

Appendix E.3

## Biological Resource Reports

*Natural Resources Assessment, RMT II  
Samoa Effluent Pipeline Project*

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# **Natural Resources Assessment**

## **RMT II Samoa Effluent Pipeline Project Samoa, California**

Prepared for:

**County of Humboldt and  
Humboldt Bay Harbor, Recreation, and Conservation District**

Project Funding Provided by:

**U.S. Department of Commerce 07-79-07177**

 **Engineers & Geologists**

812 W. Wabash Ave.  
Eureka, CA 95501-2138  
707-441-8855

September 2017  
015147.100



Reference: 015147.100

September 20, 2017

Ms. Paula Mushrush  
Redevelopment and Housing Coordinator  
Humboldt County Community Development  
520 E Street  
Eureka, CA 95501

**Subject: Natural Resources Assessment, RMT II Samoa Effluent Pipeline Project,  
Samoa, California**

Dear Ms. Mushrush:

SHN Engineers & Geologists has prepared this Natural Resources Assessment for the Redwood Marine Terminal II (RMT II) effluent pipeline project. This report addresses potential impacts to Environmentally Sensitive Habitat Areas and special status species, evaluates project-related impacts, and recommends appropriate avoidance and minimization measures.

Field work was conducted in late March and mid July, within the bloom period for listed species potentially occurring onsite. Although a number of Environmentally Sensitive Habitat Areas that could potentially provide habitat for rare and endangered species exist in the study area, the history of disturbance within the area of potential effects makes the likelihood of sensitive species very low.

The project will not have significant effects on the natural resources within the area if the avoidance measures and recommendations contained within this Natural Resources Assessment are implemented.

Please call me at 707-822-5785 if you have any comments or concerns.

Sincerely,

**SHN Engineers & Geologists**

Joseph Saler  
Biologist/Botanist

JLS:ceg

Enclosure: Natural Resources Assessment

Reference: 015147.100

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QA/QC: MKF\_\_\_

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## Abbreviations and Acronyms

°F	degrees Fahrenheit
km	kilometer
m	meter
ppt	parts per trillion
APN	Assessor's Parcel Number
BMP	best management practice
BIOS	Biogeographical Information and Observation System
C	candidate species status
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CT	candidate threatened species status
CWA	Clean Water Act
D	delisted species status
DPS	Northern California distinct population segment/species status
E	endangered species status
EPA	U.S. Environmental Protection Agency
ESU	evolutionarily significant unit/species status
FESA	Federal Endangered Species Act
FP	fully protected species status
G	global
G1/S1	critically imperiled species heritage rank
G2/S2	imperiled species heritage rank
G3/S3	vulnerable species heritage rank
G4/S4	apparently secure species heritage rank
G5/S5	secure species heritage rank
gpd	gallons per day
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act
NOAA	National Oceanic & Atmospheric Administration
NCDC	National Climatic Data Center
NCCP	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NRA	natural resource assessment
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory

## Abbreviations and Acronyms, Continued

PT	proposed threatened species status
RMT II	Redwood Marine Terminal II
RWQCB	Regional Water Quality Control Boards
S	state
SAA	Streambed Alteration Agreement
SHN	SHN Engineers & Geologists
SSC	species of special concern
SWRCB	State Water Resources Control Board
T	threatened species status
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VegCAMP	Vegetation Classification and Mapping Program
WDR	Waste Discharge Requirement
WL	watch list species status
WWTF	wastewater treatment facility

# 1.0 Introduction

SHN Engineers & Geologists has conducted site investigations, literature reviews, and an assessment to determine biological resources present in relation to the proposed town of Samoa wastewater treatment facility (WWTF) effluent disposal pipeline to the Redwood Marine Terminal II (RMT II) ocean outfall pipeline. This natural resource assessment (NRA) has been prepared to evaluate the potential for special status biological resources within the project area, including natural communities.

The town of Samoa is located northeast of the RMT II on the Samoa peninsula (Figure 1). The population during the 2010 census was 258 people (U.S. Census Bureau, 2015). The town of Samoa is identified as a severely economically disadvantaged community, which is defined as having an annual median household income less than 60 percent of the statewide average (CDWR, 2016). The town of Samoa has a master plan to subdivide and redevelop the town in two phases. Phase 1 will include rehabilitation of existing homes and an 80-unit affordable housing complex. Phase 2 will include construction of additional new homes, as well as new commercial and industrial business parks. Phase 1 will require the construction of a new WWTF to provide services for the new and existing homes and businesses.

