
Biological Resources Assessment

RIVERFRONT
PETALUMA, SONOMA COUNTY
CALIFORNIA

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EXECUTIVE SUMMARY

The purpose of this report is to provide an analysis of natural community and special status species issues at the Riverfront property (Project Site) located in Petaluma, Sonoma County, California.

On January 13, 2012, WRA, Inc. (WRA) conducted a biological resources assessment within Project Site. WRA observed eight vegetation communities, 56 plant species and 19 wildlife species. Four sensitive vegetation community types (all of which qualify as wetlands or drainages under federal and/or state regulations) covering 0.48 acre of the Project Site were identified. Two special status bird species were present during the site inspection and four additional birds have a moderate potential to occur. No special status plant species were observed or are likely to occur within the Project Site.

Fill in wetlands for the development will require authorization from the US Army Corps of Engineers for use of a Section 404 Nationwide Permit #29, Residential, Commercial, and Institutional Developments, and a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB). In addition, for any wetlands not impacted by the project, standard best management practices (BMP) to protect these areas during and after construction shall be employed.

No mitigation measures are necessary for special status plant species due to the lack of potential for any to occur within the Project Site.

Standard mitigation for avoiding take of migratory birds is the removal of vegetation within the areas to be developed outside of the bird breeding season (i.e., from September 1 to January 31). Otherwise, it is recommended that pre-construction surveys and temporary avoidance of any active nests be implemented during the breeding season.

1.0 INTRODUCTION

On January 13, 2012, WRA, Inc. performed an assessment of biological resources at the Riverfront property (Project Site) in Petaluma, Sonoma County, California (Figure 1). Past visits to the site by WRA were conducted July 13 and August 12, 2005, and September 10 and October 6, 2010. The Project Site is located at the end of Hopper Street, and is bounded on the north by railroad tracks, on the west by vacant industrial land, (the former Pomeroy Corporation cement works), the east by U.S. Highway 101, and the south by the Petaluma River. The Project Site contains ruderal vegetation, gravel roads, and gravel piles, but no structures are present.

The purpose of the assessment was to gather information to complete a review of biological resources under the California Environmental Quality Act (CEQA) for a proposed development. This report describes the results of the site visit, which assessed the Project Site for the (1) potential to support special status species; and (2) presence of other sensitive vegetative communities protected by local, state, and federal laws and regulations. This report also contains an evaluation of potential impacts to special status species and sensitive vegetative habitats that may occur as a result of the proposed project and recommended mitigation measures to avoid or reduce those impacts.

A biological resources assessment (BRA) provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visit.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

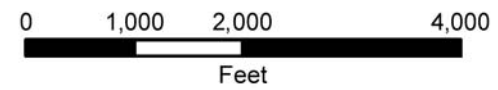
2.1 Special Status Species

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, and California Department of Fish and Game (CDFG) special status invertebrates are all considered special status species. Although CDFG Species of Special Concern generally have no special legal status, they are given special consideration under the CEQA. In addition to regulations for special status species, most birds in the United States, including non-special status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special status plant species and must be considered under CEQA. CNPS List 3 plants have little or no protection under CEQA, but are included in this analysis for completeness.



Figure 1. Location Map

Riverfront Project Site
City of Petaluma, California



Date: October 2010
Aerial: 2009 NAIP
Map By: Michael Rochelle

Critical Habitat

Critical habitat is a term defined and used in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the ESA "jeopardy standard". However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

2.2 Sensitive Vegetation Communities

Sensitive vegetation communities are habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are protected under federal regulations (e.g. Clean Water Act), state regulations (e.g. Porter-Cologne Act, the CDFG Streambed Alteration Program, and CEQA), or local ordinances or policies (City or County Tree Ordinances, Special Habitat Management Areas, and General Plan Elements).

Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. "Waters of the U.S." are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into "Waters of the U.S." (including wetlands) generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction also includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact "Waters of the State", are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the

State,” the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “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” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

San Francisco Bay and Shoreline

The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory jurisdiction, as defined by the McAteer-Petris Act, over the Bay and its shoreline, which generally consists of the area between the Bay shoreline and a line 100 feet landward of and parallel to the shoreline. The BCDC jurisdiction for Petaluma Marsh terminates at the confluence of Adobe Creek and the Petaluma River, approximately 0.7 river miles downstream from the Project Site.

Other Sensitive Vegetation Communities

Other sensitive vegetation communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFG. CDFG ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its Natural Diversity Database (CNDDDB; CDFG 2012). Sensitive vegetative communities are also identified by CDFG (2003, 2007, and 2009) and, more recently, the *List of Natural Communities* (CDFG 2010). CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe’s (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive vegetative communities identified in local or regional plans, policies, regulations or by the CDFG or USFWS must be considered and evaluated under CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

Petaluma Tree Ordinance

The City of Petaluma contains a Tree Preservation Ordinance where removal of protected trees is subject to permitting and possible mitigation replacement plantings. An arborist report is required prior to the removal and/or replacement protected trees within the City of Petaluma. The City maintains a list of protected trees and sizes.

3.0 METHODS

On January 13, 2012, the Project Site was traversed on foot to determine (1) plant communities present within the Project Site, (2) if existing conditions provided suitable habitat for any special status plant or wildlife species, and (3) if sensitive habitats are present. All plant and wildlife species encountered were recorded, and are summarized in Appendix A. All plant species were identified using *A Flora of Sonoma County* (Best et al. 1996), *The Jepson Manual* (Hickman 1993), or *The Jepson Manual, 2nd Edition* (Baldwin et al. 2012) to the taxonomic level necessary to determine whether or not they were rare; nomenclature follows Baldwin et al. (2012). Wetland status of each observed plant species was determined using *National List of Plant Species That Occur in Wetlands* (Reed 1988), and invasive status was determined using the California Invasive Plant Inventory Database (Cal-IPC 2012).

3.1 Vegetation Communities

Prior to the site visit, the Soil Survey of Sonoma County, California (USDA 1972), the California Soil Resources Lab (CSRL 2012), Web Soil Survey (USDA 2012), the Petaluma and Petaluma River USGS 7.5-minute quadrangles (USGS 1953, 1954), National Wetlands Inventory (NWI 2012), and aerial photographs were examined to determine if any unique soil types or wetland features that could support sensitive plant communities and/or aquatic features were present in the Project Site. Vegetation communities present in the Project Site were classified based on existing community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and refined to the vegetation alliance level and vegetation association level using *A Manual of California Vegetation 2nd Edition* (Sawyer et al. 2009). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not detailed in the literature. Vegetation communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

3.1.1 Non-sensitive Vegetation Communities

Non-sensitive vegetation communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special status plant or wildlife species and are identified or described in Section 4.1.1 below.

3.1.2 Sensitive Vegetation Communities

Sensitive vegetation communities are defined as those habitats that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive vegetation communities are discussed below.

Wetlands and Waters

A jurisdictional wetland delineation following the methods outlined in the *Corps Manual and Arid West Supplement* was conducted by WRA biologists prior to this assessment (WRA 2010). The Project Site contains four wetland types: drainage ditch, seasonal wetland swale, seasonal wetland depression, and coastal brackish marsh (WRA 2010). The wetland and non-wetland waters features are detailed below and illustrated in Figure 2. Vegetation alliances observed in the seasonal and perennial wetlands are detailed in Section 4.1 below.

Other Sensitive Vegetation Communities

The Project Site was evaluated for the presence of other sensitive vegetation communities, including riparian areas and those communities recognized by CDFG (2010). Prior to the site visit, aerial photographs, soil maps, the *List of Vegetation Alliances* (CDFG 2010), and *A Manual of California Vegetation* (Sawyer et al. 2009) were reviewed to assess the potential for sensitive vegetation communities to occur in the Project Site. All vegetation alliances within the Project Site with a ranking of 1 through 3 were considered sensitive vegetation communities and mapped. Those communities without a rank are either dominated by non-native species (e.g. upland mustard patches) or have not been formally described in the literature (e.g. rough cocklebur patches). Many vegetation communities that are not considered sensitive by NatureServe (2010) are considered sensitive under other regulatory frameworks (e.g. Section 1602 Fish and Game Code, Section 404 Clean Water Act). These communities are described in Section 4.1 below.

3.2 Special Status Species

3.2.1 Literature Review

Potential occurrence of special status species in the Project Site was evaluated by first determining which special status species occur in the vicinity of the Project Site through a literature and database search. Database searches for known occurrences of special status species focused on the Petaluma River 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles. Although the site resides within the Petaluma 7.5-minute USGS quadrangle, the habitat within and immediately adjacent to the Project Site is more accurately represented by the Petaluma River quadrangle; therefore, this quadrangle was utilized as the center quadrangle for the nine-quad search. The following sources were reviewed to determine which special status plant and wildlife species have been documented to occur in the vicinity of the Project Site:

- California Natural Diversity Database (CNDDDB) records (CDFG 2012)
- USFWS quadrangle species lists (USFWS 2012)
- CNPS Electronic Inventory records (CNPS 2012)
- Consortium of California Herbaria (CCH 2012)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- Western Field Ornithologists and CDFG publication “California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California” (Shuford and Gardali, eds. 2008)
- Sonoma County Breeding Bird Atlas (Burrige, ed. 1995)
- CDFG publication “Amphibians and Reptile Species of Special Concern in California” (Jennings and Hayes 1994)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)

3.2.2 Site Assessment

A site visit was made to the Project Site to search for suitable habitats for special status species. Habitat conditions observed at the Project Site were used to evaluate the potential for presence of special status species based on these searches and the professional expertise of the investigating biologists. The potential for each special status species to occur in the Project Site was then evaluated according to the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for each special status species known to occur in the vicinity in order to determine its potential to occur in the Project Site. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special status species was observed its presence would be recorded and discussed.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists with experience working with the species and habitats.

If a special status species is observed during the site visit, its presence is recorded and discussed below in Section 4.2; however, this site assessment is not a protocol-level survey for special status plant and wildlife species. If protocol-level surveys are warranted, recommendations for these surveys are included in Section 5.0. Often, regulatory agencies will assume presence of special status species and/or require protocol-level surveys irrespective of the recommendations included in the site assessment.

4.0 RESULTS

The Project Site is located within the City of Petaluma, California primarily surrounded by asphalt and concrete streets, industrial warehouses, heavy commercial enterprises, light industrial enterprises, and urban residential units. U.S. Highway 101 is located to the east of the Project Site, railroad tracks, Hopper Lane and commercial enterprises to the north, vacant industrial lands (the former Pomeroy Corporation concrete works) and City of Petaluma water treatment facility to the west, and Petaluma River to the south. Petaluma River, a traditional navigable water (TNW) serving the City of Petaluma and Sonoma County for transportation of goods and recreation, is located immediately south of the Project Site. The site ranges in elevation from 0 to 10 feet NGVD.

The Project Site has been significantly altered from its native state. Gravel roads, concrete slabs, and gravel piles occupy approximately 11.2 acres, while approximately 26.9 acres of the site are dominated by invasive non-native species. Dredged material was deposited on the Project Site prior to the site being utilized as a lay-down area for North Bay Construction. Therefore, the substrate throughout the site has been substantially altered with the construction of levees, gravel roads, gravel piles, and stockpiling of dredge material. Consequently, the majority of the site is characterized by invasive non-native plant species adapted to extremely

disturbed conditions (e.g. stinkwort, perennial pepperweed). The following sections present the results and discussion of the biological assessment within the Project Site.

4.1 Vegetation Communities

Table 1 summarizes the area of each vegetation community type observed in the Project Site. Non-sensitive vegetation communities in the Project Site include disturbed land, ruderal herbaceous stands, and non-native annual grassland. Four sensitive vegetation communities, all are types of wetlands or waters, are found in the Project Site: a drainage ditch, seasonal wetland swale, seasonal wetland depression, and coastal brackish marsh. Descriptions for each vegetation community are contained in the following sections and are illustrated in Figure 2.

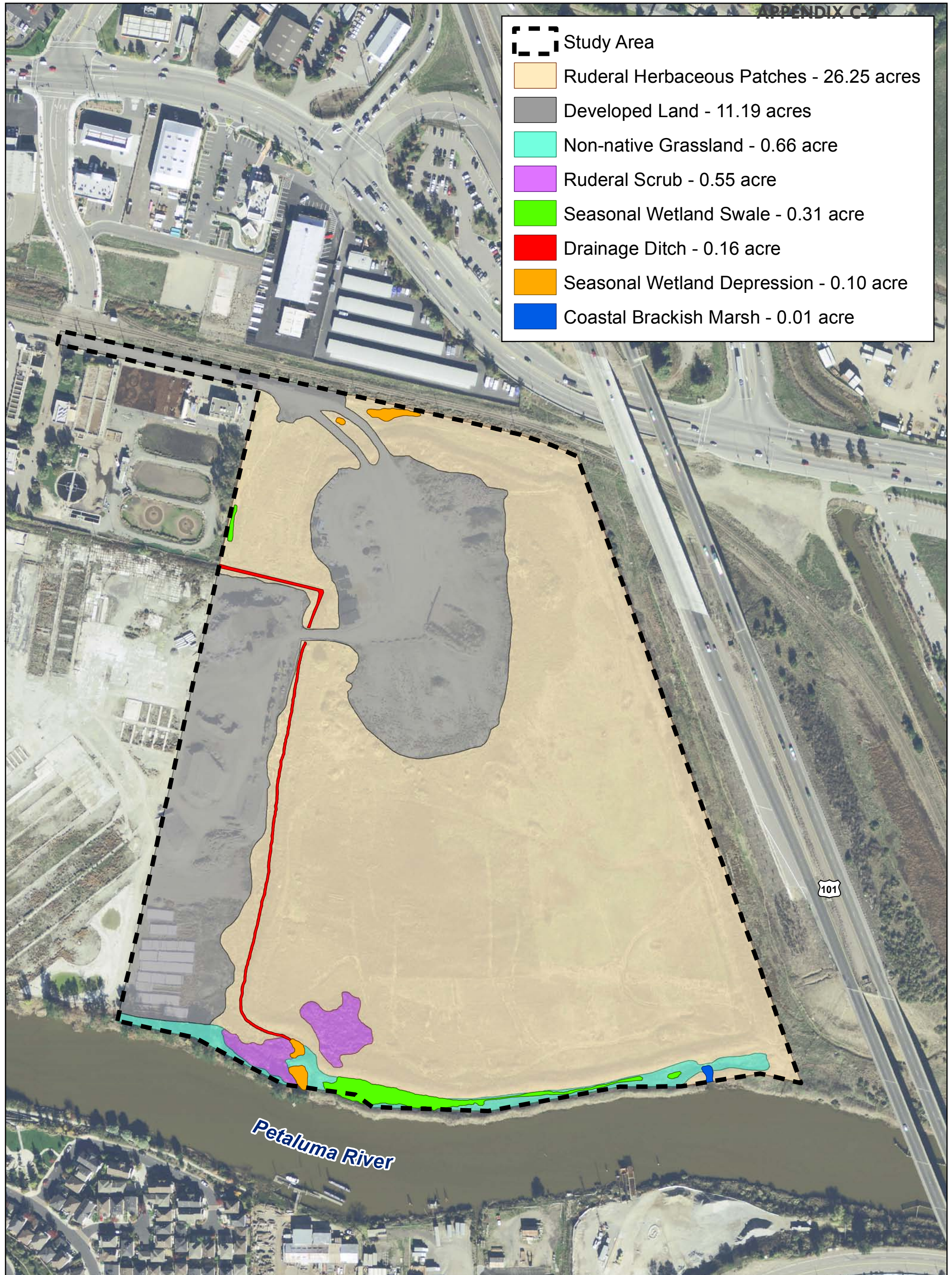
Table 1. Vegetation Communities within the Project Site

Sensitivity	Vegetation Community	Vegetation Alliance	Rank	Area (acres)
Non-sensitive	Disturbed land	Stinkwort Patches (<i>Dittrichia graveolens</i> Semi-natural Herb Stands) ¹	no rank	11.2
	Ruderal herbaceous patches	Upland Mustards (<i>Brassica nigra</i> Semi-natural Herb Stands)	no rank	26.3
		Poison Hemlock Patches (<i>Conium maculatum</i> Semi-natural Herb Stands)	no rank	
		Italian Thistle Patches (<i>Carduus pycnocephalus</i> Semi-natural Herb Stands)	no rank	
		Perennial Pepperweed Patches (<i>Lepidium latifolium</i> Semi-natural Herb Stands)	no rank	
	Non-native grassland	Soft Chess Grasslands (<i>Bromus hordeaceus</i> Semi-natural Herb Stands)	no rank	0.7
		Italian Rye Grass Grasslands (<i>Festuca perennis</i> Semi-natural Herb Stands)	no rank	
Ruderal scrub	Coyote Brush Scrub (<i>Baccharis pilularis</i> Shrubland Alliance)	G5 S5	0.6	
Sensitive	Drainage ditch	Poison Hemlock Patches (<i>Conium maculatum</i> Semi-natural Herb Stands)	no rank ²	0.2
		Italian Rye Grass Grasslands (<i>Festuca perennis</i> Semi-natural Herb Stands)	no rank ²	
	Seasonal wetland swale/depression	Salt Marsh Bulrush Marshes (<i>Bolboschoenus maritimus</i> Herb Alliance)	G4 S3	0.4
		Italian Rye Grass Grasslands (<i>Festuca perennis</i> Semi-natural Herb Stands)	no rank ²	
	Rough Cocklebur Patches (<i>Xanthium strumarium</i> Herb Alliance) ¹	no rank ²		
Coastal brackish marsh	Salt Marsh Bulrush Marshes (<i>Bolboschoenus maritimus</i> Herb Alliance)	G4 S3 (sensitive)	0.01	
TOTAL				39.2

¹Vegetation alliance not previously described in the literature

²Considered a sensitive community based on other regulatory framework (e.g. Clean Water Act)

³Not considered native or sensitive outside of native range



-  Study Area
-  Ruderal Herbaceous Patches - 26.25 acres
-  Developed Land - 11.19 acres
-  Non-native Grassland - 0.66 acre
-  Ruderal Scrub - 0.55 acre
-  Seasonal Wetland Swale - 0.31 acre
-  Drainage Ditch - 0.16 acre
-  Seasonal Wetland Depression - 0.10 acre
-  Coastal Brackish Marsh - 0.01 acre

Figure 2. Vegetation Communities

Riverfront Project Site
Petaluma, California



0 100 200 400
Feet



Date: January 2012
Map By: Michael Rochelle
Base Source: USGS Seamless, June 2009

4.1.1 *Non-sensitive vegetation communities*

Four non-sensitive vegetation communities are present within the Project Site: disturbed land, ruderal scrub, ruderal herbaceous, and non-native annual grassland. These communities are described below.

