one or more of the last 5 years) Swainson's hawk nest(s)... The following vegetation types/agricultural crops are considered small mammal and insect foraging habitat for Swainson's hawks:

- alfalfa
- fallow fields
- beet, tomato, and other low-growing row or field crops
- dry-land and irrigated pasture
- rice land (when not flooded)
- cereal grain crops (including corn after harvest)

"...Based on the ten mile radius, new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The ten mile foraging

radius recognizes a need to strike a balance between the biological needs of reproducing pairs (including eggs and nestlings) and the economic benefit of developments consistent with Fish and Game Code Section 2053."

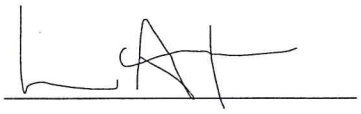
The most recent records of SWHA actively nesting in the vicinity of the project site occurred in 2012, which is within the 5-year active nest period described above. All of the SWHA nest occurrences investigated during the November 2, 2016 survey were within one-mile of the project site. However, only one intact nest was observed during the field survey, two nests were inaccessible, and two were not found. It is unknown whether SWHA actively nested in the vicinity of the project site in 2016.

The area surrounding the project site contains a large expanse of suitable SWHA foraging habitat, including annual grassland, fallow fields, and potentially alfalfa on an intermittent basis. The 7.4-acre project site contains a mixture of annual grassland and coyote brush scrub habitat, which is generally considered low quality foraging habitat for SWHA. However, the project site is mowed or disked on an annual basis during the SWHA breeding period, which increases the foraging habitat value of the site to SWHA, at least for short period of time, as it provides improved access to rodents and other prey species. During the SWHA breeding period, birds will forage as far as 18 miles from the nest if necessary (Babcock, 1995; Estep, 1989); however, if suitable foraging habitat occurs closer to the nest, it will be utilized before the birds attempt to access habitat at greater distances from the nest site.

Since the project site provides low to moderate quality habitat for a period of time during the SWHA nesting period, it could be important to nesting SWHA in the vicinity of the project site. While higher quality habitat such as annual grassland and alfalfa fields in the project site vicinity are likely to be utilized more heavily during the nesting season, SWHA may use the project site more frequently as prey becomes more accessible after mowing or if the adjacent land is developed or if unsuitable foraging crops are planted in a given year.

Given the potential of the site to be used as foraging habitat in support of at least one, and possibly more, active SWHA nests in the immediate project vicinity, it can be expected that CDFW would require mitigation for the loss of 7.4 acres of low to moderate SWHA foraging habitat. Typically, mitigation options can include the acquisition of foraging habitat at equal to or of greater value than the habitat being impacted and the purchase of SWHA habitat credits in an approved habitat mitigation bank. Dudek would be happy to assist you with investigating these options.

Sincerely,



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References

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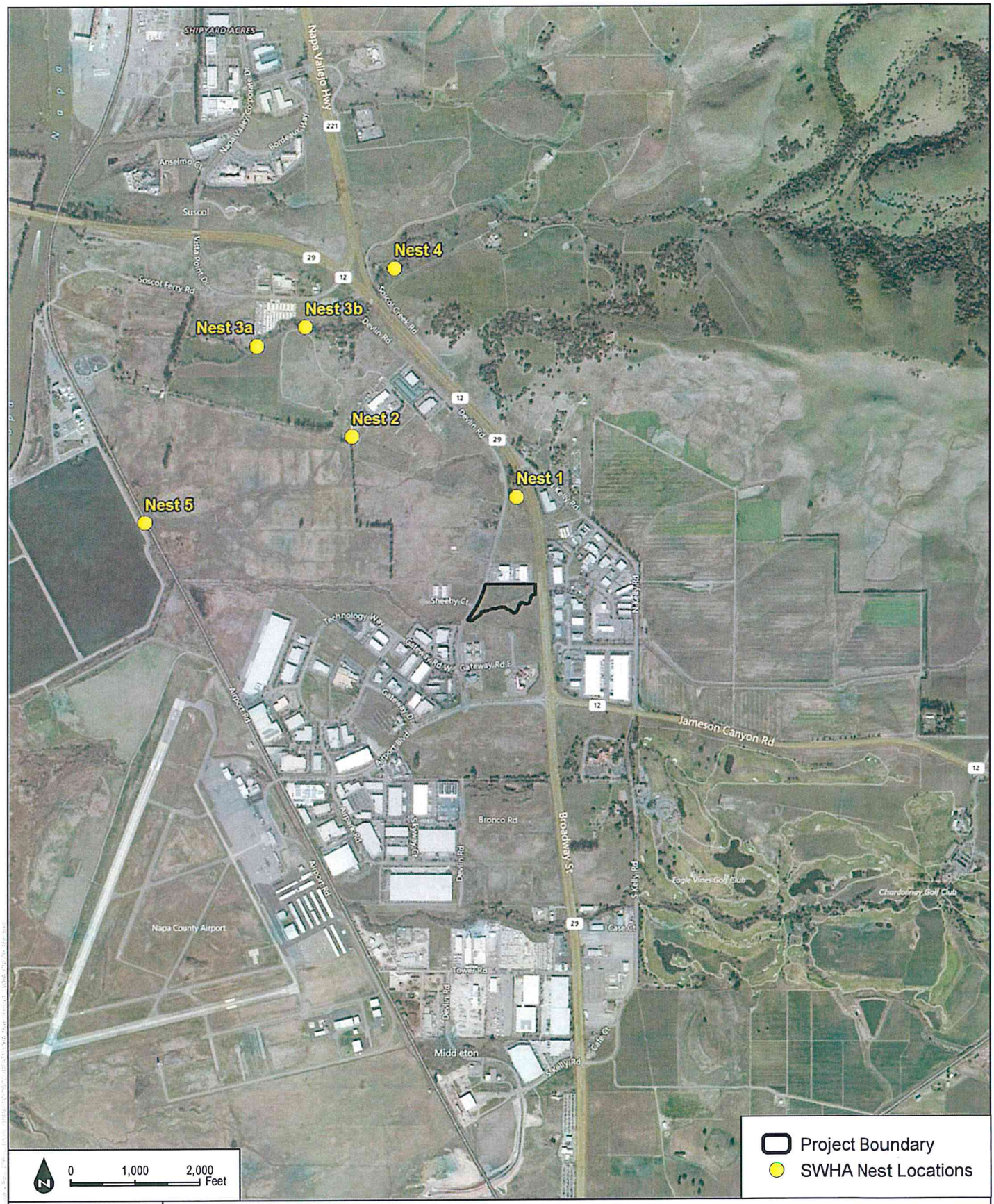

SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016); CNDDB (2016)

FIGURE 1

Swainson's hawk CNDDB Occurrences

DUDEK

Napa Self Storage Project

NAPA AIRPORT SELF STORAGE PROJECT PRELIMINARY JURISDICTIONAL DELINEATION NAPA COUNTY, CALIFORNIA

Prepared for:

Thomastown Builders, Inc.
Contact: Ryan Smith

Prepared by:

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OCTOBER 2016

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ACOE	U.S. Army Corps of Engineers
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
FR	Federal Register
OHWM	ordinary high water mark
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
project	Napa Airport Self Storage Project
SP-	Sampling Point
SW-	Seasonal Wetland
TNW	traditional navigable water

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1 INTRODUCTION

This report documents the results of a preliminary jurisdictional delineation for the Napa Airport Self Storage Project (project) located in Napa County, California (Figure 1). The results of this delineation are preliminary until verified by the Sacramento District of the U.S. Army Corps of Engineers (ACOE).

1.1 Project Location

The 7.4-acre project site (Assessor's Parcel Number 057-250-008), also referred to herein as the study area, is located in Section 1, Township 4 North, and Range 4 West of the U.S. Geological Survey Cuttings Wharf 7.5-minute quadrangle. The approximate center of the site corresponds to 38°13′39.42″ north latitude and 122°15′37.33″ west longitude (Figure 2).

The study area is characterized as undeveloped, previously disturbed annual and perennial grassland, which occurs throughout the majority of the site, and scrub habitat, which occurs throughout the center of the site. The site is relatively flat, and elevation ranges from 40 to 55 feet above mean sea level. The site is bounded on the north by commercial development, on the east by State Highway 12, on the south by Sheehy Creek, and on the west by Devlin Road (Figure 3).

1.2 Directions to the Study Area

The study area can be accessed from Devlin Road. From San Francisco, travel east on Interstate 80 for approximately 35 miles. Take Exit 33 for CA-37 from Interstate 80 east toward Napa. Travel approximately 2 miles and take Exit 19 for CA-29/Sonoma Boulevard. In approximately 6 miles, turn left onto Airport Boulevard and then take the first right onto Devlin Road. The destination is on the right approximately 0.4 mile north of the intersection of Airport Boulevard and Devlin Road.

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2 PROJECT DESCRIPTION

The project proposes construction of a new self-storage facility within the study area using a standardized site plan. Site preparation prior to construction would include clearing vegetation, grading, and cutting and filling the site to minimize runoff and sedimentation into adjacent natural waterways.

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3 REGULATORY BACKGROUND

3.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers

Any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from ACOE.

As defined in Title 33 of the Code of Federal Regulations (CFR), Section 328.3, waters of the United States include all waters subject to interstate or foreign commerce, including tidal waters, interstate waters and wetlands, many intrastate waters, impoundments, tributaries, the territorial seas, and adjacent wetlands. Specifically, 33 CFR 328.3 defines waters of the United States as follows:

a. For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term "waters of the United States" means:

   1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
   2. All interstate waters, including interstate wetlands;
   3. The territorial seas;
   4. All impoundments of waters otherwise identified as waters of the United States under this section;
   5. All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;
   6. All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

b. The following are not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

   1. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.
   2. Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high water mark (OHWM) when no adjacent wetlands are present. Defined in 33 CFR 328.3(e), the OHWM is "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." If adjacent wetlands are present, the jurisdiction extends to the limit of wetlands.

Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). Wetlands are jurisdictional if they meet this definition and the definition of waters of the United States. ACOE predominantly uses the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008a) methodology to determine the presence of wetlands. According to the manual, three criteria must be satisfied to classify an area as a wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (ACOE 2008a). Further guidance for determining jurisdictional limits in ephemeral riverine systems in the Arid West is detailed in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008b).

In the last two decades, two major court cases have affected the jurisdictional reach of Section 404 of the Clean Water Act (CWA): (1) *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers*, and (2) *Rapanos v. United States* and *Carabell v. United States Army Corps of Engineers.*

Solid Waste Agency of Northern Cook County v. United States Corps of Engineers

In 1986, in an attempt to clarify the reach of its jurisdiction, ACOE stated that Section 404(a) of the CWA extends to intrastate waters (51 Federal Register (FR) 41217):

a. which are or would be used as habitat by birds protected by Migratory Bird Treaties; or
b. which are or would be used as habitat by other migratory birds which cross state lines; or
c. which are or would be used as habitat for endangered species; or
d. used to irrigate crops sold in interstate commerce.

In 2001, the U.S. Supreme Court, in its judgment on the *Solid Waste Agency of Northern Cook County* case, held that 33 CFR 328.3(a)(3), as clarified and applied to the *Solid Waste Agency of Northern Cook County* site pursuant to the Migratory Bird Rule (51 FR 41217), exceeded the authority granted to ACOE under Section 404(a) of the CWA. Therefore, ACOE may not rely on the Migratory Bird Rule to establish a "significant nexus" to interstate or foreign commerce. In additional language, the U.S. Supreme Court majority opinion reasoned that these types of waters required some nexus to navigable waters. Although no formal guidance was issued by ACOE interpreting the extent to which the *Solid Waste Agency of Northern Cook County* decision would limit jurisdictional determinations, in practice, ACOE considers intrastate waters as waters of the United States where there is an appropriate connection to navigable water or other clear interstate commerce connection (*Solid Waste Agency of Northern Cook County v. United States Corps of Engineers* 2001).