Disturbed land

Disturbed lands have been extensively altered from their natural state, but still support vegetation consisting of non-native invasive species. Habitat values for wildlife and plant species is extremely low in this area. Within the Project Site, disturbed land is 11.2 acres and supports less than ten percent absolute cover of vegetation. It consists of compacted gravel roads, a concrete culvert crossing, lay-down areas for gravel and broken concrete, and concrete slabs associated with historic land use for the Pomeroy Corporation concrete works. One vegetation alliance dominates these areas: stinkwort patches (*Dittrichia graveolens* Semi-natural Herbaceous Stands). Stinkwort patches are prevalent throughout California, particularly in high disturbed areas due to the dominance of invasive species including stinkwort, Mediterranean mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), dog fennel (*Anthemis cotula*), fennel (*Foeniculum vulgare*), and English plantain (*Plantago lanceolata*) (Cal-IPC 2012).

Ruderal herbaceous patches

Ruderal herbaceous patches are areas that are disturbed through human activities such as grading of bare earth, stockpiling of non-native soils, disking, burning, or intensive grazing. The majority of the Project Site (26.3 acres) consists of disked, non-native plant dominated stands: upland mustards (*Brassica nigra* Semi-natural Herbaceous Stands), poison hemlock patches (*Conium maculatum* Semi-natural Herbaceous Stands), Italian thistle (*Carduus pycnocephalus* Semi-natural Herbaceous Stands), and perennial pepperweed patches (*Lepidium latifolium* Semi-natural Herbaceous Stands). These vegetation alliances provide low to very low quality wildlife and native plant habitat values (Sawyer et al. 2009, Cal-IPC 2012).

Upland mustards are dominated by black mustard and Mediterranean mustard, and are predominantly located on the levee banks. Poison hemlock patches are dominated by poison hemlock and fennel, and are located on levee banks and adjacent low spots. Italian thistle patches are dominated by Italian thistle, yellow star thistle (*Centaurea solstitialis*), purple star thistle (*C. calcitrapa*), and bull thistle (*Cirsium vulgare*), and are scattered throughout the site in upland positions. Perennial pepperweed patches are dominated by perennial pepperweed, and dominates the Project Site, located throughout the center of the site.

Non-native annual grassland

Non-native annual grassland typically occurs in open areas of valleys and foothills throughout California, usually on fine textured clay or loam soils that are somewhat poorly drained (Holland 1986). Non-native grassland is typically dominated by non-native annual grasses and forbs along with scattered native wildflowers. Approximately 0.66 acre of non-native annual grassland is present in the southern portion of the Project Site, and is composed of two vegetation alliances: soft chess grassland (*Bromus hordeaceus* Semi-natural Herbaceous Stands) and Italian rye grass grassland (*Festuca perennis* Semi-natural Herbaceous Stands). These vegetation alliances are similar in species composition with either soft chess or Italian rye grass as the dominant species, with less cover composed of slender wild oat (*Avena barbata*),

ripwort brome (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), and foxtail barley (*H. murinum*).

Ruderal scrub

Ruderal scrub is typically dominated by native and/or non-native shrubs adapted to disturbance conditions with a non-native ruderal herbaceous layer. Approximately 0.55 acre of ruderal scrub is present in the southwestern portion of the Project Site, and is composed of one vegetation alliance: coyote brush scrub (*Baccharis pilularis* Shrubland Alliance). This vegetation alliance is dominated by the native shrub, coyote brush, with a sparse herbaceous layer dominated by non-native grasses and ruderal forbs including soft chess, slender wild oat, Italian rye grass, fennel, black mustard, and poison hemlock. Additionally, a transient human encampment was observed within the dense cover of coyote brush.

Monterey pine and Monterey cypress trees

There are several Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) trees located on the levee bank on the edge of the southwestern portion of the Project Site. These trees appear to be between 25 and 50 years of age. Monterey pine and Monterey cypress are not native to Sonoma County (Baldwin et al. 2012) and do not appear on the list of protected trees in the City of Petaluma Tree Preservation Ordinance; therefore, these trees are not considered sensitive.

4.1.2 Sensitive Vegetation Communities

Four sensitive vegetation communities are present within the Project Site, a drainage ditch, seasonal wetland swale, seasonal wetland depressions, and coastal brackish marsh. These communities are described below.

Drainage ditch

Drainage ditches are human-created vegetation communities typically composed of non-native and waif native hydrophytic species adapted to disturbance and a seasonal hydroperiod. An approximately 1,345 linear foot (0.16 acre) drainage ditch flows from north to south in the western portion of the Project Site (Figure 2). This ditch receives regular maintenance to drain surrounding upland landscape to prevent flooding. Vegetation alliances within the ditch are short-lived due to regular maintenance, but most closely resemble poison hemlock patches and Italian rye grass grassland. Dominant species include poison hemlock, Italian rye grass, Mediterranean barley, rough cocklebur, and dooryard knotweed.

This feature was delineated in 2010 and verified by the Corps as jurisdictional under Section 404 of the Clean Water Act (WRA 2010).

Seasonal wetland swale

Seasonal wetland swale vegetation communities typically occur in concave linear topography where water flows at velocity to contribute to down-cutting, but without precluding the establishment and maintenance of vegetation. The hydroperiod is seasonal with the majority of inundation and saturation in the winter and spring, thereby supporting hydrophytic vegetation; however, vegetation communities can vary widely based on duration and timing of the hydroperiod, substrate conditions, elevation, and/or proximity to the coast.

Approximately 0.31 acre of two man-made seasonal wetland swales is present within the western and southern portions of the Project Site (Figure 2). The wetland swale in the southern

portion was likely created by the erection of the landward and waterward levees where surface waters collect for a duration sufficient to create wetland conditions. The wetland swale in the western portion of the Project Site appears to be created from historic grading activities. The hydroperiod for the western swale appears to be relatively short in normal precipitation years, with inundation and saturation likely declining shortly following the cessation of rainfall in spring, whereas the hydroperiod for the southern swale appears to extend into summer in normal precipitation years. Consequently, the vegetation alliances present within these features are dominated by hydrophytic species and include rough cocklebur patches (*Xanthium strumarium* undescribed Herbaceous Alliance) in the western swale, and salt marsh bulrush marsh (*Bolboschoenus maritimus* Herbaceous Alliance) in the southern swale. Dominant species in the western swale include rough cocklebur, bristly ox-tongue, curly dock (*Rumex crispus*), and harding grass (*Phalaris aquatica*). Dominant species in the southern swale include salt marsh bulrush, rough cocklebur, curly dock, and Italian rye grass.

These features were delineated in 2010 and verified by the Corps as jurisdictional under Section 404 of the Clean Water Act (WRA 2010).

Seasonal wetland depression

Seasonal wetland depression vegetation communities typically occur in concave topography where the hydrology is predominantly direct precipitation, high water table, and/or sheet flow from adjacent lands, but inlets/outlets are typically absent. Similar to seasonal wetland swales, the hydroperiod, substrate conditions, and geographic context affect the vegetation communities present within depressions.

Four seasonal wetland depressions totaling 0.1 acre are present within the northern and southern portions of the Project Site (Figure 2). The hydroperiod for the depressions appears to be relatively short in normal precipitation years, with inundation and saturation likely declining shortly following the cessation of rainfall in spring, with some extended duration in the southern depressions due to the contribution of hydrology from the drainage ditch. The depressions located in the northern portion of the Project Site appear to be created from historic grading activities and the presence of compacted gravel roads creating a dam for surface flows. The depressions located in the southern portion appear to be created as settling basins for the drainage ditch. The vegetation alliances present within these features are dominated by hydrophytic species and include rough cocklebur patches (*Xanthium strumarium* undescribed Herbaceous Alliance) and Italian rye grass grassland (*Festuca perennis* Semi-natural Herbaceous Stands). Dominant species include rough cocklebur, Italian rye grass, Mediterranean barley, bristly ox-tongue, curly dock, and harding grass.

The features in the southern portion of the Project Site were delineated in 2010 and verified by the Corps as jurisdictional under Section 404 of the Clean Water Act (WRA 2010), whereas the features in the northern portion are considered isolated and therefore jurisdictional only under the Porter-Cologne Act as Waters of the State.

Coastal brackish marsh

Coastal brackish marsh vegetation communities typically occur in flats along tidal sloughs and coastlines in the upper reaches of the San Francisco Bay and Sacramento Delta region. These communities are dominated by a mix of halophytes and freshwater species, which can shift annually with variations in rainfall. Approximately 0.01 acre of marsh is present in southern portion of the Project Site along the Petaluma River (Figure 2). The vegetation alliance present within this community is salt marsh bulrush marsh (*Bolboschoenus maritimus* Herbaceous Alliance). Dominant species include salt marsh bulrush, California tule (*Schoenoplectus*

californicus), and marsh gumplant (*Grindelia stricta* var. *angustifolia*), with less cover contributed by pickleweed, saltgrass, and fleshy jaumea (*Jaumea carnosa*).

This feature was delineated in 2010 and verified by the Corps as jurisdictional under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act 1899 (WRA 2010).

4.2 Special Status Species

4.2.1 Plants

Based upon a review of the resources and databases given in Section 3.2.1, 69 special status plant species have been documented in the vicinity of the Project Site. Appendix B summarizes species habitat requirements and evaluates the suitability of on-site habitats to support these species. Of these species, 51 have no suitable habitat available within the Project Site, and therefore, are not likely to ever be present. Eighteen species are unlikely to occur in the Project Site. However, no special status plant species have moderate or high potential for occurrence in the Project Site. The habitat was determined to be unsuitable to these species for a variety of factors, including lack of native vegetation communities (e.g. vernal pools, coastal scrub, chaparral, forest or woodland), the lack of high quality vegetation communities (e.g. native grassland), lack of appropriate substrates or landforms (e.g. adobe clay or serpentine soils, coastal bluffs, sand dunes, rock outcrops), and/or site elevation, which is lower than the typical elevation range of many of the species.

Very marginal to no habitat is present for Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*), alkali milk-vetch (*Astragalus tener* var. *tener*), Sonoma sunshine (*Blennosperma bakeri*), pappose tarplant (*Centromadia parryi* ssp. *parryi*), Point Reyes bird's beak (*Chloropyron maritimum* ssp. *palustre*), soft bird's beak (*Chloropyron molle* ssp. *molle*), dwarf Downingia (*Downingia pusilla*), hayfield tarplant (*Hemizonia congesta* ssp. *leucocephala*), Burke's goldfields (*Lasthenia burkei*), Contra Costa goldfields (*Lasthenia conjugens*), Legenere (*Legenere limosa*), Sebastopol meadowfoam (*Limnanthes vinculans*), marsh microseris (*Microseris paludosa*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), Petaluma popcorn-flower (*Plagiobothrys mollis* var. *vestitus*), Marin knotweed (*Polygonum marinense*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), and saline clover (*Trifolium hydrophilum*), which all are unlikely to occur in the Project Site. The following two paragraphs further explain why each of these species is unlikely to occur.

Sonoma alopecurus generally occurs in freshwater marsh, swamps, and riparian scrub which are not present or very limited (seasonal tule and tidal brackish marsh) in the Project Site. Point Reyes bird's beak and soft bird's beak are hemiparasitic species that grow in coastal salt and brackish marshes in very close association with extensive flats of pickleweed (*Salicornia virginica*) and saltgrass (*Distichlis spicata*). Although individuals of pickleweed and saltgrass are present in the Project Site, extensive monotypic stands of these species are not present; therefore, both bird's-beak species are unlikely to occur. Additionally, Marin knotweed is closely associated with extensive stands of pickleweed and saltgrass, and therefore is unlikely to occur. Point Reyes checkerbloom is typically located in extensive freshwater marshes near the coast and is associated with rush and sedge vegetation assemblages not present in the Project Site.

CNDDDB Occurrences (January 2012)

- Franciscan onion,
Petaluma popcorn-flower,
Point Reyes checkerbloom,
Sonoma spineflower,
alkali milk-vetch,
round-leaved filaree
- golden larkspur
- Marin knotweed
- marsh microseris
- Napa false indigo
- pappose tarplant
- Point Reyes bird's-beak
- showy rancheria clover
- soft bird's-beak
- white seaside tarplant

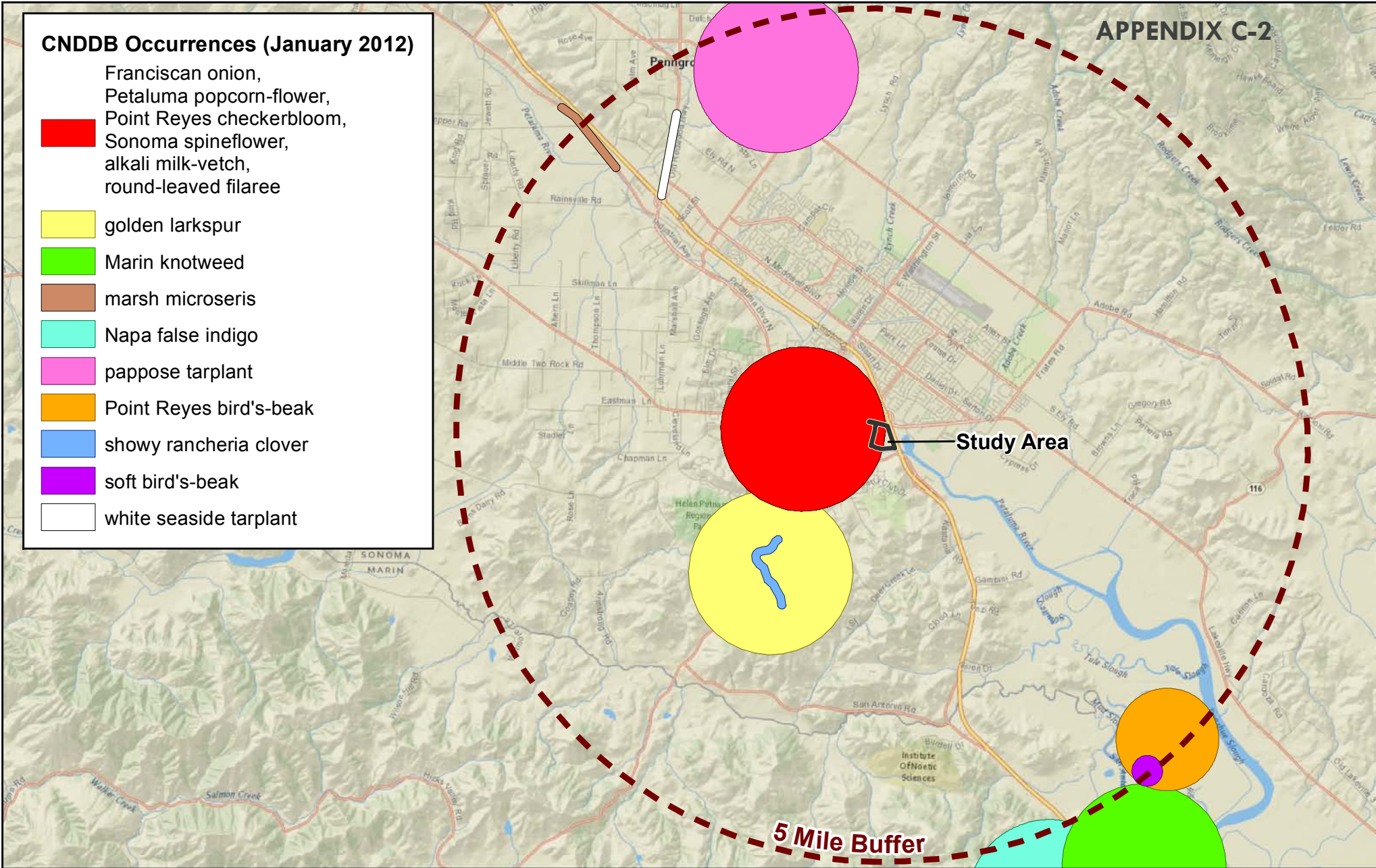
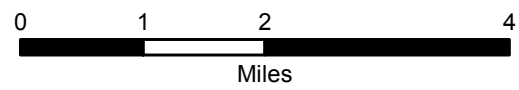


Figure 3. CNDDDB Plant Occurrences within 5 Miles of Project Site

Riverfront Project Site
City of Petaluma, California



Date: January 2012
Aerial: 2009 NAIP
Map By: Michael Rochelle

Alkali milk-vetch, Sonoma sunshine, dwarf Downingia, Burke's goldfields, Contra Costa goldfields, Legenere, Sebastopol meadowfoam, Baker's navarretia, Petaluma popcorn-flower and saline clover are closely associated with vernal pool and mesic grasslands underlain by heavy adobe clay substrates. Although the Project Site contains man-made seasonal wetland habitat, these features do not contain characteristic vernal pool soils or vegetation assemblages, and are disturbed to a degree that likely precludes these ten delicate annual wetland species. Although pappose tarplant, seaside tarplant, and marsh microseris generally can tolerate a higher degree of non-native species competition than many other native rare grassland plant species, the degree of disturbance and maintenance within the Project Site likely limits their potential for occurrence.