Rapanos v. United States and Carabell v. United States Army Corps of Engineers

In 2006, the U.S. Supreme Court again issued an opinion on to what extent ACOE had jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to waters of the United States and wetlands adjacent to those tributaries (*Rapanos v. United States* 2006).

ACOE and the U.S. Environmental Protection Agency issued guidance related to the *Rapanos* decision on June 5, 2007. The guidance identifies the waters the agencies (i.e., ACOE and the U.S. Environmental Protection Agency) will assert jurisdiction over categorically and on a case-by-case basis, based on the reasoning of the *Rapanos* opinions. In summary, ACOE will continue to assert jurisdiction over the following:

- Traditional navigable waters (TNWs) and their adjacent wetlands.
- Non-navigable tributaries of TNWs that are relatively permanent (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally) and wetlands that directly abut such tributaries (e.g., not separated by uplands, berm, dike, or similar feature).

  Note: Relatively permanent waters do not include ephemeral tributaries, which flow only in response to precipitation, and intermittent streams, which do not typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months).
- Non-relatively permanent waters, if determined (on a fact-specific analysis) to have a significant nexus with a TNW, including non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, are non-navigable tributary. Absent a significant nexus, jurisdiction is lacking.

A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical, and/or biological integrity of a TNW. Principal considerations when evaluating significant nexus include volume, duration, and frequency of the flow of water in the tributary, and the proximity of the tributary to a TNW, including hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands. Certain ephemeral waters in the Arid West are distinguishable from the geographic features described previously, where such ephemeral waters are tributaries and have a significant nexus to downstream TNWs. For example, these ephemeral tributaries may serve as a transitional area between the upland environment and the TNW. These ephemeral tributaries may provide habitat for wildlife and aquatic organisms in downstream TNWs, and support nutrient cycling, sediment retention and transport, pollutant trapping and filtration, and improvement of water quality.

Swales or erosional features (e.g., gullies and small washes characterized by low-volume, infrequent, or short-duration flow) are generally not considered waters of the United States because they are not tributaries or they do not have a significant nexus to a downstream TNW. In addition, ditches (including roadside ditches) excavated wholly in and draining only uplands, and that do not carry a relatively permanent flow of water, are generally not considered waters of the United States because they are not tributaries or they do not have a significant nexus to a downstream TNW. Even when not jurisdictional under Section 404 of the CWA, these features may still be jurisdictional at state or local levels, such as under Section 401 of the CWA, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and/or Section 1602 of the California Fish and Game Code.

Prior to the *Rapanos* guidance, ACOE required its regional districts to request concurrence for only those jurisdictional determinations where the district was planning to assert jurisdiction over a non-navigable, intrastate isolated water and/or wetland. The agencies now require that all determinations for non-navigable, isolated waters be evaluated by ACOE and the U.S. Environmental Protection Agency prior to the district making a final decision on the jurisdictional determination.

U.S. Army Corps of Engineers–Regulated Activities

ACOE regulates activities under Section 404 of the CWA that involve a discharge of dredged or fill material, including grading, placing riprap for erosion control, pouring concrete, laying sod, or stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

3.2 State of California

California Department of Fish and Wildlife

Pursuant to Section 1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

In Title 14 of the California Code of Regulations, Section 1.72, CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

In Title 14 of the California Code of Regulations, Section 1.56, CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." Diversion, obstruction, or change to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the Fish and Game Code.

California Regional Water Quality Control Board

Pursuant to Section 401 of the federal CWA, the Regional Water Quality Control Board regulates discharging waste, or proposing to discharge waste, within any region that could affect a "water of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)). Before ACOE will issue a CWA Section 404 permit, applicants must receive a CWA Section 401 Water Quality Certification from the Regional Water Quality Control Board. If a CWA Section 404 permit is not required for the project, the Regional Water Quality Control Board may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter-Cologne Act.

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4 METHODOLOGY

4.1 Literature Review

Prior to conducting fieldwork, the following available resources were reviewed to assess the potential for jurisdictional features:

- 1:200-scale aerial photograph (Bing Maps 2016; Google Earth 2016)
- U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2016)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2016a)
- National Wetland Inventory (USFWS 2016)

4.2 Jurisdictional Delineation

Potential wetland waters of the United States were delineated based on methodology described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (ACOE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008a). Non-wetland waters of the United States are delineated based on the presence of an OHWM, as determined using the methodology in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008b). Dudek biologists collected photographic records that represent the on-site habitats and wetlands (Appendix A).

4.3 Flora

All plant species encountered during the field surveys were identified and recorded. Those species that could not be identified immediately were brought into the laboratory for further investigation. Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2016), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service Plants Database (USDA 2016b). Appendix B contains a complete list of plant species observed during the surveys.

4.4 Field Visit

The study area was visited on September 23, 2016, by Dudek biologists Laura Burris and Lisa Achter to document current site conditions and assess potential wetlands and other waters of the United States. Sample points were taken, when necessary, to assess the potential for hydric soils, hydrophytic vegetation, and hydrology. Results are presented in Section 6, Results of Survey.

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5 PHYSICAL CHARACTERISITICS

5.1 Land Uses

The study area is bounded on the north by commercial development, on the east by State Highway 12, on the south by Sheehy Creek, and on the west by Devlin Road and additional development. The study area is undeveloped and is maintained through disking.

5.2 Soils and Topography

According to the U.S. Department of Agriculture Natural Resources Conservation Service (USDA 2016a), the soils in the study area are composed solely of Haire loam, 2 to 9% slopes (Figure 4). This soil type is characteristic of alluvial fans and terraces, is weathered from alluvium derived from sedimentary rock, and has a layer of claypan under the surface soils; the U.S. Department of Agriculture Natural Resources Conservation Service considers this soil type hydric (USDA 2016a).

The study area is generally flat, with several terraces that gradually slope to the south, where the study area is bound by Sheehy Creek and its associated riparian corridor.

5.3 Watershed and Hydrology

The study area is part of the Tulucay Creek – Frontal San Pablo Bay Estuaries subwatershed (Hydrologic Unit Code 180500020402). Hydrology on site appears to have been altered through past development on adjacent sites. There are several terraces that gradually decrease in elevation from north to south, directing water runoff from the site to Sheehy Creek at the southern edge of the study area. Water travels from east to west in Sheehy Creek, entering the study area from under State Highway 12 and exiting the study area via a large culvert under Devlin Road. Sheehy Creek flows west into coastal brackish marsh before entering the Napa River to the west of the study area. The Napa River flows into San Pablo Bay, then into San Francisco Bay and the Pacific Ocean.

There are several low areas adjacent to the stream corridor of Sheehy Creek that appear to capture water runoff from the study area. Further discussion of these features is presented in Section 6.

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6 RESULTS OF SURVEY

6.1 Jurisdictional Delineation

The dominant vegetation community within the study area consists of disturbed and maintained grassland. There is a riparian corridor associated with Sheehy Creek that appears to have been established via restoration efforts. Several depressional seasonal wetland areas occur adjacent to the riparian corridor. These land cover types and wetland types are described in more detail in the following text.

Upland Habitats

Disturbed Grassland

Disturbed grassland is present throughout the study area. This grassland most closely resembles *Phalaris aquatica* Herbaceous Semi-Natural Alliance (Harding grass swards), as described by *A Manual of California Vegetation* (Sawyer et al. 2009). It is dominated by Harding grass (*Phalaris aquatica*) in the herbaceous layer, and scattered emergent shrubs at low cover, including coyote brush (*Baccharis pilularis*). The ACOE National Wetland Plant List (Lichvar et al. 2016) recognizes Harding grass as a Facultative Upland plant, meaning it occurs in wetlands approximately 25% of the time and is not a hydrophytic plant species. This species can invade previously disturbed areas and form dense patches that prevent the germination of other species. This grassland had been recently mowed and disked at the time of the site survey, and most of the grass was identifiable only by thatch.

Mixed Riparian Forest

Mixed riparian forest is located along the banks of Sheehy Creek. This habitat is composed of a mix of trees and shrubs, including coast live oak (*Quercus agrifolia*), willow (*Salix lasiolepis* and *S. laevigata*), elderberry (*Sambucus nigra*), coffeeberry (*Frangula* sp.), coyote brush, California rose (*Rosa californica*), and blackberry (*Rubus ursinus* and *R. armeniacus*). Due to the presence of irrigation lines and weed cloth, it appears that the majority of the vegetation within this habitat type was planted in the past as part of a restoration effort.

Other Waters of the United States

Sheehy Creek

Sheehy Creek consists of a single channel flowing from east to west along the southern boundary of the study area. The creek had flowing water at the time of the survey. Vegetation along the

banks and within the channel is generally thick and composed of cattails (*Typha latifolia*), hardstem bulrush (*Schoenoplectus acutus*), and Himalayan blackberry (*Rubus armeniacus*). The channel of the creek is approximately 1,287 linear feet within the study area, and ranges from approximately 10 feet to 15 feet wide at the OHWM, and 25 feet wide, on average, at the top of the bank. Sheehy Creek is classified as riverine by the National Wetland Inventory, and has an established bed and bank. This creek has indirect connectivity to Napa River and the San Pablo Bay, both TNWs. Thus, Sheehy Creek is considered a relatively permanent water that drains to other waters of the United States, and is potentially jurisdictional.

Wetlands

Three seasonal wetlands (SWs) (SW-01 through SW-03) were identified within the study area. Each of these depressional features is located adjacent to the riparian corridor associated with Sheehy Creek in the southern portion of the study area (Figure 5).

Seasonal Wetland 01 (SW-01)

SW-01 is approximately 0.32 acre and appears to be fed by water overtopping the banks of Sheehy Creek or excess water from SW-02, located to the northeast of this wetland feature. This wetland is discernable based on the distinct vegetation and topographical differences between the concave depression of the wetland, the upland terrace to the north, and the top of bank of Sheehy Creek to the south. Dominant plant species found within this seasonal wetland include California eryngo (*Eryngium aristulatum*), curly dock (*Rumex crispus*), field bindweed (*Convolvulus arvensis*), rabbit's foot grass (*Polypogon monspeliensis*), turkey tangle fogfruit (*Phyla nodiflora*), and hairgrass (*Aira caryophylla*). The wetland sampling point (SP-03) was dug in this feature and contained evidence of hydric soils, hydrophytic vegetation, and hydrology (refer to Appendix C). Due to the adjacency of this wetland to Sheehy Creek, this feature may be considered a wetland adjacent to a relatively permanent water tributary to a water of the United States, and is potentially jurisdictional.

This seasonal wetland presents similarly to a vernal pool, which is considered a special aquatic site as described in Section 230.3(q-1) of Section 404 of the CWA. Thus, based on the proximity to Sheehy Creek and because it may be a special aquatic site, this seasonal wetland is potentially jurisdictional.

Seasonal Wetlands 02 (SW-02)

SW-02 is located directly northeast of SW-01 and north of Sheehy Creek. This feature is approximately 0.12 acre. A wetland sampling point (SP-04) was dug within this wetland feature and contained evidence of hydric soils, hydrophytic vegetation, and hydrology (Appendix C).

Vegetation within this wetland was dominated by turkey tangle fogfruit, cocklebur (*Xanthium strumarium*), and swamp grass (*Crypsis schoenoides*). It appears that this wetland receives water from high flows overtopping the banks of Sheehy Creek during storm events. Water may leave the wetland at the southwestern end where it enters SW-01. Due to the adjacency of this wetland to Sheehy Creek, this feature may be considered a wetland adjacent to a relatively permanent water tributary to a water of the United States and is potentially jurisdictional.