Previous (2005) site assessments occurred during the blooming period of 22 of the special status plant species generated by the record search, including 9 of the 12 special status plant species with unlikely potential to occur in the Project Site. However, none of these species were observed. None of the special status plant species known in the vicinity of the Project Site were in bloom during the January 13, 2012 site assessment.

4.2.2 *Wildlife*

Fifty-three special status species of wildlife have been recorded in the greater vicinity of the Project Site; the potential for each of these species to occur there is summarized in Appendix B. The Project Site has been highly modified by human activities, and the limited habitats present are in a disturbed state that precludes the presence of most special-status wildlife species. Two special status bird species were observed in the Project Site during the site assessment, and four additional species have a moderate potential to occur there. Special status wildlife species that were observed, or have a moderate potential to occur in the Project Site are discussed below.

Northern harrier (*Circus cyaneus*); CDFG Species of Special Concern. Moderate Potential (foraging only). The northern harrier is found in open habitats throughout most of California, including freshwater and brackish marshes, fields, grasslands, and agricultural areas. Harriers typically nest on the ground in open (i.e., treeless) areas in dense, relatively tall, vegetation, the composition of which is highly variable (Shuford and Gardali 2008). Harriers are predatory and subsist on a variety of small mammals and other vertebrates captured via coursing behavior. While vegetative substrates within the Project Site are too disturbed to support harrier nesting, there is suitable nesting habitat in marshes and grasslands within 0.3 mile and therefore this species has some potential to forage within the Project Site. Breeding, however, is unlikely due to the urban surroundings and lack of typical vegetative nesting substrates.

White-tailed kite (*Elanus leucurus*), CDFG Fully Protected. Present. The white-tailed kite is resident in a variety of open habitats including agricultural areas, grasslands, scrub habitats, wet meadows and emergent wetlands throughout the lower elevations of California. Nests are constructed mostly of twigs and placed in small to large trees, often at habitat edges or in isolated groves (Dunk 1995). This species preys upon a variety of small mammals and other vertebrates. One kite was observed foraging over the Project Site during the January 2012 site visit. Because this species may breed in relatively close proximity to human development, the tree groves present within the Project Site provide potential nesting habitat. Kites may also regularly forage within the Project Site even if nesting is not occurring there.

CNDDDB Occurrences (January 2012)

-  American badger
-  California black rail
-  California clapper rail
-  California red-legged frog
-  Sacramento splittail
-  Samuels (San Pablo) song sparrow
-  burrowing owl
-  foothill yellow-legged frog
-  pallid bat
-  salt-marsh harvest mouse
-  San Francisco (saltmarsh) common yellowthroat
-  steelhead - central California coast DPS
-  western pond turtle

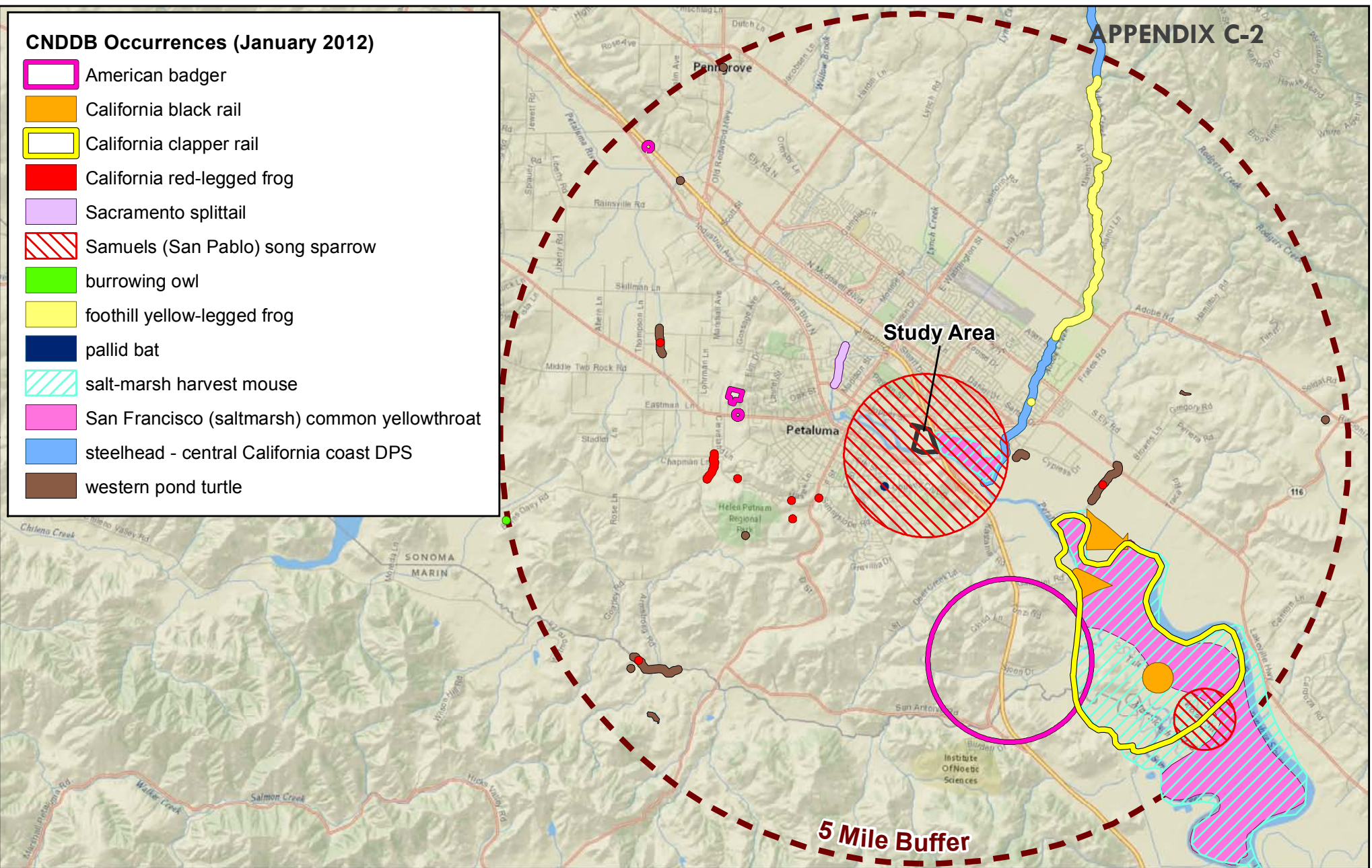
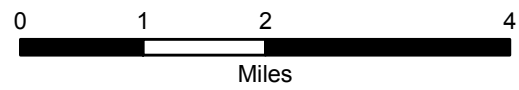


Figure 4. CNDDDB Wildlife Occurrences within 5 Miles of Study Area

Riverfront Project Site
City of Petaluma, California



Date: January 2012
Aerial: 2009 NAIP
Map By: Michael Rochelle

Allen's hummingbird (*Selasphorus sasin*), USFWS Bird of Conservation Concern. Moderate Potential. Allen's hummingbird, common in many parts of its range, is a summer resident along much of California's coast. It occurs in a variety of woodland and similar habitats, including urban parks and gardens. Breeding occurs in many portions of Sonoma County (Burrige 1995), and the Project Site's tree groves provide potential nesting habitat for this species.

Loggerhead shrike (*Lanius ludovicianus*), CDFG Species of Special Concern, USFWS Bird of Conservation Concern. Moderate Potential. The loggerhead shrike is a resident and winter visitor in lowlands and foothills throughout California. This species is associated with open country with short vegetation and scattered trees, shrubs, posts, fences, utility lines or other perches. Nesting substrates vary from trees to brush piles; vegetation with thorns is usually preferred, and nests are typically well-concealed (Yosef 1996). Although a songbird, shrikes are predatory and forage on a variety of insects and also small vertebrates. The Project Site provides open areas for foraging, and its trees and larger shrubs provide potential, though sub-optimal, nesting substrates.

San Francisco common yellowthroat (*Geothlypis trichas sinuosa*); CDFG Species of Special Concern. Moderate Potential. The San Francisco (formerly saltmarsh) common yellowthroat, a subspecies of the widely-distributed common yellowthroat, is an endemic resident of the greater San Francisco Bay region. It typically nests and forages in emergent vegetation of salt, brackish and freshwater marshes, and also utilizes adjacent higher elevation upland areas. Nests are well-concealed in vegetative substrates such as grass, tules, cattails and some shrubs (Shuford and Gardali 2008). This species is present in various marsh habitats along the Petaluma River, and has some potential to also utilize seasonal wetlands for foraging and breeding in nearby areas, including those of the Project Site. This potential is likely a function of rainfall and the subsequent ponding of these seasonal wetland habitats during the breeding season.

Samuels song sparrow (*Melospiza melodia samuelis*); CDFG Species of Special Concern, USFWS Bird of Conservation Concern. Present. The Samuels (formerly San Pablo) song sparrow, a subspecies of the common and widespread song sparrow, is an endemic resident of tidal marsh habitat and immediately adjacent areas along the fringes of San Pablo Bay, including the Petaluma River. This subspecies prefers tidally influenced marsh, and taller shrubs are usually required for breeding to avoid nest flooding during high tides (Shuford and Gardali 2008). While positive identification of this subspecies (versus upland-associated subspecies) typically requires detailed in-hand examination, song sparrows observed in association with the Petaluma River are likely of this subspecies. Song sparrows were observed in the southern end of the Project Site during the January 2012 site visit, and thus *M. m. samuelis* is considered present there. The nearest documented occurrence is < 0.1 mile south of the Project Site, across the Petaluma River (CDFG 2012).

5.0 SUMMARY AND RECOMMENDATIONS

Four sensitive vegetation communities were identified within the Project Site. No special status plant species and six special status wildlife species are present or have the potential to occur within the Project Site. The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to these species and sensitive habitats.

5.1 Vegetation Communities

Most of the Project Site is comprised of ruderal herbaceous communities and developed areas, which are not sensitive vegetation communities. A federal jurisdictional wetland delineation was conducted and verified by the Corps, and the Project Site contains 0.58 acre of wetland communities within the jurisdiction of the Corps under Section 404 of the Clean Water Act and/or RWQCB under the Porter Cologne Act and Section 401 of the Clean Water Act. The Project Site does not contain other sensitive vegetative communities.

5.2 Special Status Plant Species

Of the 69 special status plant species known to occur in the vicinity of the Project Site, none have a moderate to high potential to occur; therefore, no further actions are recommended for special status plant species.

5.3 Special Status Wildlife Species

Of the 53 special status wildlife species known to occur in the vicinity of the Project Site, two are present and four others have a moderate potential to occur within the Project Site. Because these species are all birds, and none are listed under the federal or state endangered species acts, potential impacts are limited to the killing or injury of adults, young and/or eggs during the breeding season should they be nesting onsite. In addition, a variety of native birds protected by the MBTA (including species commonly found in urban areas) have the potential to nest within the Project Site.

To avoid impacts to nesting birds (both special status and those protected under the MBTA), it is recommended that all trees, shrubs, ruderal herbaceous stands and wetland vegetation within the development area be removed outside of the general breeding bird season, i.e. from September 1 to February 1. Removal of vegetation during this time will effectively preclude nesting by bird species within the Project Site.

6.0 POTENTIAL IMPACTS AND MITIGATION

The proposed project is an approximately 38 acre mixed-use development containing asphalt streets, concrete sidewalks, asphalt footpaths, a hotel, mixed use residential/commercial units, single family homes, multiple-dwelling units, and parks and open greens. The majority of the Project Site is composed of developed (e.g. gravel roads) and ruderal herbaceous community (e.g. perennial pepperweed patches) not considered sensitive habitats under CEQA. The Project Site is bordered to the north, west, and east by developed sites, and the Petaluma River to the south. In general, the majority of the site and proposed impact areas are of low-quality habitat composed predominantly of developed areas (e.g. gravel roads, laydown areas) and ruderal herbaceous communities (e.g. perennial pepperweed patches).

6.1 Sensitive Vegetation Communities

Potentially Significant Impacts

The conversion of 0.25 acre of seasonal wetlands to developed land is a potentially significant impact under CEQA. Of this 0.25 acre, 0.20 acre of seasonal wetland habitat is under Corps jurisdiction under Section 404 of the Clean Water Act, while 0.25 acre is under the jurisdiction of the RWQCB under the Clean Water Act and/or the Porter-Cologne Act (WRA 2010).

Mitigation Measures

Authorization under a Section 404 Nationwide Permit #29, Residential, Commercial, and Institutional Developments, from the Corps, and a Section 401 Water Quality Certification from the SFRWQCB will be obtained prior to construction. These permits and/or certifications cannot be obtained until the City of Petaluma certifies the CEQA document for the project.

To mitigate for the impacts to 0.25 acre of seasonal wetland habitat, credits shall be purchased from an approved mitigation bank at a ratio of one acre for every one acre impacted, or as otherwise directed by the Regulatory Agencies. Due to general low-quality of the existing wetland habitat (e.g. presence of non-native species, disturbed soils) within the Project Site, a mitigation ratio of one acre mitigated for each acre impacted is proposed.

6.2 Special Status Plant Species

Potentially Significant Impacts

Special status plant species are unlikely or have no potential to occur within the Project Site; therefore, no impacts are not anticipated for these resources.

Mitigation Measures

No mitigation is required for special status plant species.

6.3 Special Status Wildlife Species

Potentially Significant Impacts

Six special status bird species are present or have the potential to occur within the Project Site. One of these species, white-tailed kite, is Fully Protected under State law. Direct impacts to nesting special status avian species could occur due to the removal or modification of trees, shrubs, and other vegetation. The destruction or injury of special status avian adults, young and/or eggs would constitute a potentially significant impact. Indirect impacts to nesting special status avian species may include nest abandonment due to noise, increased nighttime lighting and/or other human disturbances during construction. Abandonment of an active special status species nest (i.e., one containing eggs and/or young) would also constitute a potentially significant impact.

In addition, a variety of non-special status native birds protected by the MBTA also have the potential to nest within the Project Site. The destruction or injury of the adults, young and/or eggs of non-special status avian species would constitute a potentially significant impact.

Mitigation Measures

To avoid potentially significant impacts to special status and non-special status avian species, the following mitigation measures are proposed:

- Conduct vegetation removal within areas to be developed through cutting and/or grubbing between September 1 and January 30, outside of the general breeding bird season. If this is completed, no further mitigation is required.
- Otherwise, if vegetation removal or modification occurs between February 1 and June 15, pre-construction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If vegetation removal or

modification occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities. If active nests are present, establishment of temporary protective breeding season buffers will avoid direct or indirect mortality of these birds, nests or young. The appropriate buffer distance is dependent on the species, surrounding vegetation and topography and will be determined by a qualified biologist as appropriate to prevent nest abandonment and direct mortality during construction. Buffers will be larger for special status species.

REVISIONS BY

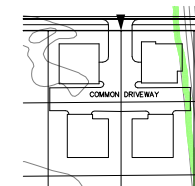
STREET DESIGNATIONS

- (A) CAULFIELD LANE - TWO-WAY w/PARKWAY
- (B) CAULFIELD LANE - TWO-WAY
- (C) CENTRAL LOOP - ONE-WAY
- (D) COMMERCIAL STREET - ADJ. CORP. YARD
- (E) COMMERCIAL STREET - LOOP EXTENSION
- (F) TWO-WAY EDGE / OPEN SPACE
- (G) TWO-WAY EDGE / RR TRACKS
- (H) ALLEY
- (I) NEIGHBORHOOD STREET
- (J) EMERGENCY VEHICLE ACCESS (EVA)

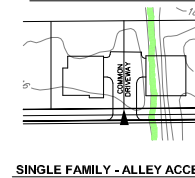
LEGEND

- (O) LOT TYPE, SEE LAND USE CHART BELOW
- (A) STREET DESIGNATION
- (XX) NUMBER OF LOTS WITHIN BLOCK
- (▲) QUAD OR DUO DRIVEWAY LOCATION
- (T) EMERGENCY VEHICLE TURN AROUND
- (—) EMERGENCY VEHICLE ACCESS BOLLARDS
- (C) STREET TREE
- (■) EXISTING WETLANDS

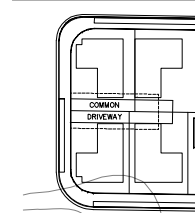
SINGLE FAMILY - QUAD UNIT



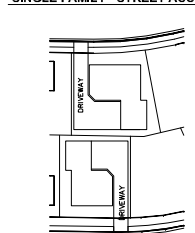
SINGLE FAMILY - DUO UNIT



SINGLE FAMILY - ALLEY ACCESS



SINGLE FAMILY - STREET ACCESS



LAND USE

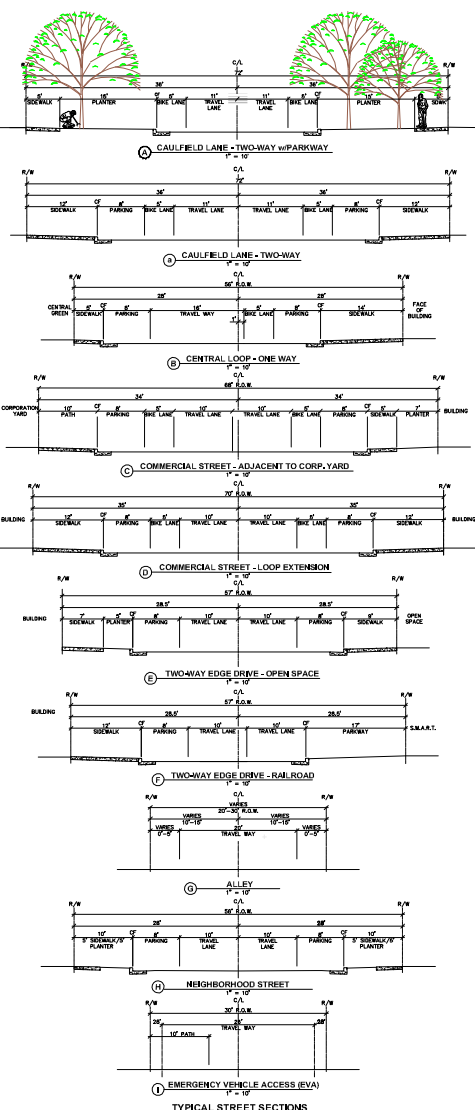
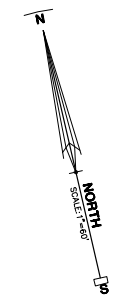
OFFICE	60,000 SF	3-STORY
TOWNHOUSE-LIVE/WORK	6 UNITS	
TOWNHOUSE	31 UNITS	TOTAL 37
HOTEL	120 ROOMS	3-STORY
MIXED USE COMMERCIAL APTS.	30,000 SF	3-STORY
	100	
SINGLE FAMILY BY LOT TYPE		
QUAD UNIT (I)	40	
ALLEY LOADED (G)	40	
STREET ACCESS (C)	46	
DUO UNIT (O)	6	
TBD (O)	3	TOTAL 135
PARKS		
CENTRAL GREEN	0.38 ACRE	
ACTIVE PARK	2.14 ACRE (SOCCER FIELD)	
RIVER PARK	3.67 ACRE RIVER PARK	
RIVERFRONT ACTIVITY AREA	0.59 ACRE	
PARKING		

SITE USE PLAN - WETLANDS EXHIBIT
 LANDS OF PETALUMA RIVERFRONT, LLC
 500 HOPPER STREET - APN 136-01-027
 PETALUMA, CALIFORNIA

STEVEN J. LAFRANCHI & ASSOCIATES, INC.
 CIVIL ENGINEERS - LAND SURVEYORS - LAND PLANNERS
 PETALUMA THEATRE SQUARE
 1000 THEATRE SQUARE, SUITE 200
 PETALUMA, CALIFORNIA 94954
 (707) 762-2222 FAX (707) 762-2223

DATE: 2011.02.17
 SCALE: 1"=40'
 DESIGN: S.J.
 DRAWING: W.E. ET AL
 CHECK: S.J.
 JOB: RIVERFRONT 2010
 JOB NUMBER: 308
 SHEET

SDP-1
 OF 1 SHEETS



TYPICAL STREET SECTIONS

APPENDIX C-2 (REVISED) 02/17/11

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APPENDIX A – LIST OF OBSERVED PLANT AND WILDLIFE SPECIES

Table A-1. Wildlife species observed in the Project Area, January 13, 2012

Common Name	Scientific Name	Observation notes
Mammals		
Black-tailed deer	<i>Odocoileus hemionus columbianus</i>	Foraging
Black-tailed jackrabbit	<i>Lepus californicus</i>	Foraging, resting
Raccoon	<i>Procyon lotor</i>	Tracks noted
Birds		
Great blue heron	<i>Ardea herodias</i>	Foraging
Great egret	<i>Ardea alba</i>	Fly-over
Canada goose	<i>Branta canadensis</i>	Fly-over
White-tailed kite	<i>Elanus leucurus</i>	Foraging; may nest on-site
Red-tailed hawk	<i>Buteo jamaicensis</i>	Fly-over; may nest on-site
Turkey vulture	<i>Cathartes aura</i>	Fly-over
Killdeer	<i>Charadrius vociferous</i>	Foraging; may nest on-site
Gull sp.	<i>Larus</i> sp.	Fly-over
Mourning dove	<i>Zenaida macroura</i>	Foraging, roosting; may nest on-site
Black phoebe	<i>Sayornis nigricans</i>	Foraging; may nest on-site
European starling	<i>Sturnus vulgaris</i>	Foraging
American pipit	<i>Anthus rubescens</i>	Wintering flock
Yellow-rumped warbler	<i>Setophaga coronata</i>	Foraging
Song sparrow	<i>Melospiza melodia</i>	Foraging; may nest on-site
Red-winged blackbird	<i>Agelaius phoeniceus</i>	Likely to nest in ruderal herbaceous patches
Western meadowlark	<i>Sturnella neglecta</i>	Wintering flock
Reptiles		
Western fence lizard	<i>Sceloporus occidentalis</i>	Several individuals

APPENDIX C-2

Table A-2. Plant species observed in the Project Area, January 13, 2012, September 10 and October 6, 2010

Family	Scientific name	Common name	Life form	Origin	Invasive Status ¹	Rare Status ²	Wetland indicator ³
Alismataceae	<i>Alisma triviale</i> [<i>Alisma plantago-aquatica</i>]	northern water plantain	perennial forb	native	N/A	N/A	OBL
Apiaceae	<i>Conium maculatum</i>	poison hemlock	perennial forb	non-native	moderate	N/A	FACW
Apiaceae	<i>Foeniculum vulgare</i>	fennel	perennial forb	non-native	high	N/A	FACU
Asteraceae	<i>Anthemis cotula</i>	dog fennel	annual forb	non-native	assessed	N/A	FACU
Asteraceae	<i>Baccharis pilularis</i>	coyote brush	evergreen shrub	native	N/A	N/A	NL
Asteraceae	<i>Carduus pycnocephalus</i>	Italian thistle	annual forb	non-native	moderate	N/A	NL
Asteraceae	<i>Centaurea calcitrapa</i>	purple star thistle	annual forb	non-native	moderate	N/A	NL
Asteraceae	<i>Centaurea solstitialis</i>	yellow star thistle	annual forb	non-native	high	N/A	NL
Asteraceae	<i>Centromadia pungens</i> [<i>Hemizonia pungens</i>]	common tarweed	annual forb	native	N/A	N/A	NL
Asteraceae	<i>Cirsium vulgare</i>	bull thistle	annual, biennial forb	non-native	moderate	N/A	FACU
Asteraceae	<i>Dittrichia graveolens</i>	stinkwort	annual forb	non-native	moderate	N/A	NL
Asteraceae	<i>Grindelia stricta</i> var. <i>angustifolia</i>	marsh gumplant	perennial forb	native	N/A	N/A	NL
Asteraceae	<i>Helminthotheca echioides</i> [<i>Picris echioides</i>]	bristly ox-tongue	perennial forb	non-native	limited	N/A	FACU
Asteraceae	<i>Jaumea carnosa</i>	fleshy jaumea	perennial forb	native	N/A	N/A	OBL
Asteraceae	<i>Lactuca serriola</i>	prickly lettuce	annual forb	non-native	assessed	N/A	FAC
Asteraceae	<i>Madia sativa</i>	coast tarweed	annual forb	native	N/A	N/A	NL
Asteraceae	<i>Silybum marianum</i>	milk thistle	perennial forb	non-native	limited	N/A	NL
Asteraceae	<i>Sonchus asper</i> ssp. <i>asper</i>	prickly sow thistle	annual forb	non-native	assessed	N/A	FAC
Asteraceae	<i>Xanthium spinosum</i>	spiny cocklebur	annual forb	native	N/A	N/A	FAC
Asteraceae	<i>Xanthium strumarium</i>	rough cocklebur	annual forb	native	N/A	N/A	FAC
Brassicaceae	<i>Brassica nigra</i>	black mustard	perennial forb	non-native	moderate	N/A	NL
Brassicaceae	<i>Hirschfeldia incana</i>	Mediterranean mustard	perennial forb	non-native	moderate	N/A	NL
Brassicaceae	<i>Lepidium latifolium</i>	broadleaf pepperweed	perennial forb	non-native	high	N/A	FACW
Brassicaceae	<i>Raphanus sativus</i>	wild radish	perennial forb	non-native	limited	N/A	NL
Chenopodiaceae	<i>Atriplex prostrata</i> [<i>Atriplex triangularis</i>]	fat hen	perennial forb	non-native	N/A	N/A	FACW

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Family	Scientific name	Common name	Life form	Origin	Invasive Status ¹	Rare Status ²	Wetland indicator ³
Chenopodiaceae	<i>Salicornia pacifica</i> [<i>Salicornia virginica</i>]	pickleweed	perennial forb	native	N/A	N/A	OBL
Cupressaceae	<i>Hesperocyparis macrocarpa</i> [<i>Cupressus macrocarpa</i>]	Monterey cypress	evergreen tree	native	N/A	List 1B*	NL
Cyperaceae	<i>Bolboschoenus maritimus</i> [<i>Scirpus maritimus</i>]	salt marsh bulrush	perennial graminoid	native	N/A	N/A	OBL
Cyperaceae	<i>Cyperus eragrostis</i>	tall flatsedge	perennial graminoid	native	N/A	N/A	FACW
Cyperaceae	<i>Schoenoplectus californicus</i> [<i>Scirpus californicus</i>]	California tule	perennial graminoid	native	N/A	N/A	OBL
Fabaceae	<i>Acacia dealbata</i>	silver wattle	evergreen tree	non-native	moderate	N/A	NL
Fabaceae	<i>Melilotus albus</i>	white sweetclover	annual forb	non-native	assessed	N/A	FACU
Juncaceae	<i>Juncus balticus</i>	Baltic rush	perennial graminoid	native	N/A	N/A	OBL
Lamiaceae	<i>Mentha pulegium</i>	pennyroyal	perennial forb	non-native	limited	N/A	OBL
Myrtaceae	<i>Eucalyptus globulus</i>	blue gum	evergreen tree	non-native	moderate	N/A	NL
Pinaceae	<i>Pinus radiata</i>	Monterey pine	evergreen tree	native	limited	List 1B*	NL
Plantaginaceae	<i>Plantago lanceolata</i>	English plantain	perennial forb	non-native	limited	N/A	FAC
Plantaginaceae [Scrophulariaceae]	<i>Kickxia spuria</i>	fluellin	perennial forb	non-native	N/A	N/A	NL
Poaceae	<i>Avena barbata</i>	slender wild oat	annual graminoid	non-native	moderate	N/A	NL
Poaceae	<i>Bromus diandrus</i>	ripgut brome	annual graminoid	non-native	moderate	N/A	NL
Poaceae	<i>Bromus hordeaceus</i>	soft chess	annual graminoid	non-native	moderate	N/A	FACU
Poaceae	<i>Cortaderia jubata</i>	Andes Pampas grass	perennial graminoid	non-native	high	N/A	NL
Poaceae	<i>Cynodon dactylon</i>	Bermuda grass	perennial graminoid	non-native	moderate	N/A	FAC
Poaceae	<i>Cynosurus echinatus</i>	dog-tail grass	annual graminoid	non-native	moderate	N/A	NL
Poaceae	<i>Distichlis spicata</i>	saltgrass	perennial forb	native	N/A	N/A	FACW
Poaceae	<i>Elymus glaucus</i>	blue wild rye	perennial graminoid	native	N/A	N/A	FACU
Poaceae	<i>Festuca perennis</i> [<i>Lolium multiflorum</i>]	Italian rye grass	annual graminoid	non-native	moderate	N/A	FAC
Poaceae	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley	annual graminoid	non-native	moderate	N/A	FAC
Poaceae	<i>Hordeum murinum</i>	foxtail barley	annual graminoid	non-native	moderate	N/A	NI
Poaceae	<i>Phalaris aquatica</i>	harding grass	perennial graminoid	non-native	moderate	N/A	FACW
Poaceae	<i>Polypogon monspeliensis</i>	rabbit's-foot grass	annual graminoid	non-native	limited	N/A	FACW

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Family	Scientific name	Common name	Life form	Origin	Invasive Status ¹	Rare Status ²	Wetland indicator ³
Poaceae	<i>Spartina foliosa</i>	California cord grass	perennial graminoid	native	N/A	N/A	OBL
Polygonaceae	<i>Polygonum aviculare</i> ssp. <i>depressum</i> [<i>Polygonum arenastrum</i>]	dooryard knotweed	perennial forb	non-native	N/A	N/A	FAC
Polygonaceae	<i>Rumex crispus</i>	curly dock	perennial forb	non-native	N/A	N/A	FACW
Rosaceae	<i>Rubus armeniacus</i> [<i>Rubus discolor</i>]	Himalaya blackberry	evergreen vine	non-native	high	N/A	FACW
Urticaceae	<i>Urtica dioica</i>	stinging nettle	perennial forb	native	N/A	N/A	FACW

- All species identified using the *Jepson Manual* (Hickman 1993), *Jepson Manual, 2nd edition* (Baldwin et al. 2012), and *A Flora of Sonoma County* (Best et al. 1996)
- Nomenclature follows *Jepson Manual, 2nd edition* (Baldwin et al. 2012) with those Families, Genera, and Species in brackets from *Jepson Manual* (Hickman 1993)

¹Invasive Status: California Invasive Plant Inventory (Cal-IPC 2012)

²Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2012)

*List 1B: Species rare in native stands only; native stands not present in the Project Area

³Wetland Status: National List of Plant Species that Occur in Wetlands, California – Region 10 (Reed 1988)