Seasonal Wetlands 03 (SW-03)

SW-03 is located at the western end of the study area, just north of the riparian corridor of Sheehy Creek. This wetland feature is approximately 0.04 acre and follows a linear depression in the landscape. A sampling point (SP-05) was dug at this location and shows evidence of hydric soil, hydrophytic plants, and hydrology (Appendix C). Similar to SW-01, this wetland is dominated by California eryngo, and contains rabbit's foot grass and canary reed grass (*Phalaris aquatica*). The adjacency of this wetland to Sheehy Creek, which is considered a relatively permanent water tributary to a water of the United States, makes it potentially jurisdictional.

6.2 Jurisdictional Wetlands and Waters

The study area does not support TNWs, interstate waters, or waters that support interstate commerce (33 CFR 328.3(a) parts 1–4); therefore, potential ACOE jurisdiction was determined based on connectivity or adjacency to off-site waters of the United States (CFR 328.3(a) part 5).

Figure 5 depicts the geographic extent of wetland features within the study area, and Table 1 includes the total acreage of potentially jurisdictional wetlands and other waters of the United States. An aquatic resources table in accordance with ACOE format is presented in Appendix D.

Table 1
Wetlands and Waters within the Study Area

Feature	Jurisdiction	Acres	Linear Feet
Wetlands			
Seasonal Wetland 01	Jurisdictional	0.32	N/A
Seasonal Wetland 02	Jurisdictional	0.12	N/A
Seasonal Wetland 03	Jurisdictional	0.04	N/A
	Total	**0.48**	**N/A**
Other Waters			
Sheehy Creek	Jurisdictional	N/A	1,287.00
	Total	**N/A**	**1,287.00**

N/A = not applicable

Data Stations

Vegetation, hydrology, and soils were examined at four sampling points within the study area to determine the extent of potentially jurisdictional resources (Figure 5).

Vegetation in the representative upland data point (SP-02) consisted of dry annual grasses, low-growing herbaceous vegetation, and mowed coyote brush shrubs. Drought conditions prevalent in previous years in California may have contributed to the composition of vegetation in the study area. Additionally, soils may have been altered by human activity as a result of grading and contouring associated with development of adjacent parcels, and restoration activities along Sheehy Creek. Table 2 lists the results of these data stations in terms of the three criteria that determine jurisdiction: vegetation, hydrology, and soils. For more detailed information regarding the presence or absence of wetland indicators, refer to the completed ACOE data sheets in Appendix C.

Table 2
Jurisdictional Data Station Results

Data Station	Wetland Vegetation	Wetland Hydrology	Wetland Soils	Determination
SP-01	Absent	Absent	Present	Non-jurisdictional
SP-02	Absent	Absent	Absent	Non-jurisdictional
SP-03	Present	Present	Present	Jurisdictional
SP-04	Present	Present	Present	Jurisdictional
SP-05	Present	Present	Present	Jurisdictional

SP = sampling point

7 CONCLUSIONS

The study area supports 0.48 acre of wetlands and 1,287 linear feet of other waters that are anticipated to meet the criteria for jurisdictional waters of the United States, including wetlands based on an analysis of the three parameters for wetlands (soils, hydrology, and vegetation), and connectivity/proximity to known waters of the United States.

All features identified during the site visit are potentially jurisdictional.

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FIGURE 1

Regional Map

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Napa Self Storage Preliminary Jurisdictional Delineation

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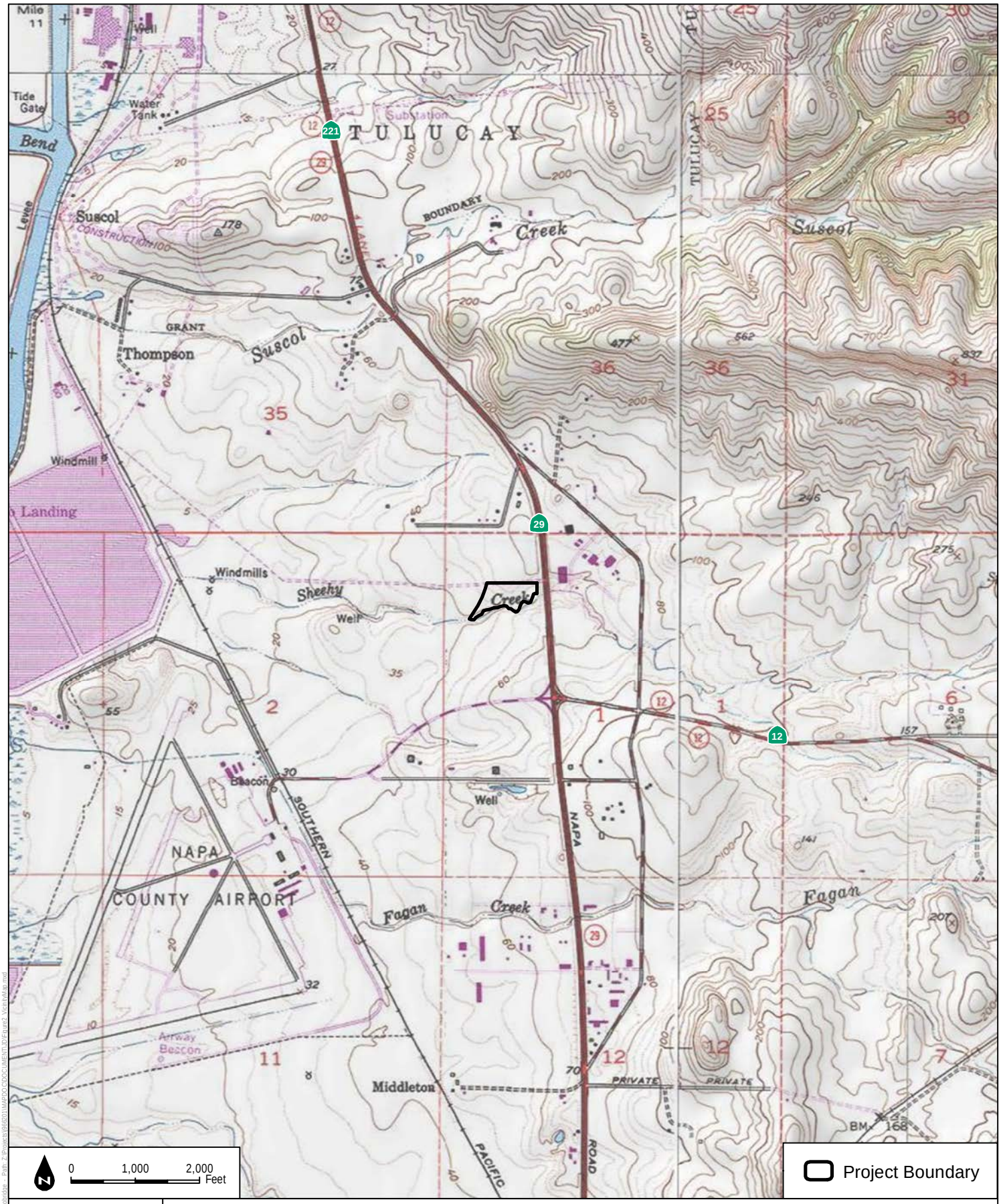

SOURCE: USGS 7.5-Minute Series Cuttings Wharf Quadrangle; G.J. Cook (2016)

FIGURE 2

Vicinity Map

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Napa Self Storage Preliminary Jurisdictional Delineation

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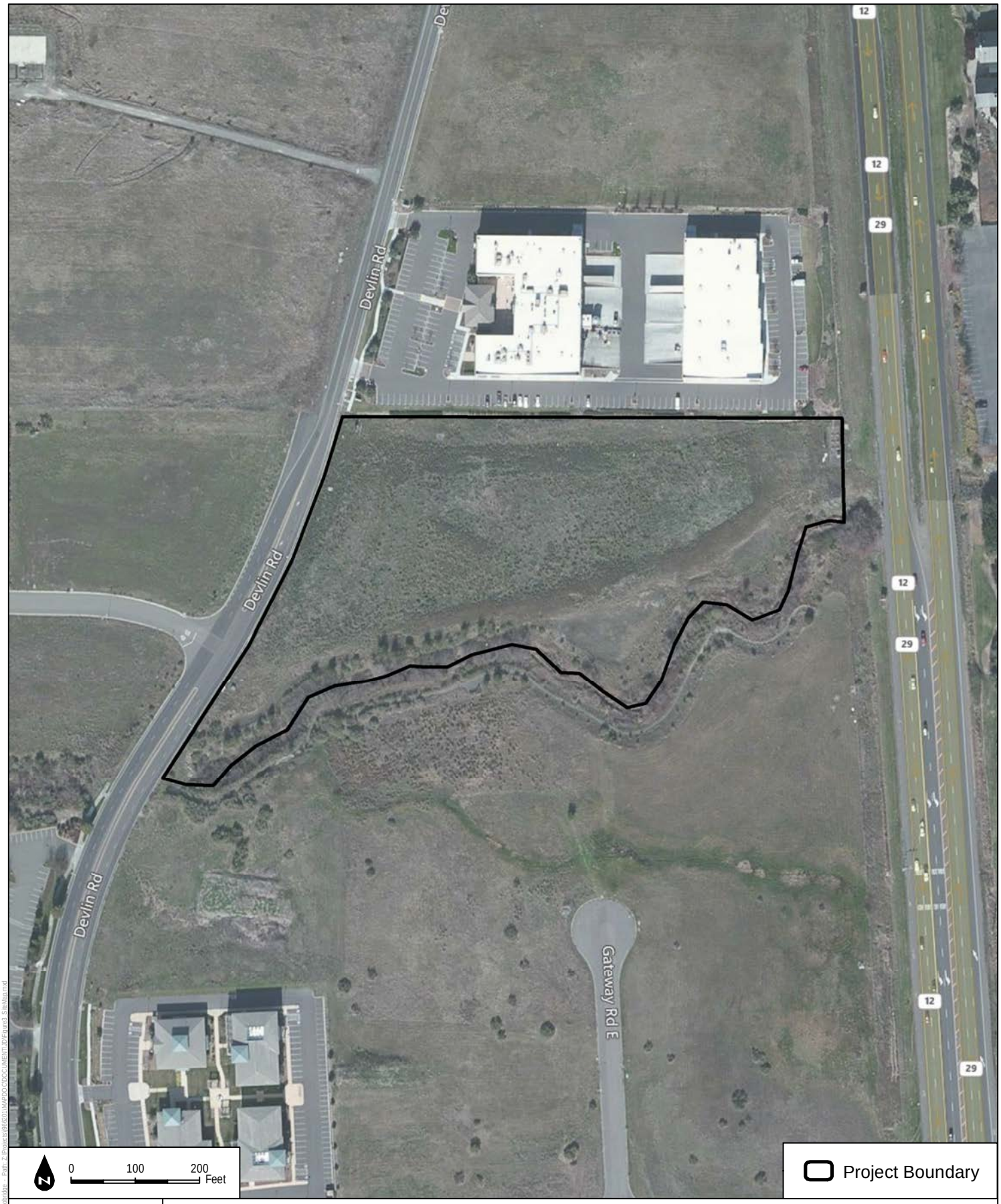

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SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016)