**APPENDIX B – POTENTIAL FOR SPECIAL STATUS SPECIES TO OCCUR IN THE PROJECT
SITE**

Appendix B. Special status species that may occur, or are known to occur in habitats similar to those found in the Project Site. List compiled from the U.S. Fish and Wildlife Service (USFWS) Species Lists (January 2012), California Native Plant Society (CNPS) Electronic Inventory (January 2012) and CNDDDB (January 2012) searches of the Cotati, Glen Ellen, Sonoma, Petaluma, Petaluma River, Sears Point, San Geronimo, Novato, and Petaluma Point USGS 7.5 minute quadrangles.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Mammals				
Pallid bat <i>Antrozous pallidus</i>	SSC, WBWG High	Found in deserts, grasslands, shrublands, woodlands, and forests. Roost sites include old ranch buildings, rocky outcrops and caves within sandstone outcroppings. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Unlikely. The Project Site is highly disturbed, and there are no buildings or rocky outcrops suitable for roosting by this species. A pallid bat maternity colony is known from Olompali State Park 6.0 miles to the south (CDFG 2012), and this species may occasionally forage over the Project Site.	No further actions are recommended.
Western red bat <i>Lasiurus blossevillii</i>	SSC, WBWG High	Typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields. There may be an association with intact riparian habitat.	Unlikely. Typical riparian roosting habitat is not present within the Project Site; may rarely forage in the area.	No further actions are recommended.
Fringed myotis <i>Myotis thysanodes</i>	WBWG High	Fringed myotis is associated with a wide variety of habitats including mixed coniferous-deciduous forest and redwood/sequoia groves. Buildings, mines and large snags are important day and night roosts.	Unlikely. The limited groves of coniferous trees within the Project Site are too disturbed to provide any typical roosting habitat for this species. May occasionally forage in the area.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SSC, WBWG High	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	Unlikely. There are no buildings, caves or mines that provide roosting sites for this species. A big-eared bat maternity colony is known from Olompali State Park 6.0 miles to the south (CDFG 2012), and this species may occasionally forage over the Project Site.	No further actions are recommended.
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	No Potential. The Project Site is highly disturbed, nearly surrounded by urban development, and offers no suitable habitat for this species.	No further actions are recommended.
Point Reyes mountain beaver <i>Aplodontia rufa phaea</i>	SSC	The Point Reyes mountain beaver is only known to occur in western Marin County, almost entirely within Point Reyes National Seashore. It occurs on cool, moist, north-facing slopes in moderately dense coastal scrub. Burrows are typically constructed in dense thickets or in forest openings and feed on coyote brush, sword fern, cow parsnip, black berries, poison oak, California nettle, and thistle.	No Potential. The Project Site is outside the known range of this subspecies and suitable habitat is not present.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	SSC	Forest and woodland habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Constructs large "houses" of sticks and other pieces of vegetation. May be limited by availability of nest-building materials.	No Potential. The Project Site is north of the recognized range of this subspecies.	No further actions are recommended.
Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP	Found only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed marsh is the primary habitat. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	Unlikely. Wetlands within and adjacent to the Project Site lack pickleweed, are highly disturbed, and provide no typical habitat for this species. The nearest documented occurrence is approximately 0.4 miles southeast of the Project Site (CDFG 2012).	No further actions are recommended.
Birds				
Golden eagle <i>Aquila chrysaetos</i>	BCC, CFP	Resident in rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Unlikely. The Project Site is highly disturbed and surrounded by urban development, providing no typical breeding or foraging habitat. Transient or dispersing individuals may occasionally occur in the area.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
White-tailed kite <i>Elanus leucurus</i>	CFP	Resident in coastal and valley lowlands. Preys on small mammals and other small vertebrates, and insects. Nests in trees and larger shrubs, often in relatively isolated stands.	Present. One white-tailed kite was observed foraging over the Project Site during the January 2012 site visit, and the ornamental coniferous trees on-site provide potential nesting habitat.	If vegetation removal and/or ground disturbance occurs from February 1 to August 31, a breeding bird survey should be conducted within 14 days of the initiation of work activities.
Bald eagle <i>Haliaeetus leucocephalus</i>	SE, CFP	Generally a winter visitor, with limited breeding in the vicinity of San Francisco Bay. Requires large bodies of water, or free-flowing rivers with abundant fish adjacent snags or other perches. Nests in large, old-growth, or dominant live tree with open branchwork.	Unlikely. The Project Site is highly disturbed and effectively surrounded by urban development, offering no typical foraging or nesting habitat. Transient or dispersing individuals may occasionally occur in the area.	No further actions are recommended.
Northern harrier <i>Circus cyaneus</i>	SSC	Resident and winter visitor. Found in open habitats such as marshes, grasslands and agricultural areas. Tends to nest near water in dense, tall vegetation.	Moderate Potential. Although moderate-quality foraging habitat is present within the Project Site, the area is highly disturbed and offers no typical nesting habitat.	Because nesting within the Project Site is unlikely, no further actions are recommended.
Ferruginous hawk <i>Buteo regalis</i>	BCC	Winter visitor; does not breed in the region. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys and fringes of pinyon-juniper habitats. Preys on rabbits, ground squirrels and mice.	Unlikely. The Project Site is highly disturbed and effectively surrounded by urban development, offering no typical wintering habitat for this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
<p>American peregrine falcon <i>Falco peregrinus anatum</i></p>	<p>SE, BCC, CFP</p>	<p>Largely resident. Requires protected cliffs, ledges or manmade structures for nesting. Often associated with coasts, bays, marshes and other open expanses of water. Preys primarily upon waterbirds; forages widely.</p>	<p>Unlikely. No cliff, ledge or anthropogenic substrates suitable for nesting are present within the Project Site, and foraging is unlikely due to the disturbed nature of the site. May occasionally fly over the Project Site.</p>	<p>No further actions are recommended.</p>
<p>Prairie falcon <i>Falco mexicanus</i></p>	<p>BCC</p>	<p>Resident and winter visitor. Inhabits dry, open terrain. Breeding sites are located on cliffs; forages widely. Prey upon a variety of vertebrates, mostly mammals and birds.</p>	<p>Unlikely. The Project Site provides no breeding habitat for this species, and the urbanized nature of surrounding areas likely precludes foraging.</p>	<p>No further actions are recommended.</p>
<p>Western snowy plover <i>Charadrius alexandrinus nivosus</i></p>	<p>FT, SSC, BCC</p>	<p>Found on sandy beaches, salt pond levees and shores of large alkali lakes. Requires sandy, gravelly or friable soils for nesting. The federal listing applies only to the Pacific coastal population.</p>	<p>No Potential. No suitable nesting or foraging habitat is present within the Project Site.</p>	<p>No further actions are recommended.</p>

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
California clapper rail <i>Rallus longirostris obsoletus</i>	FE, SE, CFP	Resident in salt and brackish marshes of San Francisco Bay, preferring large areas of contiguous marsh traversed by tidal sloughs. Nests in dense marsh vegetation, but often forages away from cover on invertebrates in intertidal mudflats.	Unlikely. Tidal marsh habitat on the margins of the Project Site is too restricted in area to support this species. The nearest documented occurrence is approximately 3.5 miles south of the Project Site within a large tract of high-quality habitat (CDFG 2012).	No further actions are recommended.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, BCC, CFP	Extremely secretive resident of emergent marshes in the San Francisco Bay Estuary, other coastal sites, and portions of the Central Valley. Occurs in salt, brackish and freshwater habitats. Nests in dense stands of emergent vegetation.	No Potential. Tidal and seasonal wetland habitats within and adjacent to the Project Site are too disturbed and restricted in area to support this species. The nearest documented occurrence is approximately 2.3 miles south of the Project Site (CDFG 2012).	No further actions are recommended.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FC, SE, BCC	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No Potential. The Project Site offers no suitable riparian habitat for this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Burrowing owl <i>Athene cunicularia</i>	BCC, SSC	Largely resident in the region. Found in grasslands and other open habitats with a sparse to absent shrub/tree canopy. Nests and roosts in old mammal burrows, typically those of ground squirrels. Preys upon insects, and also small mammals, reptiles and birds.	Unlikely. Open habitats within the Project Site are very limited in extent, and surrounded by taller vegetation or other visual obstructions that render the habitat of marginal quality. The nearest documented occurrence is approximately 6.4 miles south of the Project Site; this species is considered extirpated as a breeder from Sonoma County.	No further actions are recommended.
Northern spotted owl <i>Strix occidentalis caurina</i>	FT, SSC	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. Prefers high, multistory canopy dominated by big trees, trees with cavities or broken tops, woody debris and space under canopy.	No Potential. No old-growth forest is present within or adjacent to the Project Site.	No further actions are recommended.
Long-eared owl <i>Asio otus</i>	SSC	Resident and visitor in the region. Nests in a variety of woodland habitats, including oak and riparian. Requires adjacent open land with rodents for foraging, and the presence of old nests of crows, hawks, magpies etc. for breeding.	Unlikely. The Project Site contains no woodland habitat suitable for nesting, and the tree groves present are likely too limited in extent to support roosting by this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Short-eared owl <i>Asio flammeus</i>	SSC	Resident and winter visitor, found in open, treeless areas with elevated perches and dense vegetation. Tall grasses and/or emergent vegetation are needed for nesting and daytime seclusion.	Unlikely. Grassland and wetland habitats within the Project Site are highly disturbed and very limited in area, providing no typical breeding or foraging habitat.	No further actions are recommended.
Vaux's swift <i>Chaetura vauxi</i>	SSC	Summer resident. Forages high in the air over a variety of habitats but prefers rivers/lakes in forest areas. Requires coniferous trees with vertical cavities in forest or woodland habitats for nesting.	Unlikely. Suitable forest or woodland habitat is not present within the Project Site. There are no documented nesting occurrences within 5.0 miles of the Project Site (CDFG 2012). May occasionally forage over the Project Site during migration.	No further actions are recommended.
Black swift <i>Cypseloides niger</i>	BCC, SSC	Generally found in the coastal belt of Santa Cruz and Monterey County; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above surf; forages widely.	Unlikely. No suitable breeding habitat exists within the Project Site, and there are no documented nesting occurrences within 5.0 miles of the Project Site (CNDDDB 2012). May rarely pass over the Project Site during migration.	No further actions are recommended.
Rufous hummingbird <i>Selasphorus rufus</i>	BCC	Breeds in transition life zone of northwest coastal area from Oregon border to southern Sonoma County. Nests in berry tangles, shrubs, and conifers.	Unlikely. Sonoma County is not within this species breeding range. May occur occasionally during migration.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Allen's hummingbird <i>Selasphorus sasin</i>	BBC	Summer resident, breeding along much of California's coastal slope. Occurs in woodlands, parks, and gardens.	Moderate Potential. This species is a relatively common breeder within Sonoma County's urban habitats, and may nest in tree groves within the Project Site.	If vegetation removal and/or ground disturbance occurs from February 1 to August 31, a breeding bird survey should be conducted within 14 days of the initiation of work activities.
Nuttall's woodpecker <i>Picooides nuttallii</i>	BCC	Resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks.	Unlikely. Typical woodland habitat is not present within the Project Site. Transient individuals may occasionally occur in the Project Site's tree groves.	No further actions are recommended.
Lewis's woodpecker <i>Melanerpes lewis</i>	BCC	Uncommon winter resident occurring in open oak savannahs, broken deciduous and coniferous habitats. Often associated with burned areas.	Unlikely. Sonoma County is not within this species breeding range, and it is unlikely to occur even during dispersal periods due to a lack of savannah or woodland habitat.	No further actions are recommended.
Purple martin <i>Progne subis</i>	SSC	Summer resident, breeding in woodland and low-elevation coniferous forests. Nests in cavities, of trees and also anthropogenic structures. Woodland and forest nest sites typically in located in tall, isolated trees or snags. Abundant flying insect prey also important.	Unlikely. Coniferous tree groves within the Project Site are too limited in extent to provide any typical nesting habitat for this species, and there are no documented breeding occurrences from the area.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Bank swallow <i>Riparia riparia</i>	ST	Summer resident; breeds in riparian and other lowland habitats in western California, including coastal cliffs. Nests colonially in burrows excavated on vertical faces with fine-textured or sandy soils.	Unlikely. No suitable vertical cliff habitat is present within or adjacent to the Project Site. Unlikely to occur even during migration due to lack of known breeding sites in the area.	No further actions are recommended.
Olive-sided flycatcher <i>Contopus cooperi</i>	BCC, SSC	Nesting habitats are mixed conifer, montane hardwood-conifer, douglas-fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	Unlikely. While coniferous trees are present, the Project Site lacks the forest or woodland habitat typically used by this species for nesting. May occur occasionally during migration.	No further actions are recommended.
Loggerhead shrike <i>Lanius ludovicianus</i>	BCC, SSC	Resident in open habitats with scattered shrubs, trees, posts, and utility lines from which to forage for large insects. Nests are well concealed in densely-foliaged shrubs or trees.	Moderate Potential. Suitable foraging habitat exists within the more open portions of the Project Site, though a lack of densely-foliaged trees and shrubs likely precludes nesting.	No further actions are recommended.
Yellow warbler <i>Dendroica petechia brewsteri</i>	SSC	Summer resident, nesting in riparian stands of willows, cottonwoods, aspens, sycamores, and alders. Also nests in suitable montane shrubbery. Occurs widely during migration.	Unlikely. The Project Site offers no riparian or other habitat suitable for nesting. May occur in small numbers during migration.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
San Francisco (saltmarsh) common yellowthroat <i>Geothlypis trichas sinuosa</i>	BCC, SCC	Resident subspecies of the San Francisco Bay area, occurring typically in the emergent vegetation of salt, brackish and freshwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, or willows for nesting.	Moderate Potential. Although disturbed and restricted in area, wetland habitats within the Project Site have some potential to support this species, including nesting. The nearest documented occurrence is 0.4 mile east of the Project Site (CDFG 2012).	If vegetation removal and/or ground disturbance occurs from February 1 to August 31, a breeding bird survey should be conducted within 14 days of the initiation of work activities.
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Resident subspecies, associated with the coastal fog belt. Occupies low tidally influenced habitats, adjacent to ruderal areas; often found where Pickleweed communities merge into grassland. Builds nests in taller grasses and rushes along roads, levees, and water conveyance canals.	Unlikely. The Project Site is located outside of the coastal fog belt and does not provide any typical marsh habitat for this species.	No further actions are recommended.
Grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer visitor. Breeds in dense grasslands (both non-native and native) on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Secretive.	Unlikely. Grasslands within the Project Site are highly disturbed and very restricted in area, providing no typical nesting habitat. May rarely occur during migration.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Samuels (San Pablo) song sparrow <i>Melospiza melodia samuelis</i>	SSC	Resident subspecies in tidal marshes and immediately adjacent areas of San Pablo Bay, including the Petaluma River.	Present. While the tidal marsh present along the nearby Petaluma River is very limited in extent, song sparrows observed within the southern portion of the Project Site during the January 2012 are presumed to be of this subspecies. The nearest documented occurrence is <0.1 mile across the Petaluma River (CDFG 2012).	If vegetation removal and/or ground disturbance occurs from February 1 to August 31, a breeding bird survey should be conducted within 14 days of the initiation of work activities.
Tricolored blackbird <i>Agelaius tricolor</i>	BCC, SSC, RP	Resident, though disperses somewhat when not breeding. Typically nests over or near freshwater in dense cattails, tules, or thickets of willow, blackberry, wild rose or other tall herbs. Highly colonial; breeding aggregations tend to be large.	Unlikely. Emergent wetland vegetation within the Project Site is highly disturbed and very small in area, providing no suitable breeding habitat for this species. May occur in flocks with other blackbird species during the non-breeding season.	No further actions are recommended.
Lawrence's Goldfinch <i>Spinus lawrencei</i>	BCC	A summer visitor in northern California, generally uncommon and local. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	Unlikely. The Project Site does not contain oak trees or any other typical habitat elements for this species.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Reptiles and Amphibians				
California red-legged frog <i>Rana aurora draytonii</i>	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to aestivation habitat.	Unlikely. The Project Site provides no typical aquatic habitat and is effectively surrounded by urban development. The nearest documented occurrence is approximately 2.0 miles east of the Project Site (CDFG 2012).	No further actions are recommended.
Foothill yellow-legged frog <i>Rana boylei</i>	SSC	Found in or near rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	No Potential. The Project Site provides no suitable aquatic habitat and is effectively surrounded by urban development. The nearest documented occurrence is approximately 1.3 miles northeast of the Project Site (CDFG 2012).	No further actions are recommended.
California tiger salamander <i>Ambystoma californiense</i>	FE, ST	Populations in Santa Barbara and Sonoma counties currently listed as endangered. Inhabits grassland, oak woodland, ruderal and seasonal pool habitats. Seasonal ponds and vernal pools are crucial to breeding. Adults utilize mammal burrows as aestivation habitat.	No Potential. The Project Site is south of the southern extent of the range of the Santa Rosa DPS. The nearest documented occurrence is approximately 7.0 miles north of the Project Site (CDFG 2012).	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Pacific pond turtle <i>Actinemys marmorata</i>	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter. Nests are excavated in areas with friable soil and vegetative cover.	Unlikely. The Project Site provides no suitable aquatic habitat for this species. The adjacent Petaluma River is likely too saline, with no nearby documented occurrences in association with it. The nearest documented occurrence is approximately 1.1 miles to the east of the Project Site (CDFG 2012).	No further actions are recommended.
Fishes				
Green sturgeon <i>Acipenser medirostris</i>	SSC, FT	Spawns in the Sacramento River and the Klamath River. Spawning occurs at temperatures between 8-14 degrees Celsius. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No Potential. The Project Site provides no suitable aquatic habitat for this species; it is unlikely to occur in the nearby Petaluma River.	No further actions are recommended.
Tomales roach <i>Lavinia symmetricus ssp.</i>	SSC	Habitat generalists. Tolerant of relatively high temperatures and low oxygen levels, however unable to tolerate very saline water.	No Potential. The Project Site provides no suitable aquatic habitat and is outside of this species known range, which is restricted to Walker Creek and other tributaries to Tomales Bay.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Sacramento Splittail <i>Pogonichthys macrolepidotus</i>	SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young. Splittail are primarily freshwater fish, but are tolerant of moderate salinity and can live in water where salinity levels reach of 10-18 parts per thousand.	No Potential. The Project Site provides no suitable aquatic habitat for this species; it is potentially present in the nearby Petaluma River.	Project activities will avoid all impacts to the Petaluma River. No further actions are recommended.
Tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential. The Project Site provides no suitable aquatic habitat for this species, and it is considered extirpated from the San Francisco Bay estuary and associated rivers and streams.	No further actions are recommended.
Coho Salmon - central CA coast ESU <i>Oncorhynchus kisutch</i>	FE, SE, NMFS	Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	No Potential. The Project Site provides no suitable aquatic habitat for this species, and it is absent in the Petaluma River.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Steelhead - central CA coast ESU <i>Oncorhynchus mykiss</i>	FT, NMFS	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean.	No Potential. The Project Site provides no suitable aquatic habitat for this species; it is potentially seasonally present in the nearby Petaluma River.	Project activities will avoid all impacts to the Petaluma River. No further actions are recommended.
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i>	FT, ST, RP, NMFS	Populations spawning in the Sacramento and San Joaquin Rivers and their tributaries. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean	No Potential. The Project Site provides no suitable aquatic habitat for this species; it is potentially seasonally present in the nearby Petaluma River.	Project activities will avoid all impacts to the Petaluma River. No further actions are recommended.
Invertebrates				
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE, RP, SSI	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	No Potential. This species is generally found within three miles of the coast, and the Project Site provides no suitable habitat.	No further actions are recommended.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
California freshwater shrimp <i>Syncaris pacifica</i>	FE, SE, SSI, RP	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient (generally less than 1%) perennial streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winters near undercut banks with exposed roots. In the summer uses leafy branches touching water.	No Potential. The Project Site provides no suitable perennial stream habitat for this species.	No further actions are recommended.
PLANTS				
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	List 1B	Cismontane woodland, valley and foothill grassland; located on dry hillsides underlain by clay substrate often derived from serpentine. Elevation range: 165 – 975 feet. Blooms: May – June.	No Potential. The Project Site does not contain woodland or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
Sonoma alopecurus <i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE; List 1B	Freshwater swamps and marshes, riparian scrub; located in wet areas of marshes and riparian banks. Elevation range: 15 – 1190 feet. Blooms: May – July.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and management likely precludes this species.	No further actions are recommended for this species.
Napa false indigo <i>Amorpha californica</i> var. <i>nepensis</i>	List 1B	Broadleaf upland forest, chaparral, cismontane woodland; openings in forest, woodland, and chaparral. Elevation range: 390 – 6500 feet. Blooms: April – July.	No Potential. The Project Site does not contain forest, chaparral, or woodland habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	List 1B	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. Elevation range: 10 – 1625 feet. Blooms: March – June.	No Potential. The Project Site does not contain woodland or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.
twig-like snapdragon <i>Antirrhinum virga</i>	List 4	Chaparral, lower montane coniferous forest; located on rocky openings derived from serpentine. Elevation range: 325 – 6550 feet. Blooms: June – July.	No Potential. The Project Site does not contain chaparral or forest habitat necessary to support this species.	No further actions are recommended for this species.
coast rock cress <i>Arabis blepharophylla</i>	List 4	Broadleaf upland forest, coastal bluff scrub, coastal prairie, coastal scrub; located on rocky sites, often on coastal bluffs. Elevation range: 10 – 3575 feet. Blooms: February – May.	No Potential. The Project Site does not contain forest, scrub, or prairie habitat necessary to support this species.	No further actions are recommended for this species.
Baker's manzanita <i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i>	SR; List 1B	Broadleaf upland forest, chaparral; located on serpentine substrate. Elevation range: 245 – 975 feet. Blooms: February – April.	No Potential. The Project Site does not contain forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
Sonoma canescent manzanita <i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i>	List 1B	Chaparral, lower montane coniferous forest; often located on serpentine substrate. Elevation range: 585 – 5445 feet. Blooms: January – July.	No Potential. The Project Site does not contain chaparral or forested habitat necessary to support this species.	No further actions are recommended for this species.