FIGURE 3
Site Map

Napa Self Storage Preliminary Jurisdictional Delineation

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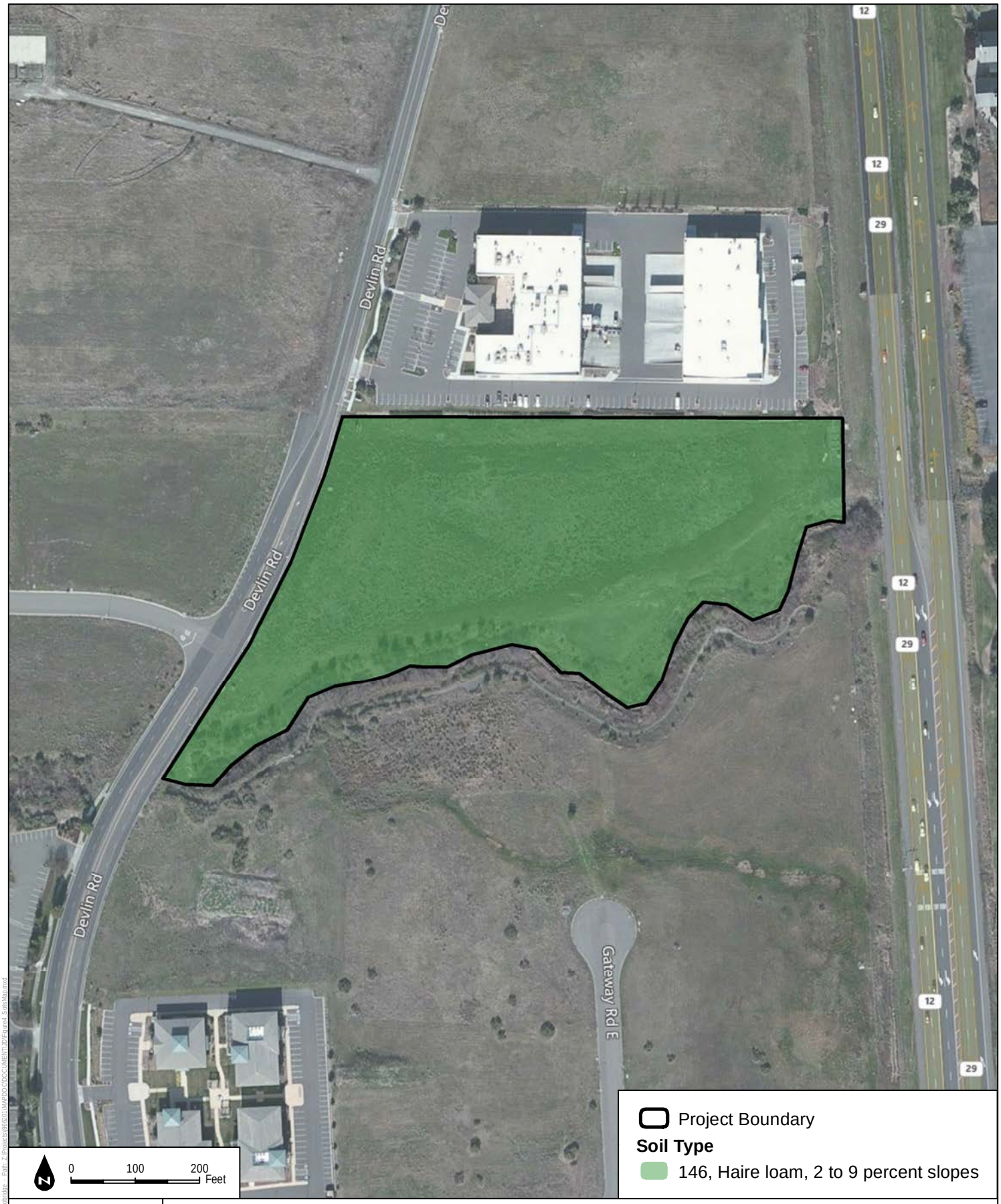

SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016); USDA NRCS

FIGURE 4
Soils Map

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Napa Self Storage Preliminary Jurisdictional Delineation

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SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016)

FIGURE 5

Wetland Delineation Results

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Napa Self Storage Preliminary Jurisdictional Delineation

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APPENDIX A

Representative Photographs

APPENDIX A
Representative Photographs

Photo 1: Typical view of the grassland dominating the site, facing northeast.

Photo 2: View of riparian corridor associated with Sheehy Creek, facing south.

Photo 3: Seasonal Wetland 01 (SW-01), facing southeast.

Photo 4: Seasonal Wetland 02 (SW-02), looking east.

Photo 5: Seasonal Wetland 03 (SW-03), facing northeast.

Photo 6: View of outlet of Sheehy Creek under Devlin Road on the western edge of the study area.

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APPENDIX B

Plant Species Observed in the Study Area

APPENDIX B
Plant Species Observed

Vascular Species	Wetland Plant Indicator
Monocots	
CYPERACEAE—Sedge Family	
Cyperus eragrostis—tall flatsedge	FACW
Eleocharis macrostachya—pale spikerush	OBL
Schoenoplectus acutus—hardstem bulrush	OBL
JUNCACEAE—Rush Family	
Juncus balticus – rush	FACW
Juncus patens—spreading rush	FACW
POACEAE—Grass Family	
Aira caryophylla – hairgrass	
**Avena fatua*—wild oat	UPL
**Bromus diandrus*—ripgut brome	UPL
**Bromus hordeaceus*—soft brome	FACU
**Crypsis schoenoides*—swamp pricklegrass	FACW
**Festuca perennis*—Italian ryegrass	FAC
**Hordeum murinum*—mouse barley	FACU
**Phalaris aquatica*—bulbous canarygrass	FACU
**Phalaris paradoxa*—hood canarygrass	FAC
**Polypogon monspeliensis*—annual rabbitsfoot grass	FACW
Stipa pulchra—purple needlegrass	UPL
TYPHACEAE—Cattail Family	
Typha latifolia—broadleaf cattail	OBL
Eudicots	
ADOXACEAE—Muskroot Family	
Sambucus nigra—black elderberry	FACU
APIACEAE—Carrot Family	
Eryngium aristulatum—California eryngo	OBL
**Foeniculum vulgare*—sweet fennel	UPL
ASTERACEAE—Sunflower Family	
Baccharis pilularis—coyotebrush	UPL
**Carduus pycnocephalus*—Italian plumeless thistle	UPL
Cephalanthus occidentalis—common buttonbush	OBL
**Cichorium intybus*—chicory	FACU
**Cirsium vulgare*—bull thistle	UPL
Grindelia hirsutula—hairy gumweed	FACW
**Helminthotheca echioides*—bristly oxtongue	FAC
**Hypochaeris radicata*—hairy cat's ear	FACU
**Lactuca serriola*—prickly lettuce	FACU
**Silybum marianum*—blessed milkthistle	UPL
**Sonchus asper*—spiny sowthistle	FAC
BRASSICACEAE—Mustard Family	
**Brassica nigra*—black mustard	UPL

APPENDIX B (Continued)

Vascular Species	Wetland Plant Indicator
**Hirschfeldia incana*—shortpod mustard	UPL
**Raphanus raphanistrum*—wild radish	UPL
CARYOPHYLLACEAE—Pink Family	
**Petrorhagia prolifera*—childing pink	UPL
CONVOLVULACEAE—Morning-glory Family	
**Convolvulus arvensis*—field bindweed	UPL
DIPSACACEAE—Teasel Family	
**Dipsacus fullonum*—Fuller's teasel	FAC
EUPHORBIACEAE—Spurge Family	
Croton setiger—dove weed	UPL
FABACEAE—Legume Family	
Acmispon americanus—no common name	UPL
**Lotus corniculatus*—bird's-foot trefoil	FAC
**Medicago polymorpha*—burclover	FACU
**Trifolium hirtum*—rose clover	UPL
FAGACEAE—Oak Family	
Quercus agrifolia—California live oak	UPL
GERANIACEAE—Geranium Family	
**Erodium cicutarium*—redstem stork's bill	UPL
**Erodium moschatum*—musky stork's bill	UPL
**Geranium dissectum*—cutleaf geranium	UPL
MYRSINACEAE—Myrsine Family	
**Lysimachia arvensis*—scarlet pimpernel	FAC
ONAGRACEAE—Evening Primrose Family	
Epilobium brachycarpum—tall annual willowherb	UPL
PLANTAGINACEAE—Plantain Family	
**Kickxia elatine*—sharpleaf cancerwort	UPL
**Plantago lanceolata*—narrowleaf plantain	FAC
POLYGONACEAE—Buckwheat Family	
Persicaria lapathifolia—curlytop knotweed	FACW
**Rumex crispus*—curly dock	FAC
**Rumex pulcher*—fiddle dock	FAC
ROSACEAE—Rose Family	
Rosa californica—California wildrose	FAC
Rubus ursinus—California blackberry	FAC
**Rubus armeniacus*—Himalayan blackberry	FAC
RUBIACEAE—Madder Family	
Xanthium strumarium—rough cocklebur	FAC
SALICACEAE—Willow Family	
Salix laevigata—red willow	FACW
Salix lasiandra—Pacific willow	FACW

Vascular Species	Wetland Plant Indicator
VERBENACEAE—Vervain Family	
Phyla nodiflora—turkey tangle fogfruit	FACW

* Signifies introduced (non-native) species.

Wetland Plant Indicator Status Definitions:

OBL – Obligate; almost always occurs in wetlands
FACW – Facultative Wetland; usually occurs in wetlands, but may occur in non-wetlands
FAC – Facultative; occurs in wetlands and non-wetlands
FACU – Facultative Upland; usually occurs in non-wetlands, but may occur in wetlands
UPL – Obligate Upland; almost never occurs in wetlands

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APPENDIX C

Data Sheets

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Napa Airport Self Storage | City/County: Napa/ Napa County | Sampling Date: 9/23/2016

Applicant/Owner: Thomastown Builders, Inc. | State: CA | Sampling Point: SP01

Investigator(s): L. Burris, L. Achter | Section, Township, Range: Sec 1, T4N, R4W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 38°13'39.42" N | Long: 122°15'37.33" W | Datum: UTM 10

Soil Map Unit Name: Haire loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Point within the floodplain of Sheehy Creek, approximately 6 feet north of the waterway's top of bank.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	40	Yes	FACW
2. *Quercus agrifolia*	25	Yes	UPL
3.			
4.			
Total Cover:	65 %		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	25	Yes	UPL
2. *Rosa californica*	5	No	FAC
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Avena sp.*	30	Yes	UPL
2. *Bromus diandrus*	10	No	UPL
3. *Stipa pulchra*	5	No	UPL
4. *Juncus balticus*	5	No	FACW
5. *Geranium dissectum*	5	No	UPL
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1. *Rubus ursinus*	5	Yes	FAC
2.			
Total Cover:	5 %		

% Bare Ground in Herb Stratum 45 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	45	x 2 =	90
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	155 (A)		620 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- [●] Dominance Test is >50%
- [●] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: Vegetation appears to have been planted as part of a riparian restoration program. Evidence of weed fabric and irrigation lines present.

SOIL

Sampling Point: SP01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	7.5 YR 2.5/1	100					clay loam	
4-6	1.5 YR 3/1	95	5 YR 4/6	5	C	M	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: clay

Depth (inches): 6

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Napa Airport Self Storage | City/County: Napa/ Napa County | Sampling Date: 9/23/2016

Applicant/Owner: Thomastown Builders, Inc. | State: CA | Sampling Point: SP02

Investigator(s): L. Burris, L. Achter | Section, Township, Range: Sec 1, T4N, R4W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 38°13'39.42" N | Long: 122°15'37.33" W | Datum: UTM 10

Soil Map Unit Name: Haire loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Upland point in field north of Sheehy Creek.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	20	Yes	UPL
2.			
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1. *Phalaris aquatica*	60	Yes	FACU
2. *Avena sp.*	40	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	60	x 4 =	240
UPL species	60	x 5 =	300
Column Totals:	120 (A)		540 (B)

Prevalence Index = B/A = 4.50

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: The area was tilled/mowed and the vegetation was predominantly thatch from this years' growth.