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Mt. Tamalpais manzanita <i>Arctostaphylos montana</i> ssp. <i>montana</i>	List 1B	Chaparral, valley and foothill grassland; on rocky serpentine slopes in scrub and grassland. Elevation range: 520 – 2470 feet. Blooms: February – April.	No Potential. The Project Site does not contain chaparral or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
Marin manzanita <i>Arctostaphylos virgata</i>	List 1B	Broadleaf upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest; on sandstone and granitic substrates. Elevation range: 195 – 2275 feet. Blooms: January – March.	No Potential. The Project Site does not contain forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	List 1B	Alkali playa, valley and foothill grassland, vernal pools; in low ground, flats, and flooded lands; typically in annual grasslands and vernal pools. Elevation range: 5 – 165 feet. Blooms: March – June.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and maintenance of the site likely precludes this delicate annual species.	No further actions are recommended for this species.
Sonoma sunshine <i>Blennosperma bakeri</i>	FE; SE; List 1B	Vernal pools, valley and foothill grassland; typically located in pools and swales. Elevation range: 30 – 360 feet. Blooms: March – May.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and maintenance of the site likely precludes this delicate annual species. Additionally, this species is closely associated with the adobe clay substrate vernal pools of the Santa Rosa Plain.	No further actions are recommended for this species.

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narrow-anthered California brodiaea <i>Brodiaea leptandra</i>	List 1B	Broadleaf upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland; located on volcanic substrate. Elevation range: 355 – 2974 feet. Blooms: May – July.	No Potential. The Project Site does not contain forested, chaparral, or woodland habitat. The herbaceous habitat is disturbed and volcanic substrate is not present in the Project Site.	No further actions are recommended for this species.
round-leaved filaree <i>California macrophylla</i>	List 1B	Cismontane woodland, valley and foothill grassland; typically located on clay substrates. Elevation range: 45 – 3900 feet. Blooms: March – May.	No Potential. The Project Site does not contain woodland or high quality grassland habitat located on clay substrate.	No further actions are recommended for this species.
Oakland star tulip <i>Calochortus umbellatus</i>	List 4	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland; often located on serpentine substrate. Elevation range: 325 – 2275 feet. Blooms: March – May.	No Potential. The Project Site does not contain woodland, forest, chaparral, or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
Tiburon paintbrush <i>Castilleja affinis</i> ssp. <i>neglecta</i>	FE; ST; List 1B	Valley and foothill grassland; on rocky serpentine substrates. Elevation range: 195 – 1300 feet. Blooms: April – June.	No Potential. The Project Site does not contain serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
Sonoma ceanothus <i>Ceanothus sonomensis</i>	List 1B	Chaparral; located on sandy, serpentine or volcanic soils. Elevation range: 695 – 2600 feet. Blooms: February – April.	No Potential. The Project Site does not contain chaparral habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	List 1B	Coastal prairie, meadows, seeps, coastal salt marsh, valley and foothill grassland; located on vernal mesic, often alkaline sites. Elevation range: 5 – 1365 feet. Blooms: May – November.	Unlikely. Although the Project Site contains alkali substrate, the marsh-grassland transition is minimal and disturbed to a degree that likely precludes presence of this species.	No further actions are recommended for this species.
Point Reyes bird's-beak <i>Chloropyron maritimum</i> ssp. <i>palustre</i>	List 1B	Coastal salt marsh; closely associated with salt grass, pickleweed, cord grass, and fleshy jaumea. Elevation range: 0 – 35 feet. Blooms: June – October.	Unlikely. Although the Project Site contains a narrow band of coastal brackish marsh, this species is closely associated with marsh flats in extensive pickleweed and salt grass not present in the Project Site.	No further actions are recommended for this species.
soft bird's-beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FE; SR; List 1B	Coastal salt marsh; closely associated with pickleweed, salt grass, and alkali heath. Elevation range: 0 – 10 feet. Blooms: July – November.	Unlikely. Although the Project Site contains a narrow band of coastal brackish marsh, this species is closely associated with marsh flats in extensive pickleweed and salt grass not present in the Project Site.	No further actions are recommended for this species.
Sonoma spineflower <i>Chorizanthe valida</i>	FE; SE; List 1B	Coastal prairie; located on sandy substrates. Elevation range: 30 – 165 feet. Blooms: June – August.	No Potential. The Project Site does not contain prairie habitat necessary to support this species.	No further actions are recommended for this species.
Mt. Tamalpais thistle <i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	List 1B	Broadleaf upland forest, chaparral; located on streams and serpentine seeps in woodland and scrub habitat. Elevation range: 780 – 2015 feet. Blooms: May – August.	No Potential. The Project Site does not contain forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Baker's larkspur <i>Delphinium bakeri</i>	FE; SE; List 1B	Coastal scrub, grassland; located on decomposed shale in grassy northwest-facing slopes. Elevation range: 260 – 995 feet. Blooms: March – May.	No Potential. The Project Site does not contain north-facing slopes underlain by decomposed shale necessary to support this species.	No further actions are recommended for this species.
golden larkspur <i>Delphinium luteum</i>	FE; SR; List 1B	Chaparral, coastal prairie, coastal scrub; located on rocky, north-facing slopes. Elevation range: 0 – 325 feet. Blooms: March – May.	No Potential. The Project Site does not contain chaparral, scrub, and prairie habitat necessary to support this species.	No further actions are recommended for this species.
western leatherwood <i>Dirca occidentalis</i>	List 1B	Broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, riparian woodland; located on brushy, mesic slopes in woodland and forest. Elevation range: 165 – 1285 feet. Blooms: January – April.	No Potential. The Project Site does not contain forest, chaparral, or woodland habitat necessary to support this species.	No further actions are recommended for this species.
dwarf Downingia <i>Downingia pusilla</i>	List 1B	Valley and foothill grassland, vernal pools; located on mesic sites and the edge of pools and lakes. Elevation range: 3 – 1450 feet. Blooms: March – May.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and lack of seed bank likely precludes the presence of this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
California bottle-brush grass <i>Elymus californicus</i>	List 4	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest, riparian woodland. Elevation range: 45 – 1530 feet. Blooms: May – November.	No Potential. The Project Site does not contain forest or woodland habitat necessary to support this species.	No further actions are recommended for this species.
Koch's cord moss <i>Entosthodon kochii</i>	List 1B	Cismontane woodland, valley and foothill grassland; grows on freshwater river banks. Elevation range: 585 – 3250 feet.	No Potential. This species is known from freshwater river banks and higher elevations than is present at the Project Site.	No further actions are recommended for this species.
streamside daisy <i>Erigeron biolettii</i>	List 3	Broadleaf upland forest, cismontane woodland, North Coast coniferous forest; located on rocky, mesic sites. Elevation range: 95 – 3575 feet. Blooms: June – October.	No Potential. The Project Site does not contain forest or woodland habitat necessary to support this species.	No further actions are recommended for this species.
Tiburon buckwheat <i>Eriogonum luteolum</i> var. <i>caninum</i>	List 1B	Chaparral, valley and foothill grassland, cismontane woodland, coastal prairie; located on sandy or gravelly substrate derived from serpentine. Elevation range: 0 – 2275 feet. Blooms: May – September.	No Potential. The Project Site does not contain chaparral, woodland, prairie, or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.

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Marin checker lily <i>Fritillaria lanceolata</i> var. <i>tristulis</i>	List 1B	Coastal bluff scrub, coastal scrub, coastal prairie; observed in canyons, riparian areas, and rock outcrops; often located on serpentine substrate. Elevation range: 45 – 490 feet. Blooms: February – May.	No Potential. The Project Site does not contain scrub or prairie habitat necessary to support this species.	No further actions are recommended for this species.
fragrant fritillary <i>Fritillaria liliacea</i>	List 1B	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland; located in grassy, open areas underlain by clay substrate often derived from volcanics or serpentine. Elevation range: 10 – 1335 feet. Blooms: February – April.	No Potential. The Project Site does not contain scrub, prairie, woodland, or serpentine / volcanic grassland habitat necessary to support this species.	No further actions are recommended for this species.
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	List 3	Coastal bluff scrub, coastal scrub, valley and foothill grassland; located on sandy serpentine substrate. Elevation range: 45 – 1300 feet. Blooms: June – September.	No Potential. The Project Site does not contain scrub or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.
seaside tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	List 1B	Coastal scrub, valley and foothill grassland; located in grassy valleys, hills, and fallow fields. Elevation range: 65 – 1820 feet. Blooms: April – November.	Unlikely. The Project Site does not contain woodland or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Marin western flax <i>Hesperolinon congestum</i>	FT; ST; List 1B	Chaparral, valley and foothill grassland; in grassland, scrub, and barrens underlain by serpentine substrate. Elevation range: 15 – 1205 feet. Blooms: April – July.	No Potential. The Project Site does not contain chaparral or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
Santa Rosa horkelia <i>Horkelia tenuiloba</i>	List 1B	Coastal scrub, chaparral; located on mesic sandy sites. Elevation range: 160 – 1625 feet. Blooms: May – July.	No Potential. The Project Site does not contain scrub or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
coast iris <i>Iris longipetala</i>	List 4	Coastal prairie, lower montane coniferous forest, meadows and seeps; located on mesic sites. Elevation range: 0 – 1950 feet. Blooms: March – May.	No Potential. The Project Site prairie, forest, seep, or meadow habitat necessary to support this species.	No further actions are recommended for this species.
Burke's goldfields <i>Lasthenia burkei</i>	FE; SE; List 1B	Vernal pools, meadows and seeps; typically located in pools and swales. Elevation range: 45 – 1950 feet. Blooms: April – June.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and lack of seed bank likely precludes this delicate annual species. Additionally, this species is closely associated with the adobe clay substrate vernal pools of the Santa Rosa Plain.	No further actions are recommended for this species.

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Contra Costa goldfields <i>Lasthenia conjugens</i>	FE; List 1B	Valley and foothill grassland, vernal pools, cismontane woodland, playas; located in grassy areas in swales, pools, and depressions; often underlain by alkaline substrate. Elevation range: 0 – 1530 feet. Blooms: March – June.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and lack of seed bank likely precludes this delicate annual species. Additionally, this species is closely associated with the adobe clay substrate vernal pools of the Suisun Bay region.	No further actions are recommended for this species.
Legenere <i>Legenere limosa</i>	List 1B	Vernal pools; typically located in the lowest elevation of pools. Elevation range: 1 – 2860 feet. Blooms: April – June.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and lack seed bank likely precludes this delicate annual species.	No further actions are recommended for this species.
bristly Leptosiphon <i>Leptosiphon acicularis</i>	List 4	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation range: 175 – 4875 feet. Blooms: April – July.	No Potential. The Project Site does not contain chaparral, woodland, prairie, or foothill grassland necessary to support this species, and is below the known elevation range of this species.	No further actions are recommended for this species.
Jepson's Leptosiphon <i>Leptosiphon jepsonii</i>	List 1B	Chaparral, cismontane woodland; located on grassy slopes underlain by volcanic or serpentine substrate. Elevation range: 325 – 1625 feet. Blooms: March – May.	No Potential. The Project Site does not contain chaparral or woodland habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
woolly-headed lessingia <i>Lessingia hololeuca</i>	List 3	Broadleaf upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland; located on clay substrate derived from serpentine. Elevation range: 45 – 995 feet. Blooms: June – October.	No Potential. The Project Site does not contain forest, scrub, or foothill serpentine grassland necessary to support this species.	No further actions are recommended for this species.
Tamalpais lessingia <i>Lessingia micradenia</i> var. <i>micradenia</i>	List 1B	Chaparral, valley and foothill grassland; typically located in serpentine grassland or serpentine scrub, often on roadsides. Elevation range: 325 – 1625 feet. Blooms: June – October.	No Potential. The Project Site does not contain chaparral or serpentine foothill grassland necessary to support this species.	No further actions are recommended for this species.
redwood lily <i>Lilium rubescens</i>	List 4	Broadleaf upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest; sometimes located on serpentine substrate. Elevation range: 95 – 6210 feet. Blooms: April – September.	No Potential. The Project Site does not contain forested or chaparral habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Sebastopol meadowfoam <i>Limnanthes vincularis</i>	FE; SE; List 1B	Mesic meadows, vernal pools, valley and foothill grassland; located in swales, pools, and meadows in valley oak woodland on heavy, poorly drained clay and sandy substrate. Elevation range: 45 – 995 feet. Blooms: April – May.	Unlikely. Although the Project Site contains seasonal wetland habitat, the degree of disturbance and lack of seed bank precludes this delicate annual species. Additionally, this species is closely associated with the adobe clay substrate vernal pools of the Santa Rosa Plain.	No further actions are recommended for this species.
Napa Lomatium <i>Lomatium repostum</i>	List 4	Chaparral, cismontane woodland; located on serpentine substrate. Elevation range: 290 – 2700 feet. Blooms: March – June.	No Potential. The Project Site does not contain woodland or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
Cobb Mountain lupine <i>Lupinus sericatus</i>	List 1B	Chaparral, cismontane woodland, lower montane coniferous forest; located in stands of knobcone pine on gravelly substrates sometime derived from serpentine. Elevation range: 895 – 4960 feet. Blooms: March – June.	No Potential. The Project Site does not contain chaparral, woodland, or forested habitat necessary to support this species.	No further actions are recommended for this species.
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	List 3	Broadleaf upland forest, chaparral, cismontane woodland, valley and foothill grassland; located on rocky, thin soils, typically in bare areas. Elevation range: 145 – 2685 feet. Blooms: March – May.	No Potential. The Project Site does not contain chaparral, forest, woodland, or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
marsh microseris <i>Microseris paludosa</i>	List 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation range: 15 – 925 feet. Blooms: April – July.	Unlikely. The Project Site does not contain forest, woodland, scrub, or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.
cotula navarretia <i>Navarretia cotulifolia</i>	List 4	Chaparral, cismontane woodland, valley and foothill grassland; located on adobe substrate. Elevation range: 10 – 5950 feet. Blooms: May – June.	No Potential. The Project Site does not contain chaparral, woodland, or adobe substrate grassland necessary to support this species.	No further actions are recommended for this species.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	List 1B	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest; located in vernal pools and swales underlain by adobe and alkaline substrate. Elevation range: 15 – 5655 feet. Blooms: April – July.	Unlikely. Although the Project Site contains seasonal wetland habitat, this species is closely associated with adobe clay vernal pool habitat not present in the Project Site.	No further actions are recommended for this species.
Marin County navarretia <i>Navarretia rosulata</i>	List 1B	Closed-cone coniferous forest, chaparral; located on dry, rocky sites often formed from serpentine. Elevation range: 650 – 2065 feet. Blooms: May – July.	No Potential. The Project Site does not contain forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
Petaluma popcorn-flower <i>Plagiobothrys mollis</i> var. <i>vestitus</i>	List 1A	Valley and foothill grassland, coastal salt marsh; located in wet, grassy sites near or within marsh habitat. Elevation range: 30 – 490 feet. Blooms: June – July.	Unlikely. Although the Project Site contains seasonal wetland and a narrow band of coastal brackish marsh habitat, this species is known from one record and is presumed extinct.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	ST; List 1B	Broadleaf upland forest, meadows and seeps, North Coast coniferous forest; located in wet, grassy, shady forested areas and sometimes in marsh habitat. Elevation range: 30 – 2180 feet. Blooms: April – June.	No Potential. The Project Site does not contain forest or forest meadow habitat necessary to support this species.	No further actions are recommended for this species.
Marin knotweed <i>Polygonum marinense</i>	List 3	Coastal salt and brackish marshes. Elevation range: 0 – 30 feet. Blooms: April – October.	Unlikely. Although the Project Site contains a narrow band of coastal brackish marsh, this species is closely associated with marsh flats in extensive pickleweed and salt grass not present in the Project Site.	No further actions are recommended for this species.
Tamalpais oak <i>Quercus parvula</i> var. <i>tamalpaisensis</i>	List 1B	Lower montane coniferous forest; highly restricted to the slopes of Mt. Tamalpais. Elevation range: 325 – 2275 feet. Blooms: March – April.	No Potential. The Project Site does not contain forest habitat necessary to support this species.	No further actions are recommended for this species.
Lobb's buttercup <i>Ranunculus lobbii</i>	List 4	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, vernal pools; located in mesic, vernal wet areas. Elevation range: 45 – 1530 feet. Blooms: February – May.	No Potential. The Project Site does not contain wetland habitat with a hydroperiod sufficient to support this truly aquatic species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
California beaked-rush <i>Rhynchospora californica</i>	List 1B	Bogs and fens, marshes and swamps, lower montane coniferous forest, meadows and seeps; located in freshwater marshy areas. Elevation range: 145 – 3285 feet. Blooms: May – July.	No Potential. The Project Site does not contain acidic swamp or bog wetland habitat necessary to support this species.	No further actions are recommended for this species.
round-headed beaked-rush <i>Rhynchospora globularis</i> var. <i>globularis</i>	List 2	Freshwater marshes. Elevation range: 145 – 195 feet. Blooms: July – August.	No Potential. The Project Site does not contain acidic freshwater marsh habitat necessary to support this species.	No further actions are recommended for this species.
Victor's gooseberry <i>Ribes victoris</i>	List 4	Broadleaf upland forest, chaparral; located in shady, mesic sites. Elevation range: 325 – 2440 feet. Blooms: March – April.	No Potential. The Project Site does not contain forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
Point Reyes checkerbloom <i>Sidalcea calycosa</i> ssp. <i>rhizomata</i>	List 1B	Marshes and swamps; located in freshwater marsh habitat near the coast. Elevation range: 10 – 245 feet. Blooms: April – September.	Unlikely. Although the Project Site contains a narrow band of marsh habitat, this species is closely associated with freshwater marsh and lagoon habitat not present in the Project Site.	No further actions are recommended for this species.
Marin checkerbloom <i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	List 1B	Chaparral; located on serpentine or volcanic substrate; often observed following burns. Elevation range: 160 – 1400 feet. Blooms: May – June.	No Potential. The Project Site does not contain chaparral habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
Tamalpais jewel-flower <i>Streptanthus batrachopus</i>	List 1B	Closed-cone coniferous forest, chaparral; located on serpentine talus slopes. Elevation range: 990 – 2115 feet. Blooms: April – July.	No Potential. The Project Site forest or chaparral habitat necessary to support this species.	No further actions are recommended for this species.
Mount Tamalpais jewel-flower <i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i>	List 1B	Chaparral, valley and foothill grassland; located on serpentine slopes. Elevation range: 490 – 2600 feet. Blooms: May – August.	No Potential. The Project Site does not contain chaparral or serpentine grassland habitat necessary to support this species.	No further actions are recommended for this species.
showy Rancheria clover <i>Trifolium amoenum</i>	FE; List 1B	Valley and foothill grassland, coastal bluffs scrub; located in open sunny sites, swales, and roadcuts often underlain by serpentine substrate. Elevation range: 15 – 1350 feet. Blooms: April – June.	No Potential. The Project Site does not contain scrub or serpentine or high quality grassland habitat necessary to support this species.	No further actions are recommended for this species.
saline clover <i>Trifolium hydrophilum</i>	List 1B	Marshes and swamps, valley and foothill grassland, vernal pools; located on mesic, alkaline sites. Elevation range: 0 – 975 feet. Blooms: April – June.	Unlikely. Although the Project Site contains alkali pH soils and seasonal wetlands, the degree of disturbance likely precludes the presence of this annual species.	No further actions are recommended for this species.
dark-mouthed Tritoleia <i>Triteleia lugens</i>	List 4	Broadleaf upland forest, chaparral, coastal scrub, lower montane coniferous forest. Elevation range: 325 – 3250 feet. Blooms: April – June.	No Potential. The Project Site does not contain forest, scrub, or chaparral habitat necessary to support this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT REQUIREMENTS	POTENTIAL TO OCCUR IN PROJECT SITE	RESULTS AND RECOMMENDATIONS
oval-leaved viburnun <i>Viburnum ellipticum</i>	List 2	Chaparral, cismontane woodland, lower montane coniferous forest. Elevation range: 700 – 4550 feet. Blooms: May – June.	No Potential. The Project Site does not contain chaparral, woodland, or forested habitat necessary to support this species.	No further actions are recommended for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FC	Federal Candidate
BCC	USFWS Birds of Conservation Concern
SE	State Endangered
SD	State Delisted
ST	State Threatened
SR	State Rare
SSC	CDFG Species of Special Concern
CFP	CDFG Fully Protected Animal
WBWG	Western Bat Working Group High Priority species
List 1A	CNPS List 1A: Plants presumed extinct in California
List 1B	CNPS List 1B: Plants rare, threatened or endangered in California and elsewhere
List 2	CNPS List 2: Plants rare, threatened, or endangered in California, but more common elsewhere
List 3	CNPS List 3: Plants about which CNPS needs more information (a review list) <i>[not special status]</i>

Species Evaluations:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Present. Species was observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

APPENDIX C – REPRESENTATIVE PHOTOGRAPHS



Top: Overview of the Project Site from Quarry Hill south of the Project Site (view: north).

Bottom: Developed area within the central-western portion of the Project Site (view: south).

Photographs taken August 8, 2011 (top) and September 10, 2010 (bottom)





Top: Ruderal herbaceous stands in the central portion of the Project Site (view: north).

Bottom: Non-native annual grassland with coyote brush in the southeastern portion of the Project Site (view: northwest).

Photographs taken September 10, 2010 (top) and August 8, 2011 (bottom)





Top: Drainage ditch in the western portion of the Project Site (view: northwest).

Bottom: Seasonal wetland swale in the northwestern portion of the Project Site (view: north).

Photographs taken August 8, 2011 (top) and September 10, 2010 (bottom)





Top: Seasonal wetland depression in the southwestern portion of the Project Site (view: south).

Bottom: Coastal brackish marsh in the southeastern portion of the Project Site; outside of direct impacts (view: south).

Photographs taken September 10, 2010



Study Area - 39.2 acres

Sample Points

Jurisdictional Features

Drainage Ditch - 0.16 acre

Coastal Brackish Marsh - 0.01 acre

Seasonal Wetland Depression - 0.05 acre

Seasonal Wetland Swale - 0.31 acre

Non-jurisdictional Features

Isolated Seasonal Wetland Depression - 0.05 acre

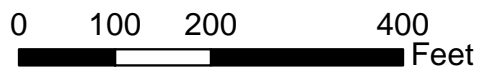
Wetland ID	Wetland Type	Acres
Jurisdictional Features		
WL-1	Seasonal Wetland Depression	0.02
WL-2	Seasonal Wetland Depression	0.03
WL-3	Seasonal Wetland Swale	0.29
WL-4	Coastal Brackish Marsh	0.01
WL-7	Seasonal Wetland Swale	0.01
DD-8	Maintained Drainage Ditch	0.16
WL-9	Seasonal Wetland Swale	0.01
Non-jurisdictional Features		
WL-5	Isolated Seasonal Wetland Depression	0.01
WL-6	Isolated Seasonal Wetland Depression	0.04



Appendix A. Section 404 Jurisdictional Features

Riverfront Project Site
Petaluma, CA

1 inch = 200 feet



Date: February 2011
Map By: Michael Rochelle
Base Source: USGS Seamless, June 2009



In REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

APPENDIX C-2

NOV - 7 2011

Regulatory Division

Subject: File Number 2004-287610N

Mr. Geoff Smick
WRA
2169-G East Francisco Blvd.
San Rafael, California 94901

Dear Mr. Smick:

This correspondence is in reference to your submittal of October 22, 2010, on behalf of Basin Street Properties, requesting an approved jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on a 39.2 acre parcel abutting the Petaluma River located west of Highway 101 at the end of Hopper Street in Petaluma, Sonoma County, California (APN 136-010-025, 136-010-023, 007-153-006, 007-153-008, 007-153-023).

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*). Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.

All proposed structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States, typically require Department of the Army authorization and the issuance of a permit under Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*).

Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

The enclosed delineation map entitled, Corps File # 2004-28761N, in 1 sheet, date certified November 1, 2011, accurately depicts the extent and location of wetlands within the boundary area of the site that are subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This approved jurisdictional determination is based on the current conditions of the site, as verified during a field investigation of December 21, 2010, and a review of other data included in your submittal. This approved jurisdictional determination will expire in five years from the date of this letter, unless new information or a change in field conditions warrants a revision to the delineation map prior to the expiration date. The basis for this approved jurisdictional determination is explained in the enclosed *Approved Jurisdictional Determination Form*. This approved jurisdictional determination is presumed to be consistent with the official interagency guidance of June 5, 2007, interpreting the Supreme Court decision, *Rapanos v. United States*, 126 S. Ct. 2208 (2006).

The enclosed delineation map further depicts the extent and location of wetlands within the boundary area of the site that are **not** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. These particular intrastate water bodies are considered to lack a significant nexus effect with a traditional navigable water. This approved jurisdictional determination is presumed to be consistent with the U.S. Supreme Court decision of June 19, 2006, concerning *Rapanos v. United States*, 126 S. Ct. 2208 (2006) ("Rapanos"). In the Rapanos decision, the Court determined, in part, that jurisdiction may not be asserted over certain categories of waters that lack a "significant nexus" effect with a traditional navigable water. These delineated wetlands however, may be considered as "waters of the State," and, therefore, subject to regulation by the California Regional Water Quality Control Board, San Francisco Bay Region, under the Porter-Cologne Water Quality Control Act, as amended (California Water Code § 1300 *et seq.*).

You are advised that the approved jurisdictional determination may be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. Part 331 (65 Fed. Reg. 16,486; Mar. 28, 2000), and outlined in the enclosed flowchart and *Notification of Administrative Appeal Options, Process, and Request for Appeal* (NAO-RFA) Form. If you do not intend to accept the approved jurisdictional determination, you may elect to provide new information to this office for reconsideration of this decision. If you do not provide new information to this office, you may elect to submit a completed NAO-RFA Form to the Division Engineer to initiate the appeal process; the completed NAO-RFA Form must be submitted directly to the Appeal Review Officer at the address specified on the NAO-RFA Form. You will relinquish all rights to a review or an appeal, unless this office or the Division Engineer receives new information or a completed NAO-RFA Form within 60 days of the date on the

-3-

NAO-RFA Form. If you intend to accept the approved jurisdictional determination, you do not need to take any further action associated with the Administrative Appeal Process.

You may refer any questions on this matter to Sahrye Cohen of my Regulatory staff by telephone at 415-503-6779 or by e-mail at Sahrye.E.Cohen@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: <http://www.spn.usace.army.mil/regulatory/>.

Sincerely,



Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copy Furnished (w/ encl 1 only):

CA RWQCB, Oakland, CA

Copies Furnished (w/o encls):

U.S. EPA, San Francisco, CA
CA SWRCB, Sacramento, CA

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Geoff Smick, WRA		File No. 2004-287610N	Date: November 2, 2011
Attached is:		See Section below	
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
X	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/ceewo/reg> or Corps regulations at 33 CFR Part 331.