SOIL

Sampling Point: SP02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	5 YR 3/1	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: clay

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Napa Airport Self Storage | City/County: Napa/ Napa County | Sampling Date: 9/23/2016

Applicant/Owner: Thomastown Builders, Inc. | State: CA | Sampling Point: SP03

Investigator(s): L. Burris, L. Achter | Section, Township, Range: Sec 1, T4N, R4W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 38°13'39.42" N | Long: 122°15'37.33" W | Datum: UTM 10

Soil Map Unit Name: Haire loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Low area above primary floodplain, SW01.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Eryngium aristulatum*	85	Yes	OBL
2. *Rumex crispus*	5	No	UPL
3. *Convolvulus arvensis*	5	No	UPL
4. *Aira caryophylla*	5	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 2 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	100 (A)		155 (B)

Prevalence Index = B/A = 1.55

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Much thatch from this years' growth. Veg surrounding plot: Polypogon monspeliensis, phalaris aquatica, and Phyla nodiflora.

SOIL

Sampling Point: SP03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	5 YR 3/1	95	5 YR 4/6	5	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: hardpan clay

Depth (inches): 6

Hydric Soil Present? Yes ◉ No ○

Remarks: Redox features evident in surface of tilled soils within depression. tilled approximately 3 to 4 inches deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Napa Airport Self Storage | City/County: Napa/ Napa County | Sampling Date: 9/23/2016

Applicant/Owner: Thomastown Builders, Inc. | State: CA | Sampling Point: SP04

Investigator(s): L. Burris, L. Achter | Section, Township, Range: Sec 1, T4N, R4W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 38°13'39.42" N | Long: 122°15'37.33" W | Datum: UTM 10

Soil Map Unit Name: Haire loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: SW02, within secondary floodplain north of Sheehy Creek.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Phyla nodoflora*	55	Yes	FACW
2. *Xanthium strumarium*	10	No	FAC
3. *Crypsis schoenoides*	10	No	FACW
4. *Lotus corniculatus*	7	No	FAC
5. *Polypogon monspeliensis*	5	No	FACW
6. *Kickxia elatine*	5	No	UPL
7. *Phalaris aquatica*	2	No	FACU
8. *Rumex crispus*	1	No	FAC
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	70	x 2 =	140
FAC species	18	x 3 =	54
FACU species	2	x 4 =	8
UPL species	5	x 5 =	25
Column Totals:	95 (A)		227 (B)

Prevalence Index = B/A = 2.39

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Area has been tilled/ mowed.

SOIL

Sampling Point: SP04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	2.5 YR 3/1	70	7.5 YR 4/6	5	C	M	silty clay loam	
	2.5 Y 2.5/1	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: hardpan clay

Depth (inches): 8

Hydric Soil Present? Yes ◉ No ○

Remarks: Redox features evident in surface of tilled soils within depression. tilled approximately 3 to 4 inches deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☒ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Napa Airport Self Storage | City/County: Napa/ Napa County | Sampling Date: 9/23/2016

Applicant/Owner: Thomastown Builders, Inc. | State: CA | Sampling Point: SP05

Investigator(s): L. Burris, L. Achter | Section, Township, Range: Sec 1, T4N, R4W

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 38°13'39.42" N | Long: 122°15'37.33" W | Datum: UTM 10

Soil Map Unit Name: Haire loam, 2 to 9 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: SW03 - linear depression north and adjacent to riparian corridor of Sheehy Creek.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	10	Yes	
2. *Quercus agrifolia*	10	Yes	UPL
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Eryngium aristulatum*	45	Yes	OBL
2. *Polypogon monspeliensis*	15	Yes	FACW
3. *Lotus corniculatus*	10	No	FAC
4. *Convolvulus arvensis*	5	No	UPL
5. *Cichorium intybus*	2	No	FACU
6. *Phalaris aquatica*	2	No	FACU
7.			
8.			
Total Cover:	79 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 21 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	4	x 4 =	16
UPL species	15	x 5 =	75
Column Totals:	89 (A)		196 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Area has been partially tilled/ mowed. Thatch present.

SOIL

Sampling Point: SP05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10 YR 4/2	95	7.5 YR 4/6	5	C	M	sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: hardpan clay

Depth (inches): 6

Hydric Soil Present? Yes ◉ No ○

Remarks: Tilled approximately 3 to 4 inches deep.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

APPENDIX D

Aquatic Resources Spreadsheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
SW-01	CALIFORNIA	PEM2		Area	0.32	ACRE	RPWWN	38.22721500	-122.25996000	Sheehy Creek
SW-02	CALIFORNIA	PEM2		Area	0.12	ACRE	NRPWW	38.22754800	-122.25911700	Sheehy Creek
SW-03	CALIFORNIA	PEM2		Area	0.04	ACRE	RPWWN	38.22693400	-122.26172000	Sheehy Creek
Sheehy Creek	CALIFORNIA	R2UB		Linear	1287	FOOT	RPW	38.22710000	-122.26061000	Sheehy Creek

DUDEK

853 LINCOLN WAY, SUITE #208
AUBURN, CALIFORNIA 95603
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May 23, 2016 9662

Ryan Smith
Thomastown Builders Inc.
11711 Quartz Drive
Auburn, CA 95602

Subject: ***Preliminary Biological Resources Assessment for the Napa Airport Self Storage Project in Napa, Napa County, California***

Dear Mr. Smith:

This biological resources assessment describes the existing conditions for the proposed Napa Airport Self Storage Project site in Napa, California (Figure 1). This report provides a preliminary assessment of the biological resources observed or potentially present on the site, potential biological constraints associated with development of the site and related regulatory requirements.

The proposed project is located in a vacant lot just south of the property at 388 Devlin Road and involves construction of a new self storage facility. Potential impacts to special-status species and/or biological resources due to the proposed development of the approximately 7.4-acre parcel are analyzed in the context of the California Environmental Quality Act (CEQA). This report describes the project site, results of the biological reconnaissance survey, special-status biological resources present or potentially present on-site, a preliminary assessment of expected regulatory requirements related to biological resource impacts of potential projects on the site, and potential constraints to development that may be posed by biological resources on the site.

1. SITE LOCATION AND DESCRIPTION

The 7.4-acre project site (APN 057-250-008) is located in Section 1, Township 4 North, and Range 4 West of the U.S. Geological Survey (USGS) Cuttings Wharf 7.5' quadrangle. The approximate center of the site corresponds to 38°13'39.42 north latitude and 122°15'37.33" west longitude (Figure 2).

The project site is characterized as undeveloped previously disturbed annual and perennial grassland, which occurs throughout the majority of the site, and scrub habitat which occurs throughout the center of the site. The site is relatively flat and elevation ranges between 40-55 feet above mean sea level (AMSL). The site is bounded on the north by commercial development, on the east by State Highway 12, on the south by Sheehy Creek and on the west by Devlin Road (Figure 3).

According to the Natural Resources Conservation Service (USDA 2016), one soil type is mapped within the parcel and includes Haire loam, 2-9% slopes. This soil type is moderately well-drained, non-saline to very slightly saline alluvium derived from sedimentary rock and is typically composed of sandy clay.

2. PROJECT DESCRIPTION

A new self-storage facility will be constructed within the parcel described above using a standardized site plan. Site preparation prior to construction will include clearing vegetation and grading, cutting and filling the site to minimize runoff and sedimentation.

3. SITE EVALUATION

Data regarding biological and jurisdictional resources present within the property were obtained through a review of pertinent literature and field reconnaissance; both are described in detail below.

Preliminary Review

Special-status biological resources present or potentially present on the site were identified through a literature search using the following sources: U.S. Fish and Wildlife Service (USFWS) Information, Planning and Conservation (IPaC) Trust Resource Report; California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) report; and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants. Historical aerial photography was used to determine areas of the site that could potentially contain jurisdictional Waters of the U.S. or Waters of the State.

A CNDDB and CNPS records search was conducted for the Cuttings Wharf USGS 7.5-minute quadrangle and the surrounding eight quadrangles. Only California Rare Plant Rank (CRPR) 1 and 2 plant species were included in this search. Dudek also conducted an IPaC search that encompassed a five-mile radius around the site.

Following review of these resources, Dudek determined the potential for each species to occur within the site based on a review of vegetation communities and available land cover types, habitat types, soils, and elevation preferences, as well as the known geographic range of each species. Species were not expected to occur when the site was clearly outside of the known geographic range of the species or no suitable habitat was found within or adjacent to the project site.

Field Assessment

A field assessment was conducted on the site on May 16, 2016 by Dudek wildlife biologist Lisa Achter. The field assessment included mapping vegetation communities and land cover types present within the approximately 7.4-acre project site, an evaluation of potentially jurisdictional wetlands or waters, and an assessment of the potential for special-status species to occur within the project site.

4. METHODS

4.1 Vegetation Community and Land Cover Types

The field survey was conducted on foot to visually cover the entire site. An aerial photograph (Google Earth 2016) with an overlay of the property boundary and surrounding buffer was utilized to map the vegetation communities and record any special-status or sensitive biological resources while in the field. The vegetation community and land cover mapping conducted on the site follows the classifications described by Sawyer and Keeler-Wolf (2009).

4.2 Flora

All plant species encountered during the field survey were identified and recorded into a field notebook. Common and scientific names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2016).

4.3 Fauna

Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded into a field notebook. The site was scanned with and without binoculars to aid in the identification of wildlife. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area.

4.4 Jurisdictional Wetlands

Dudek conducted a constraints-level analysis for potentially jurisdictional waters and wetlands based on criteria provided by the following agencies:

- Waters of the U.S., including wetlands, under the jurisdiction of the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the federal Clean Water Act (CWA).

- Wetlands under the jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Act.

- Wetlands under the jurisdiction of CDFW, pursuant to Section 1602 of the California Fish and Game Code.

Pursuant to the federal CWA, ACOE and RWQCB-jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE, but may also include isolated features that have evidence of surface water inundation pursuant to the state Porter Cologne Water Quality Act. These areas generally support at least one of the three ACOE wetlands indicators but are considered isolated through the lack of surface water hydrology/connectivity downstream. The extent of CDFW-regulated areas typically include areas supporting a predominance of hydrophytic vegetation (i.e., 50% cover or greater) where associated with a stream channel.

Specifically, Dudek performed a constraints-level wetland assessment on the property, reviewed current and historical aerial photography, and then identified potentially jurisdictional features based on aerial signatures and field observations.

5. RESULTS

The quantification of biological resources described below pertains to habitats and species present within the site only. No off-site areas are included in this analysis since these areas were not evaluated as part of the assessment.

5.1 Vegetation Communities and Land Cover Types

Two vegetation communities exist on the project site. According to the Manual of California Vegetation (Sawyer Keeler-Wolf), the majority of the site is made up of *Phalaris aquatica* Herbaceous Semi-Natural Alliance (Harding grass swards). The remainder of the site is comprised of *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub). These land cover types are described in more detail below.

***Phalaris aquatica* Herbaceous Semi-Natural Alliance (Harding grass swards).** This was the predominant vegetation community mapped during the survey and is present throughout the site. It is dominated by Harding grass (*Phalaris aquatica*) in the herbaceous layer and scattered emergent shrubs may be present at low cover, including coyote brush (*Baccharis pilularis*) or buckbrush (*Ceanothus cuneatus*). The canopy is intermittent to continuous and the alliance

occurs in several topographic settings, including seasonally wet and alkaline sites. The ACOE National Wetland Plant List (2016 Arid West regional wetland plant list) recognizes *Phalaris aquatica* as a FACU plant, meaning they occur in wetlands about 25 percent of the time and is not a hydrophytic plant species. This species can invade previously disturbed areas and form dense patches that prevent the germination of other species.

***Baccharis pilularis* Shrubland Alliance (Coyote brush scrub).** *Baccharis pilularis* is dominant to co-dominant in the shrub canopy with shrubs such as California sagebrush (*Artemisia californica*), blue blossom (*Ceanothus thyrsiflorus*), California blackberry (*Rubus ursinus*) and white sage (*Salvia apiana*). Emergent trees may be present at low cover including Bishop pine (*Pinus muricata*), Douglas fir (*Pseudotsuga menziesii*), coast live oak (*Quercus agrifolia*) or California bay tree (*Umbellularia californica*). Shrubs are less than 3 meters and the canopy and herbaceous layer is variable. This alliance occurs at river mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, and ridges. Soils are variable, and can be sandy to relatively heavy clay.

A list of plant species observed on the site is presented in Appendix A.

5.2 Aquatic Habitats and Jurisdictional Wetlands and Waters

Several potentially jurisdictional seasonal wetlands were observed along the southern boundary of the site near Sheehy Creek (Figure 4); however, a jurisdictional delineation was not performed during the field visit. These features contained hydrophytic vegetation such as hood canary grass (*Phalaris paradoxa*), California eryngo (*Eryngium aristulatum*), and curly dock (*Rumex crispus*). Hydrology was further evidenced by surface soil cracks.

5.3 Plants and Wildlife

A total of 36 species of vascular plants were recorded during the site survey (see Appendix A). Of these 36 species, seven are native to California. The remainders are non-native species which have become adapted to annual and perennial grasslands and disturbed areas in California.

Seven wildlife species were observed on the site. These were tree swallow (*Tachycineta bicolor*), cliff swallow (*Petrochelidon pyrrhonota*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), red-winged blackbird (*Agelaius phoeniceus*), northern mockingbird (*Mimus polyglottos*) and black-tailed jackrabbit (*Lepus californicus*) scat.

5.4 Special-Status Species and Sensitive Resources

Special-Status Wildlife

Results of the CNDDB and USFWS searches revealed 22 listed or special-status species or species proposed for listing as rare, threatened, or endangered by either the CDFW or the USFWS. Of these, 11 were removed from consideration due to lack of suitable habitat within or adjacent to the project area, or the project area was outside of the species known range (Attachment B). Delta smelt (*Hypomesus transpacificus*) and longfin smelt (*Spirinchus thaleicthys*) have a low potential to occur in Sheehy Creek, via the Napa River to the west. Burrowing owl (*Athene cunicularia*) has a low potential to utilize the site currently due to the height of the vegetation (currently 3-5 feet). However, should the site be disked or mowed on a regular basis, and if California ground squirrel (*Otospermophilus beecheyi*) burrows were available for burrowing owl to use for nesting and cover, there would be an increased potential for this species to present on the site.

Five species have a moderate potential to occur on the site due to the availability of suitable habitat on the site or occurrences that exist near the site. These are Central California coastal steelhead (*Oncorhynchus mykiss*), California red-legged frog (*Rana draytonii*), bald eagle (*Haliaeetus leucocephalus*), loggerhead shrike (*Lanius ludovicianus*) and tricolored blackbird (*Agelaius tricolor*).

Swainson's hawk (*Buteo swainsoni*) has a high potential to occur on the site due to the availability of high quality nesting habitat along Sheehy Creek and suitable foraging habitat on the site. Several occurrences of Swainson's hawk exist adjacent to the site.

Special-Status Plants

Results of the CNDDB and CNPS searches revealed 11 special-status plant species that have potential to occur in the vicinity of the project site. Of these, seven were removed from consideration due to lack of suitable habitat or the site being outside of the species range (Attachment B). No special-status plants were observed during the field survey, although focused surveys were not performed and the survey occurred outside of the blooming period for several special-status plant species.

Two-fork clover (*Trifolium amoenum*) has a low potential to occur on the site. Although the site provides potentially suitable habitat for this species, it is thought to be extirpated from the Cuttings Wharf quad.

Contra Costa goldfields (*Lasthenia conjugens*), Sebastopol meadowfoam (*Limnanthes vinculans*), and Sonoma sunshine (*Blennosperma bakeri*) have a moderate potential to occur on the site due to the availability of suitable habitat on the site and/or occurrences of these species adjacent to the site.

Sensitive Habitats

The site is not located within or adjacent to any preserve or conservation area; however, the potential seasonal wetlands on the site and Sheehy creek and associated riparian vegetation are considered sensitive habitats by CDFW, ACOE and RWQCB and could require permits from these agencies if these features are impacted by project activities (Figure 5).

5.5 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping stones for wildlife dispersal.

Because the site is a non-linear feature and bound by existing roads and development, the site has little value as a potential wildlife corridor or habitat linkage, although common urban wildlife species such as raccoon (*Procyon lotor*), coyote (*Canis latrans*) and Virginia opossum (*Didelphis virginiana*) would likely move through the site and along Sheehy Creek on a regular basis.

6. POTENTIAL CONSTRAINTS TO DEVELOPMENT

This section addresses potential impacts to sensitive biological resources that would result from construction of a self-storage facility on the site. For purposes of this constraints analysis, it is assumed that the site will be 100% impacted by the proposed project, while providing a 35-foot setback from Sheehy Creek.

6.1 Vegetation

Impacts from the proposed project would occur to all vegetation communities/land cover types present on site. No sensitive vegetation communities were observed during the field survey. Any trees requiring removal prior to construction of the project could require a permit from the City and/or County of Napa.

6.2 Jurisdictional Waters of the U.S.

Although a jurisdictional delineation was not performed during the survey, several potential seasonal wetland features were observed on the site during the field survey and are likely under the joint regulation of the ACOE, RWQCB, and CDFW. Dudek recommends a detailed jurisdictional delineation be performed by a qualified biologist or wetland scientist and verified by the appropriate regulatory agencies (e.g., ACOE and CDFW) prior to any permanent plans for development of this property if impacts to these features are anticipated.

Impacts to jurisdictional features will require authorization from the resource agencies listed above in the form of wetland permits (e.g., 404 Nationwide Permit, 401 Water Quality Certification, and 1602 Streambed Alteration Agreement respectively). Required compensatory mitigation would provide no net loss of jurisdictional habitats. Examples of potential mitigation may include mitigation credits to be purchased at a wetlands mitigation bank, or alternatively, in-lieu fee mitigation could be arranged with the resource agencies. Permit processing can take six to nine months for minor impacts less than one half-acre in size; and up to 2 years for impacts greater than one half-acre with special status species impacts (Individual Permit).

6.3 Special-Status Plants

No special-status plants were observed during the field survey; however, the site provides potentially suitable habitat for several sensitive plant species and the survey was performed outside of the blooming period for many of these plants, therefore a focused survey for special-status plant species is recommended.

6.4 Special-Status Animals

No special-status animals were detected during this survey. However, all native birds in California are protected by the federal Migratory Bird Treaty Act (MBTA) of 1918 and Section 3503.5 of the California Fish and Game Code, which specifically protects raptors. The site provides suitable foraging habitat for several common raptor species found in California, such as red-tailed hawk (*Buteo jamacensis*), and special-status raptors and passerines such as Swainson's hawk and tricolored blackbird (Figure 5).

Dudek recommends a nesting bird survey be completed by a qualified biologist no earlier than two weeks prior to construction during the nesting season (February 1-September 30) to determine if any native birds are nesting on or near the site (including a 300 foot buffer for raptors). If any active nests are observed during surveys, a suitable avoidance buffer from the nests will be determined by the qualified biologist and consultation with CDFW will be sought if necessary. The nest(s) will be flagged by the qualified biologist based on species, location and

planned construction activity. These nests would be avoided until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. Dudek also recommends removing any habitat (i.e. trees and vegetation) outside of the breeding bird season to avoid impacts to nesting birds.

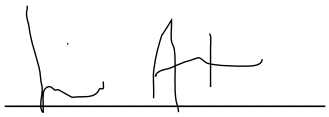
Impacts to steelhead and California red-legged frog are not expected due to the 35-foot setback requirement for this project from Sheehy Creek.

6.5 Sensitive Resources and/or Habitats

Since the site is not located in or adjacent to any preserve or conservation area, no impacts to sensitive resources commonly found in these areas are expected; however, the potentially jurisdictional features on the site should be delineated prior to construction to verify the necessity of agency permits and/or potential mitigation requirements.

If you have any questions regarding this report, please contact me via telephone at 530.217.8952 or via email at lachter@dudek.com.

Sincerely,



Lisa Achter
Wildlife Biologist
DUDEK

Att.: Appendix A, List of Vascular Plant Species Recorded Within the Site
Appendix B, Special-Status Species with Known or Potential Occurrence in the Vicinity of the Proposed Project

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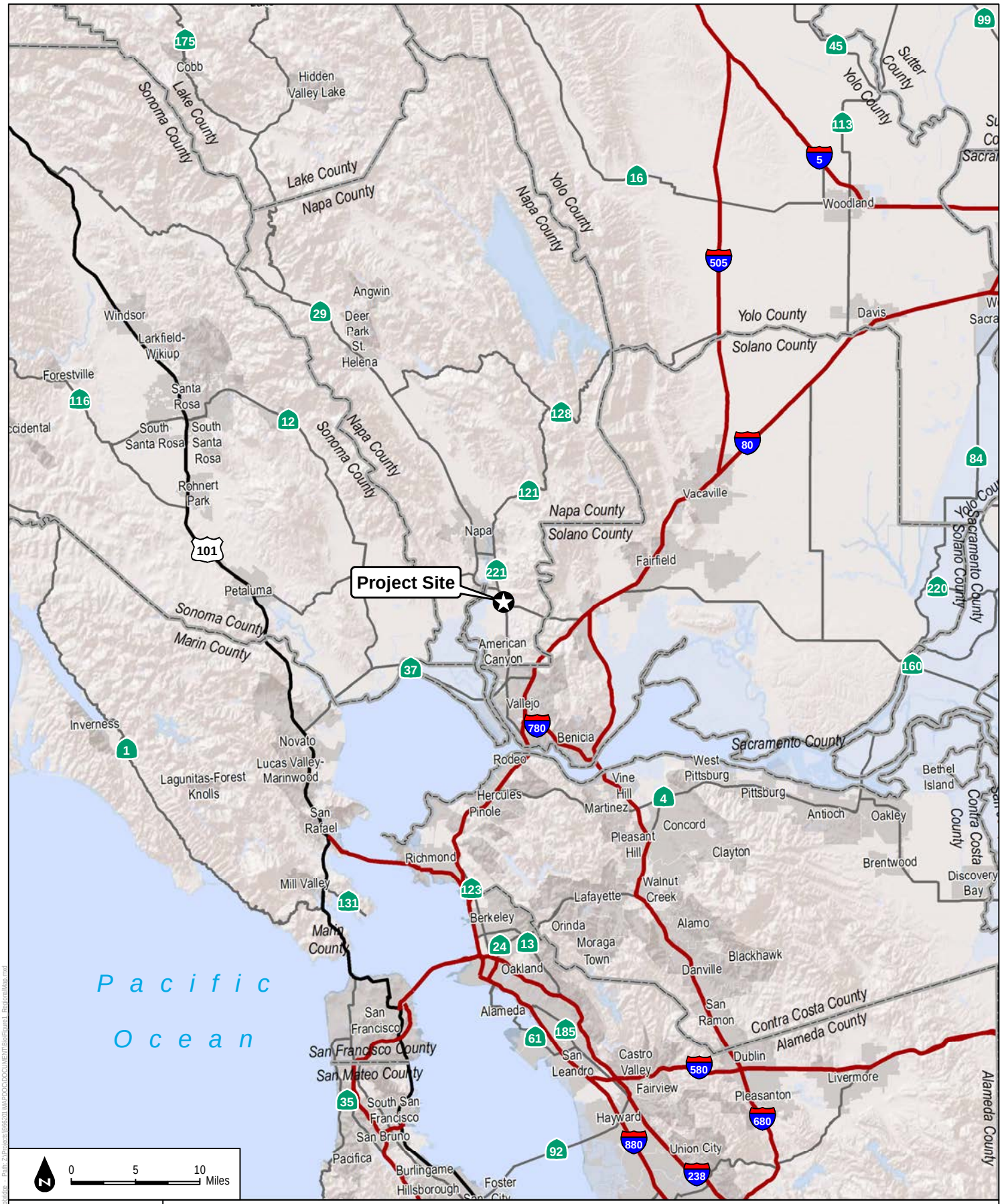