- A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT ENGINEER for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this Notice and return the Notice to the DISTRICT ENGINEER. Your objections must be received by the DISTRICT ENGINEER within 60 days of the date of this Notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your NOTICE, the DISTRICT ENGINEER will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the DISTRICT ENGINEER will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B: PROFFERED PERMIT:** You may accept or appeal the permit
- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT ENGINEER for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
 - **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this NOTICE and sending the NOTICE to the DIVISION ENGINEER. This Notice must be received by the DIVISION ENGINEER within 60 days of the date of this Notice.
- C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this Notice sending the Notice to the DIVISION ENGINEER. This Notice must be received by the DIVISION ENGINEER within 60 days of the date of this Notice.
- D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.
- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this Notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
 - **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this Notice and sending the Notice to the DIVISION ENGINEER. This Notice must be received by the DIVISION ENGINEER within 60 days of the date of this Notice.
- E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

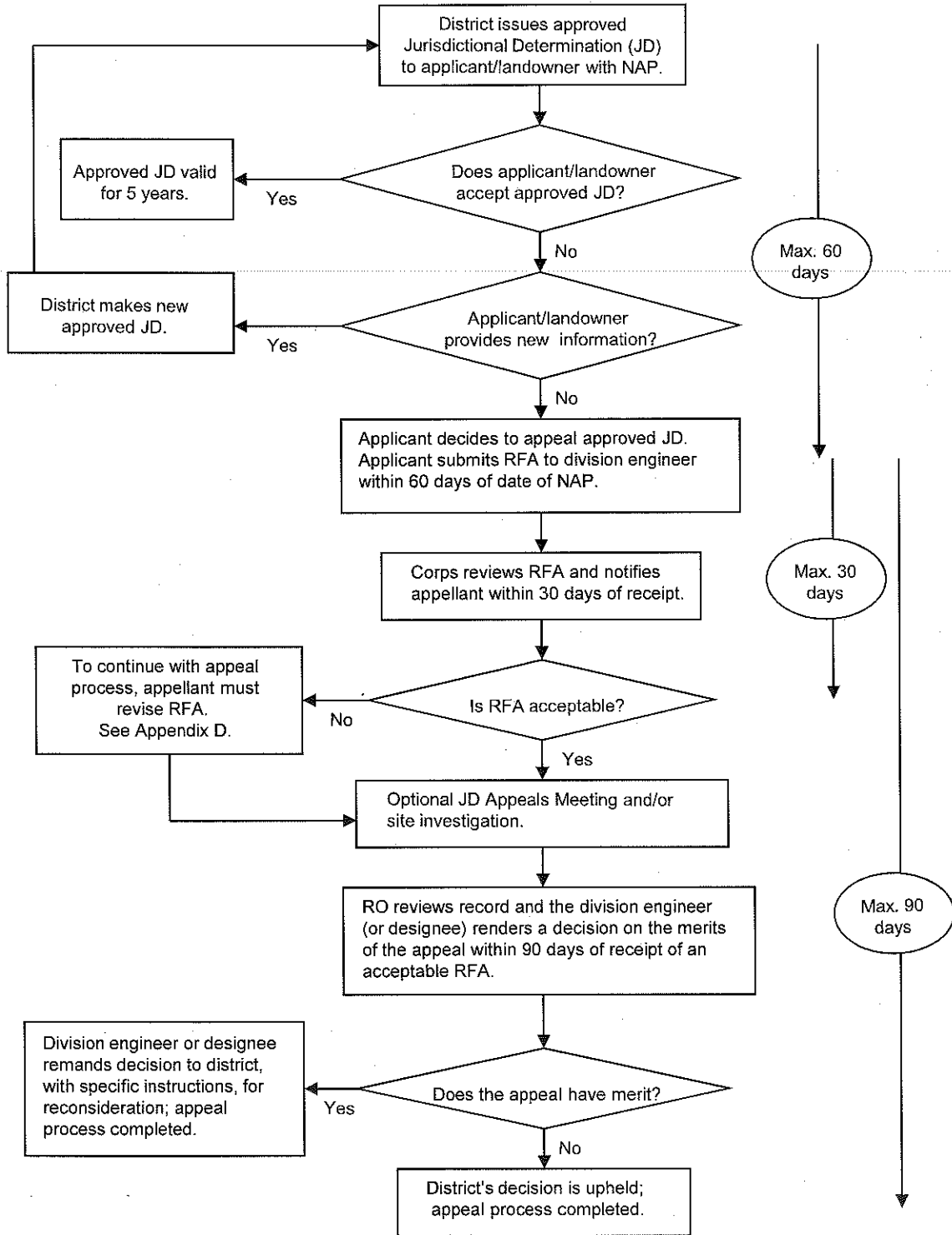
If you have questions regarding this decision and/or the appeal process you may contact:
Laurie A. Monarres, Chief, North Branch, Regulatory Division
U.S. Army Corps of Engineers, San Francisco District
1455 Market Street, 16th Floor, Attn: CESP-N-R-N
San Francisco, CA 94103-1398
Tel. (415) 503-6774 FAX (415) 503-6690

If you only have questions regarding the appeal process you may also contact:
Thomas J. Cavanaugh, Appeal Review Officer
U.S. Army Corps of Engineers, South Pacific Division
1455 Market Street, 20th Floor, Attn: CESP-D-PDS-O
San Francisco, CA 94103-1399
Tel. (415) 503-6574 FAX (415) 503-6646

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<p>_____ Signature of appellant or agent.</p>	<p>Date:</p>	<p>Telephone number:</p>
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Administrative Appeal Process for Approved Jurisdictional Determinations



APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE: San Francisco District **FILE NUMBER:** 2004-287610
File Name: Petaluma Riverwalk/Basin Street Properties
Waterbody Name: Petaluma River

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: California County/parish/borough: Sonoma Co. City: Petaluma
 (lat/long (in degree decimal format): Lat: 38.2313 N Long: -122.6194 W
 Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
 Pick List (lat/long (in degree decimal format): Lat: Pick Long: Pick
 Universal Transverse Mercator:
 Name of nearest waterbody: Petaluma River
 Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Petaluma River
 Name of watershed or Hydrologic Unit Code (HUC): 18050002
 Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request
 Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:
 Field Determination. Date(s): December 21, 2010

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required].

- Waters subject to the ebb and flow of the tide.
- Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. *Explain:*

B. CWA SECTION 404 DETERMINATION OF JURISDICTION

There are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.:

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area

Non-wetland waters: linear feet: width (ft) and/or acres. (other comments:)
 Wetlands: 0.53 acres. (other comments:)

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. **Explain:** Wetlands with no significant nexus and connectivity to waters of the U.S.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: Petaluma River

Summarize rationale supporting determination that waterbody is a TNW: Interstate Commerce

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": wetlands have a direct hydrologic connection to TNW and are on former baylands

B CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

- Watershed size: Pick List
- Drainage area: Pick List
- Average annual rainfall: inches
- Average annual snowfall: inches

(ii) Physical Characteristics:

a. Relationship with TNW:

- Tributary flows directly into TNW
- Tributary flows through Pick List tributaries before entering TNW

- Project waters are Pick List river miles from TNW.
- Project waters are Pick List river miles from RPW.
- Project waters are Pick List aerial (straight) miles from TNW.
- Project waters are Pick List aerial (straight) miles from RPW.
- Project waters cross or serve as a state boundary. *Explain:*

Identify flow route to TNW⁵:
Tributary stream order, if known:

b. General Tributary Characteristics (check all that apply)::

Tributary is:

- Natural: (comment if needed)
- Artificial (man-made): *Explain:*

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Manipulated (man-altered): *Explain:*

Tributary properties with respect to top of bank (estimate):

Average width: feet (measured from top of bank to top of bank)
 Average depth: feet. (measured from OHWM to top of bank)
 Average side slopes: Pick List

Primary tributary substrate composition (check all that apply):

- Silt:
- Sand:
- Clay:
- Cobbles:
- Gravel:
- Muck:
- Bedrock:
- Concrete:
- Vegetation (Type / % cover):
- Other (Explain):

Tributary condition/stability [e.g., highly eroding, sloughing banks]. *Explain:*

Presence of run/riffle/pool complexes. *Explain:*

Tributary geometry: Pick List.

Tributary gradient (approximate average slope): %

c. FLOW INFORMATION

Tributary provides for: Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime:

Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. *Explain findings:*

Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks
- OHWM⁶ (check all indicators that apply):

<input type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of litter and debris
<input type="checkbox"/> changes in the character of soil	<input type="checkbox"/> shelving
<input type="checkbox"/> destruction of terrestrial vegetation	<input type="checkbox"/> the presence of wrack line
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> scour
<input type="checkbox"/> multiple observed or predicted flow events	<input type="checkbox"/> sediment deposition
<input type="checkbox"/> water staining	
<input type="checkbox"/> abrupt change in plant community. <i>Explain:</i>	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.⁷ *Explain:*

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (*check all that apply*):

- | | |
|--|---|
| <input type="checkbox"/> High Tide Line indicated by: OR | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (<i>list</i>): | |

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). *Explain:*

Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. *Explain findings:*
 - Fish/spawn areas. *Explain findings:*
 - Other environmentally-sensitive species. *Explain findings:*
 - Aquatic/wildlife diversity. *Explain findings:*

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties

Wetland size: acres

Wetland type. *Explain:*

Wetland quality. *Explain:*

Project wetlands cross or serve as state boundaries. *Explain:*

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List *Explain:*

Surface flow is: Pick List

Characteristics:

Subsurface flow: Pick List *Explain findings:*

- Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

- Directly abutting
- Not directly abutting
 - Discrete wetland hydrologic connection. *Explain:*
 - Ecological connection. *Explain:*
 - Separated by berm / barrier. *Explain:*

(d) Proximity (Relationship) to TNW

Project wetlands are: Pick List river miles from TNW.

Project waters are: Pick List aerial (straight) miles from TNW.

Flow is from: Pick List

Estimate approximate location of wetland as within the: Pick List floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). *Explain:*

Identify specific pollutants, if known: *Explain:*

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. *Explain:*
- Habitat for:
 - Federally Listed species. *Explain findings:*
 - Fish/spawn areas. *Explain findings:*
 - Other environmentally-sensitive species. *Explain findings:*
 - Aquatic/wildlife diversity. *Explain findings:*

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

- (i) All wetland(s) being considered in the cumulative analysis: Pick List
- (ii) Approximately () acres in total are being considered in the cumulative analysis.

(iii) For each wetland associated with the reach or waterbody being analyzed in this form, specify the following:

Number/Name ⁸	Directly abuts (Yes/No)	Size	Number/Name	Directly abuts (Yes/No)	Size
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres
	Pick	acres		Pick	acres

- (iv) Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, 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. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** *Explain* findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** *Explain* findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

⁸ In the Number/Name column, add the number and/or name that you have given the wetland being referred to in the table. Example, you are referring to a wetland on your wetland delineation map number 6, that you call wetland No.3 on a reach you refer to as Putah Creek. For this wetland you would add to the table in the Number/Name column, something like the following: (No. 3, Putah Ck., Map # 6).

3 Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

The non-jurisdictional wetlands on this parcel have no hydrologic connection to the TNW. There is no surface connection to the TNW and no culverts or drains that would carry relatively permanent flow were found to drain these wetlands. While these wetlands provide functions and services in their immediate area there is no significant impact on the nearby TNW because of the lack of hydrologic connection.

D DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

- 1. TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft), and/or acres.
 - Wetlands adjacent to TNWs: 0.53 acres.

- 2. RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:
Provide estimates for jurisdictional waters in the review area (*check all that apply*)
 - Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
 Identify type(s) of waters:

- 3. Non-RPW⁹ that flow directly or indirectly into TNWs.**
 - Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.
Provide estimates for jurisdictional waters within the review area (*check all that apply*):
 - Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
 Identify type(s) of waters:

- 4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
 - Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 - Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

- 5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
 - Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
Provide acreage estimates for jurisdictional wetlands in the review area: acres.

- 6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

⁹See Footnote # 3.
ud080207 HED

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.**¹⁰

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (I-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹¹

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (*check all that apply*)

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce. WL5 and WL6
 - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. *Explain:* WL5 and WL6 do not meet the significant nexus standard because they have no hydrologic connection to the Pelatuma River. Although these wetlands do perform wetland functions their impact area is confined to the small basins/ditches in which they occur.
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (*check all that apply*):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 0.05 acres.
-

¹⁰ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹¹ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: October 22, 2010.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Office does not concur with some datapoints, does concur with others
- Data sheets prepared by the Corps: December 21, 2010.
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:
 - Aerial (Name & Date):
 - Other (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): Site Visit December 21, 2010.
-

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Study Area - 39.2 acres

Sample Points

Jurisdictional Wetlands - 0.53 acre

Non-jurisdictional Wetlands - 0.05 acre

Wetland ID	Wetland Type	Acres
Jurisdictional Features		
WL-1	Seasonal Wetland Depression	0.02
WL-2	Seasonal Wetland Depression	0.03
WL-3	Seasonal Wetland Swale	0.29
WL-4	Coastal Brackish Marsh	0.01
WL-7	Seasonal Wetland Swale	0.01
DD-8	Maintained Drainage Ditch	0.16
WL-9	Seasonal Wetland Swale	0.01
Non-jurisdictional Features		
WL-5	Isolated Seasonal Wetland Depression	0.01
WL-6	Isolated Seasonal Wetland Depression	0.04

USA Army Corps of Engineers

Jurisdictional Delineation Pursuant to Section 404 of the Clean Water Act (CWA), 39.2 acre parcel at the end of Hopper Street in Petaluma, Sonoma County, California (APN 136-010-025, 136-010-023, 007-153-006, 007-153-008, 007-153-023).

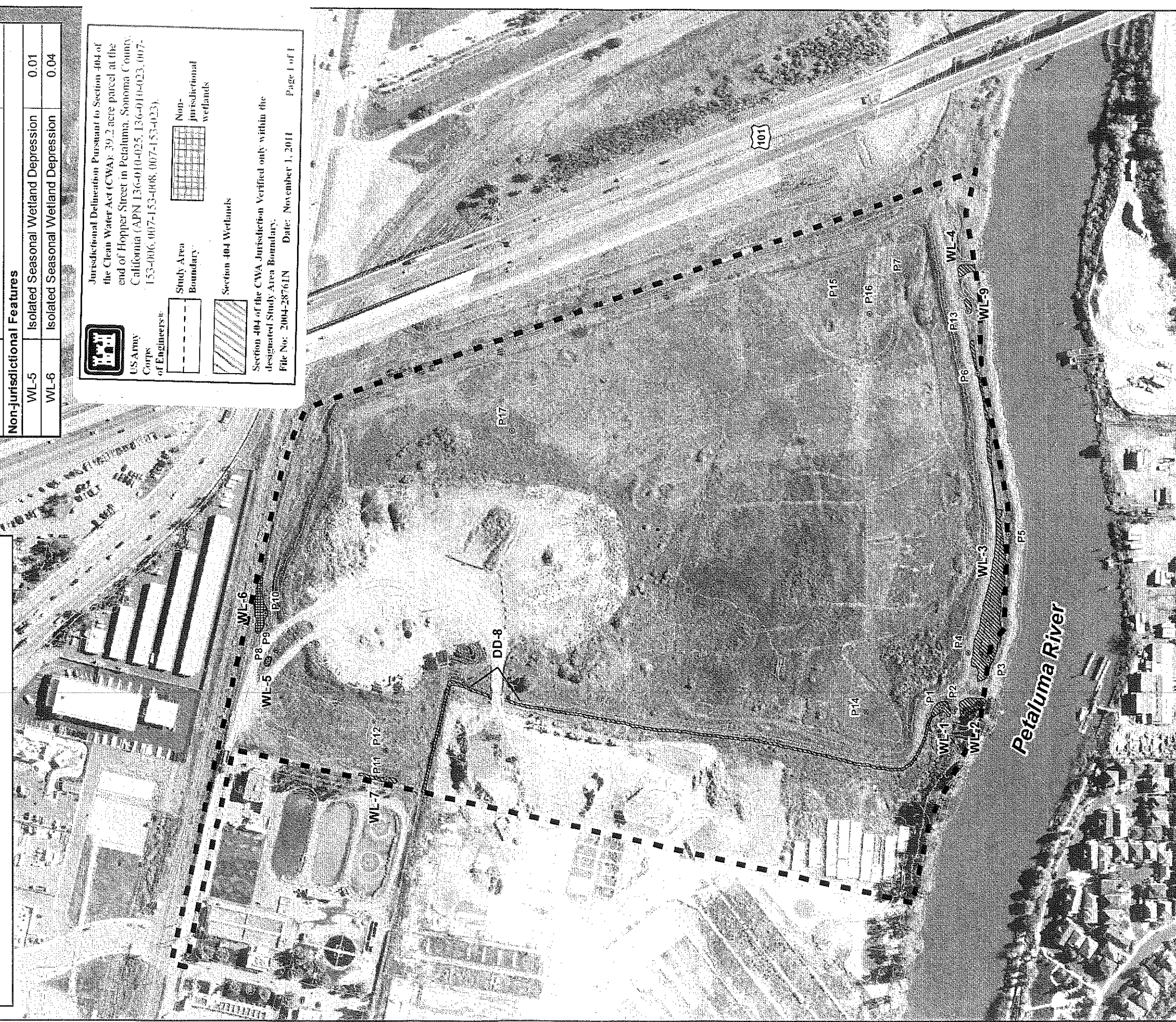
Study Area Boundary

Section 404 Wetlands

Non-jurisdictional wetlands

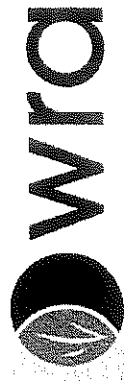
Section 404 of the CWA Jurisdiction Verified only within the designated Study Area Boundary.

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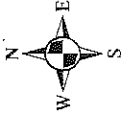


Appendix A. Section 404 Jurisdictional Features

Riverfront Project Site
Petaluma, CA



ENVIRONMENTAL CONSULTANTS



1 inch = 200 feet



Date: February 2011
Map By: Michael Rochelle
Base Source: USGS Seamless, June 2009

Path: L:\Acad 2000 Files\01000001020\Riverwalk_2010\arcmap\Delineation_Verified_BW.mxd