FIGURE 1

Regional Map

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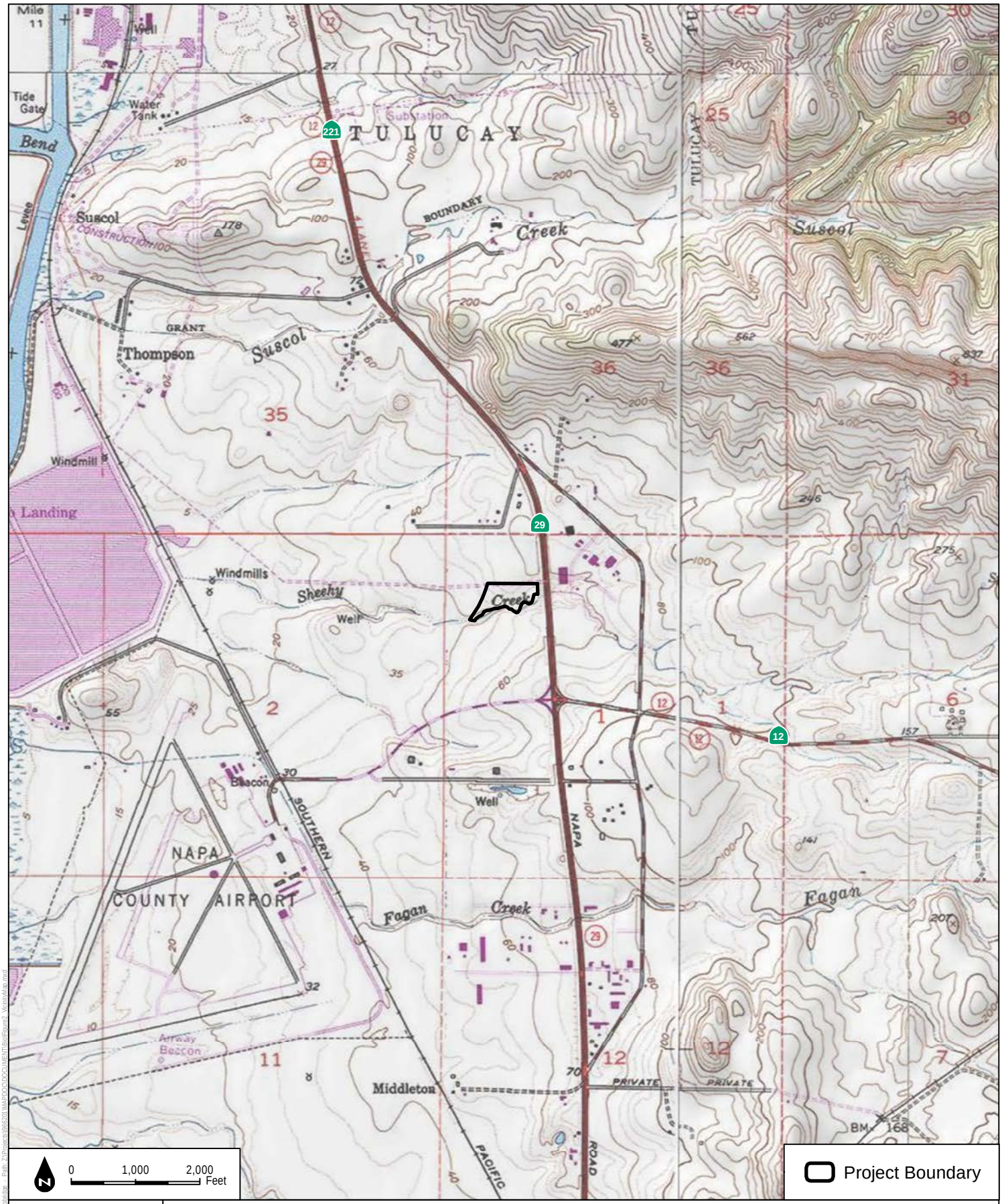
Napa Self Storage Project



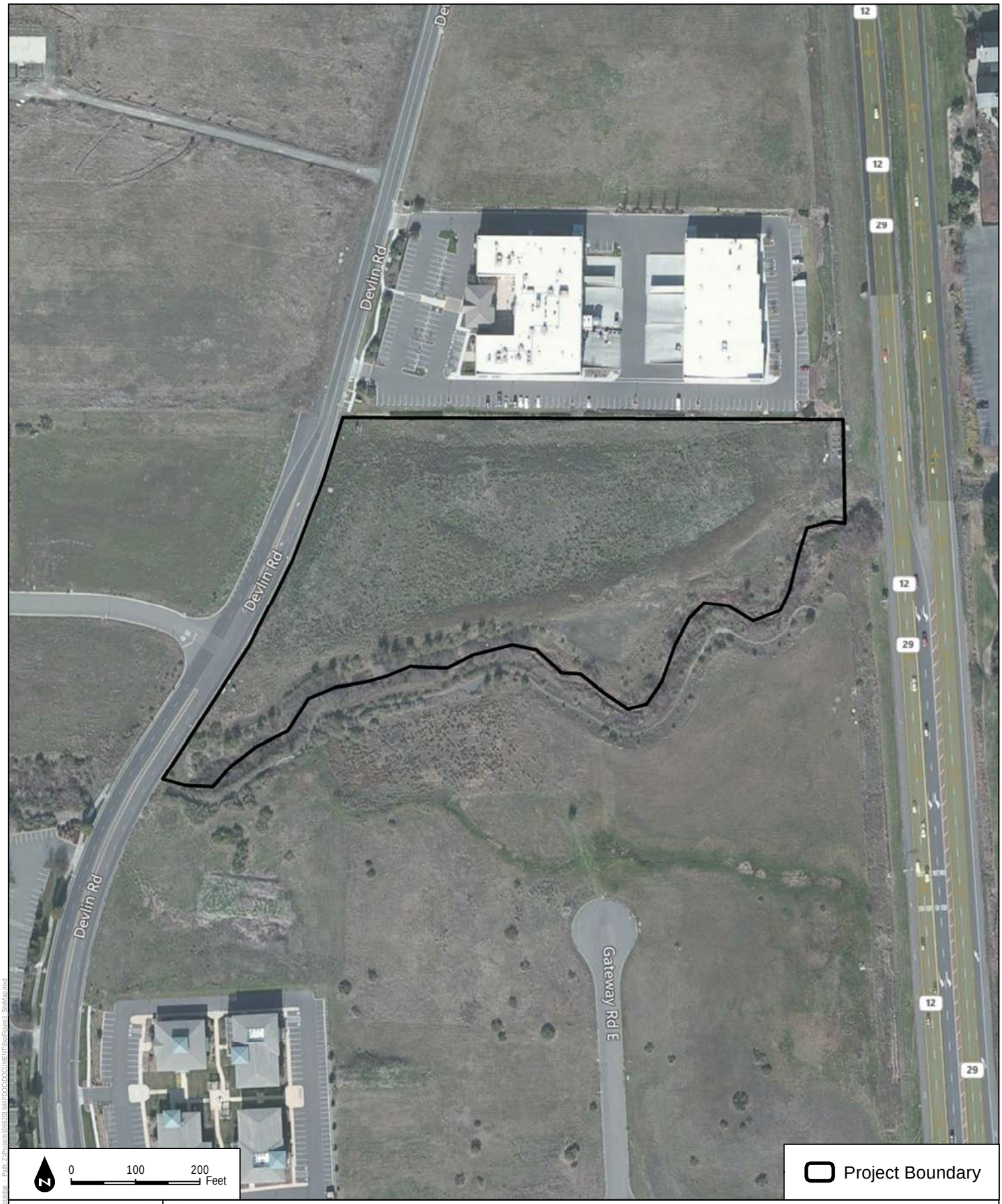
SOURCE: USGS 7.5-Minute Series Cuttings Wharf Quadrangle; G.J. Cook (2016)

FIGURE 2

Vicinity Map

DUDEK

Napa Self Storage Project



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SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016)

FIGURE 3
Site Map

Napa Self Storage Project

SOURCE: Bing Maps (Accessed 2016); G.J. Cook (2016)

FIGURE 4

Potential Jurisdictional Features

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Napa Self Storage Project

Photo 1: Coyote brush scrub habitat

Photo 2: Looking east along southern edge of site

Photo 3: Looking south across site

Photo 4: Looking west across northern edge of site

Photo 5: Potential seasonal wetland along southern edge of site

Photo 6: Riparian habitat along Sheehy Creek

Appendix A – List of Plants Observed on the Site

Eleocharis macrostachya	pale spikerush
**Avena fatua*	wild oat
**Bromus diandrus*	ripgut brome
**Bromus hordeaceus*	soft brome
**Festuca perennis*	Italian ryegrass
**Hordeum murinum*	mouse barley
**Phalaris aquatica*	bulbous canarygrass
**Phalaris paradoxa*	hood canarygrass
Sambucus nigra	black elderberry
Eryngium aristulatum	California eryngo
**Foeniculum vulgare*	sweet fennel
Baccharis pilularis	coyote brush
**Carduus pycnocephalus*	Italian plumeless thistle
**Cirsium vulgare*	bull thistle
**Helminthotheca echioides*	bristly oxtongue
**Hypochaeris radicata*	hairy cat's ear
**Silybum marianum*	blessed milkthistle
**Sonchus asper*	spiny sowthistle
**Brassica nigra*	black mustard
**Hirschfeldia incana*	shortpod mustard
**Raphanus raphanistrum*	wild radish
**Petrorhagia prolifera*	childing pink
**Dipsacus fullonum*	Fuller's teasel
**Lotus corniculatus*	bird's-foot trefoil
**Trifolium hirtum*	rose clover
Quercus agrifolia	California live oak
**Erodium cicutarium*	redstem stork's bill
**Geranium dissectum*	cutleaf geranium
**Lysimachia arvensis*	scarlet pimpernel
**Plantago lanceolata*	narrowleaf plantain
Persicaria lapathifolia	curlytop knotweed
**Rumex conglomeratus*	clustered dock
**Rumex crispus*	curly dock
**Rumex pulcher*	fiddle dock
**Rubus armeniacus*	Himalayan blackberry
Salix lasiandra	Pacific willow

*Indicates non-native species

Appendix B. Special-Status Species with Known or Potential Occurrence in the Vicinity of the Proposed Napa Self Storage Project in Napa County, California.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
Invertebrates				
California freshwater shrimp	*Syncaris pacifica*	Endangered/Endangered	The California freshwater shrimp is found in low to moderate gradient creeks and streams where there is some emergent vegetation, high water quality, low levels of pollution and good oxygen levels. Some salinity is tolerated, although they are not found in any tidally influenced or brackish waters. Oviposition occurs in late spring and eggs hatch in June.	No potential to occur due to lack of suitable habitat.
conservancy fairy shrimp	*Branchinecta conservatio*	Endangered/None	The conservancy fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Low potential to occur. Suitable habitat for this species is present within the wetlands on the south side of the project area.
valley elderberry longhorn beetle	*Desmocerus californicus dimorphis*	Threatened/None	The valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus nigra* ssp. *cerulea*), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	No potential to occur within the project area. No elderberry shrubs occur on the project site.
vernal pool fairy shrimp	*Branchinecta lynchi*	Threatened/None	The vernal pool fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Low potential to occur. Suitable habitat for this species is present within the wetlands on the south side of the project area.
Fish				
Central California coastal steelhead	*Oncorhynchus mykiss* (NMFS)	Threatened (Designated Critical Habitat)/None	Juvenile central California coastal steelhead spends one to two years rearing in freshwater before migrating to estuaries as smolts, and then to the ocean to mature. They remain at sea for up to three years before returning to fresh water to spawn in December-March. They require cold water streams with adequate amounts of dissolved oxygen and gravel substrate free of excessive silt to spawn.	Moderate potential to occur in Sheehy Creek via the Napa river.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
delta smelt	*Hypomesus transpacificus*	Threatened/Endangered	Delta smelt are a euryhaline species (tolerant of a wide salinity range). They have been collected from estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone. Most spawning happens in tidally influenced backwater sloughs and channel edgewaters.	Low potential to occur in Sheehy Creek via the Napa River.
longfin smelt	*Spirinchus thaleicthys*	Threatened/SSC	The longfin smelt is a pelagic estuarine fish. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to mature. The life cycle of most longfin smelt generally requires estuarine conditions. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand. Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (°C). Most longfin smelt in the San Francisco Bay are believed to breed in the lower reaches of the Sacramento and San Joaquin Rivers.	Low potential to occur in Sheehy Creek via the Napa River.
tidewater goby	*Eucyclogobius newberryi*	Endangered/None	The tidewater goby, a species endemic to California, is found primarily in waters of coastal lagoons, estuaries, and marshes. The species is benthic in nature, and its habitat is characterized by brackish, shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. Tidewater gobies prefer a sandy substrate for breeding, but they can be found on rocky, mud, and silt substrates as well. Tidewater gobies have been documented in waters with salinity levels from 0 to 42 parts per thousand, temperature levels from 8 to 25 degrees Celsius (46 to 77 degrees Fahrenheit), and water depths from 25 to 200 centimeters (10 to 79 inches). The tidewater goby appears to spend all life stages in lagoons, estuaries, and river mouths. Tidewater gobies may enter marine environments only when flushed out of lagoons, estuaries, and river mouths by normal breaching of the sandbars following storm events.	No potential to occur due to lack of suitable habitat.
Amphibians and Reptiles				

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
California red-legged frog	*Rana draytonii*	Threatened/None	California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. These frogs also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (*Salix* spp.), although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy. Adult frogs prefer dense, shrubby or emergent riparian vegetation near deep [≥2 to 3 feet (0.6 to 0.9 m)], still or slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail (*Typha* sp.) occur adjacent to open water.	Moderate potential to occur. Suitable habitat exists in Sheehy Creek and the closet occurrence is approximately 2.5 miles from the site.
giant gartersnake	*Thamnophis gigas*	Threatened/Threatened	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marsh and wetlands, irrigation ditches, low gradient streams and rice fields containing emergent vegetation. Adjacent upland habitat is necessary for cover and aestivation.	No potential to occur. Suitable habitat for this species is not present within or adjacent to the project area and the project area is outside of the species known range.
Birds				
bald eagle	*Haliaeetus leucocephalus*	Delisted, BGEPA/ Endangered, FP	Lives near large bodies of open water such as lakes, marshes, estuaries, seacoasts and rivers, where fish are abundant. Usually nests within one mile of water in tall trees with open branchwork bordering lakes or large rivers.	Moderate potential to occur. Suitable nesting and foraging habitat exists within one mile of the project site.
bank swallow	*Riparia riparia*	None/Threatened	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. Feeds predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland.	No potential to occur due to lack of suitable habitat.
burrowing owl	*Athene cunicularia*	None/SSC	The burrowing owl utilizes abandoned ground squirrel burrows in open habitats and grasslands, also disturbed areas. Diet consists of insects, small mammals, reptiles and amphibians. Commonly uses burrows on levees or mounds where there are unobstructed views of possible predators such as raptors or foxes.	Low potential to occur. Vegetation on the site is 3-5 feet in height, therefore likely precludes burrowing owl to use the site currently; however, there is one occurrence of burrowing owl on the site from 2006, and if the site is managed/mowed/ disked regularly, it could provide suitable habitat for burrowing owl.
California black rail	*Laterallus jamaicensis coturniculus*	None/Threatened, FP	Freshwater marshes along the margins of ponds, lakes, and water impoundments; also herb dominated wetlands on sloped ground associated with springs, canal leaks, seepage from impoundments, and agricultural irrigation. Requires water depth of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	No potential to occur due to lack of suitable habitat.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
California clapper rail	*Rallus longirostris obsoletus*	Endangered/Endangered, FP	Locally common yearlong in coastal wetlands and brackish areas. Forages in higher marsh vegetation, along vegetation and mudflat interface, and along tidal creeks. Along coast, preys on crabs, mussels, clams, snails, insects, spiders, and worms. Also takes mice during high tides, and may scavenge dead fish. Prefers fresh or brackish emergent wetland dominated by pickleweed, cordgrass, and bulrush.	No potential to occur due to lack of suitable habitat.
California least tern	*Sterna antillarum (=Sterna, =albifrons) browni*	Endangered/Endangered, FP	During the breeding season, California least tern forms colonies and nests on open, flat beaches along lagoon or estuary edges. Sometimes nests on mud or sand flats farther inland, or on artificial islands created by dredge spoils. Tends use the same nest from year to year and return to natal nest site. During the non-breeding season California least tern occurs singly or in small groups. Eats mainly small fish by diving from the air into shallow water.	No potential to occur due to lack of suitable habitat.
loggerhead shrike	*Lanius ludovicianus*	None/SSC	Loggerhead shrike is a year-round resident in most areas of California that contain grasslands, open areas, orchards and areas with scattered trees. Feeds on small vertebrates and invertebrates, impales prey on thorns or barbed wire.	Moderate potential to occur. Suitable nesting and foraging habitat exists on the project site.
northern spotted owl	*Strix occidentalis caurina*	Threatened/Candidate Threatened, SSC	The northern spotted owl requires old-growth forest or old unfragmented patches of mixed conifer stands. Preferred habitat characteristics include moderate to high canopy closure with a multilayered, multispecies canopy. They require cavities and broken top trees for nesting and heavy accumulation of decaying logs and woody decay on the forest floor to support a diet of rodents.	No potential to occur due to lack of suitable habitat.
Swainson's hawk	*Buteo swainsoni*	None/Threatened	Swainson's hawk spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. Diet consists of insects, small mammals and reptiles.	High potential to occur. The project site contains suitable foraging and nesting habitat and there are several occurrences within one-half mile of the site.
tricolored blackbird	*Agelaius tricolor*	None/Candidate Threatened	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in the past 6 years due to habitat loss and harvest of grain fields before young have fledged.	Moderate potential to occur. Suitable nesting and foraging habitat exists on the project site and there are occurrences within one-half mile of the site.
western snowy plover	*Charadris alexandrinus nivosus*	Threatened/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.	No potential to occur due to lack of suitable habitat.
Mammals				

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
salt marsh harvest mouse	*Reithrodontomys raviventris*	Endangered/Endangered, FP	The salt marsh harvest mouse occurs in tidal flats and on the shore in estuarine habitats, and in herbaceous wetlands. Occurs in salt and brackish marshes where plants provide a dense mat for cover, with a high percentage of pickleweed, along with a complex structure of other plant species. The salt marsh harvest mouse needs access to high ground for refuge/cover, especially during high tides in the winter. Diet is composed of green vegetation including salt grass and pickleweed, along with some seeds. Diet varies by available vegetation.	No potential to occur due to lack of suitable habitat.
			Plants	
Clara Hunt's milk-vetch	*Astragalus claranus*	Endangered/Threatened, CRPR 1B.1	Clara Hunt's milk vetch is an annual herb from the Fabaceae family. It is found from 75-275 meters in serpentine or volcanic, rocky, clay soils. Preferred habitats include chaparral openings, cismontane grassland and valley and foothill grassland. Blooms March to May.	No potential to occur due to lack of suitable habitat.
Contra Costa goldfields	*Lasthenia conjugens*	Endangered/None, CRPR 1B.1	Contra Costa goldfields is an annual herb from the Asteraceae family. It is found from 0-180 meters in mesic (moist) habitats. Common in wetlands and vernal pools, although occasionally found in non-wetlands. Blooms from March to June.	Moderate potential to occur. Although marginal habitat for this species exists within or adjacent to the project area, documented occurrences exist in the Cuttings Wharf quad.
few-flowered navarretia	*Navarretia leucocephala ssp. pauciflora*	Endangered/Threatened, CRPR 1B.1	Few-flowered navarretia is an annual herb from the Polemoniaceae family. It is found in vernal pools from 400-855 meters. Blooms May to June.	No potential to occur due to lack of suitable habitat.
Keck's checkerbloom	*Sidalcea keckii*	Endangered/None CRPR 1B.1	Keck's checkerbloom is an annual herb from the Malvaceae family. It is found in serpentinite and clay cismontane woodland and valley and foothill grassland habitats from 75-650 meters. Blooms April-June.	No potential to occur due to lack of suitable habitat.
Santa Cruz tarplant	*Holocarpha macradenia*	Threatened/Endangered CRPR 1B.1	Santa Cruz tarplant is an annual herb in the Asteaceae family. It is found in often clayey, sandy soils in coastal prairie, coastal scrub and valley and foothill grassland habitats. It blooms from June to October.	No potential to occur due to lack of suitable habitat.
Sebastopol meadowfoam	*Limnanthes vinculans*	Endangered/Endangered, CRPR 1B.1	Sebastopol meadowfoam is an annual herb from the Limnanthaceae family. It occurs in vernally mesic meadows and seeps in valley and foothill grasslands from 15-305 meters. Blooms April to May.	Moderate potential to occur. Suitable habitat exists in and around the seasonal wetlands on the site.
soft bird's-beak	*Cordylanthus mollis ssp. mollis*	Endangered/None CRPR 1B.2	Soft birds-beak is an annual herb in the Orobanchaceae family. It is found in coastal salt marshes and swamps from 0-3 meters. Blooms from July to November.	No potential to occur due to lack of suitable habitat.
Sonoma spineflower	*Chorizanthe valida*	Endangered/Endangered, CRPR 1B.1	Sonoma spineflower is an annual herb from the Polygonaceae family. It is found in sandy coastal prairie from 10-305 meters. Blooms June to August.	No potential to occur due to lack of suitable habitat.
Sonoma sunshine	*Blennosperma bakeri*	Endangered/Endangered, CRPR 1B.1	Sonoma sunshine is an annual herb from the Asteraceae family. It is found from 10-110 meters in vernal pools and wet grasslands. Blooms from March to May.	Moderate potential to occur. Suitable habitat exists in and around the seasonal wetlands on the site.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
Tiburon paintbrush	*Castilleja affinis var. neglecta*	Endangered/Threatened CRPR 1B.2	Tiburon Paintbrush is a semi-parasitic perennial herb in the Orobanchaceae family. It grows in serpentine grassland habitat between 60 and 400 meters Blooms from April to June.	No potential to occur due to lack of suitable habitat.
two-fork clover	*Trifolium amoenum*	Endangered/None CRPR 1B.1	Two-fork clover is an annual herb from the Fabaceae family. It is found from 5-160 meters in coastal bluff scrub, wetland riparian and valley/foothill grassland habitats. It is common in vernal pools and wetlands, although sometimes found in non-wetlands. Blooms from April to June.	Low potential to occur. Low quality habitat exists for this species in the project area and it is presumed to be extirpated from the Cuttings Wharf quad.

SSC: Species of Special Concern
FP: Fully Protected

The following list of wildlife potentially occurring in the project area was generated from the following resources:

- USFWS IPaC Report (Sacramento Fish and Wildlife Office)
- CDFW CNDDB Report
- CNPS Online Inventory of Rare and Endangered Plants