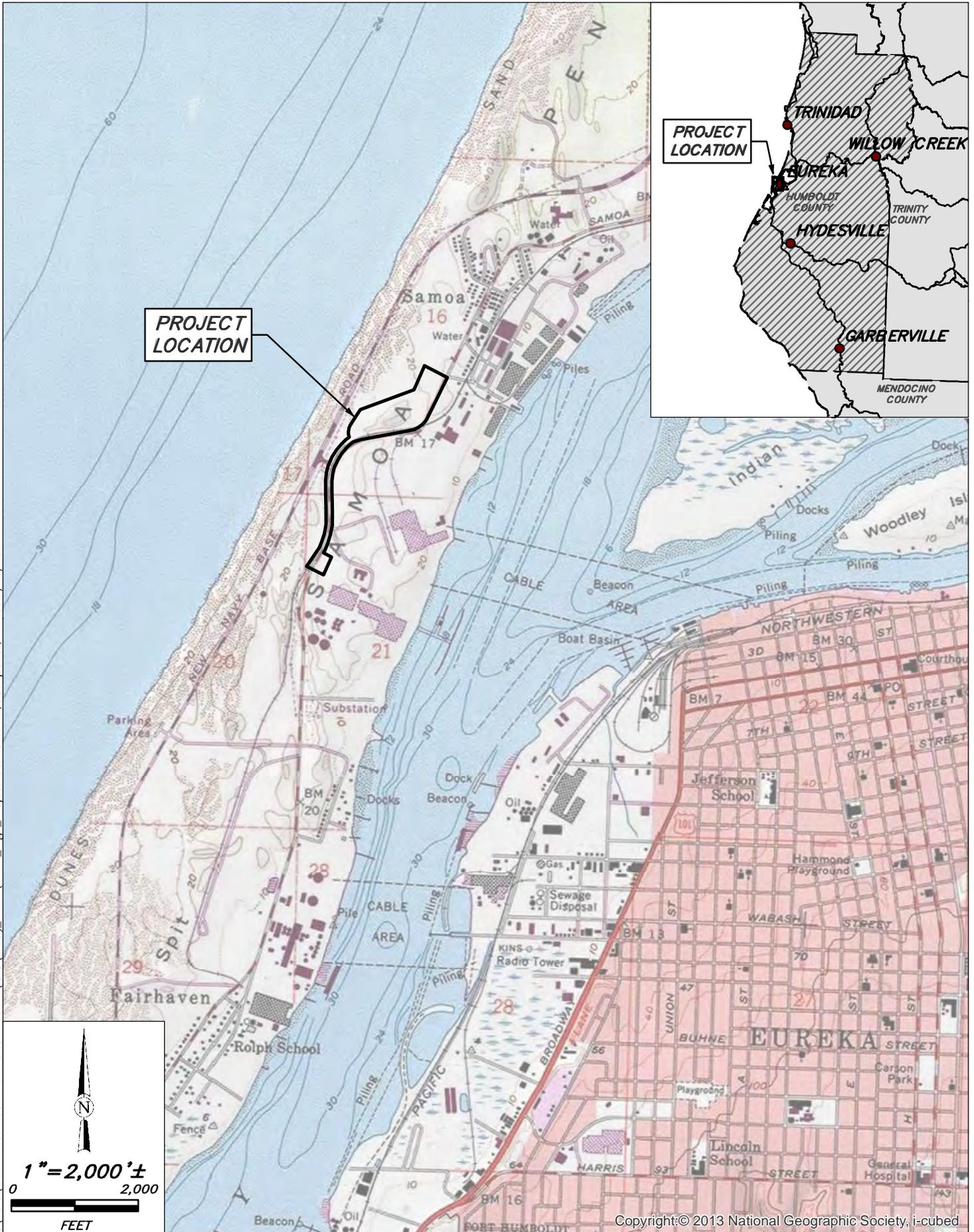
The town of Samoa is served by two disposal systems. The eastern system serves approximately 75 homes, the downtown retail area, and the Samoa Cookhouse, and has an average dry weather flow of 17,000 gallons per day (gpd), and an average wet weather flow of 32,000 gpd. The western system serves approximately 25 homes and has an average flow of 7,500 gpd (RWQCB, 2014). Following implementation of Phase 1 and Phase 2, development average influent flows are anticipated to be 61,000 gpd, with peak flows of approximately 131,000 gpd (SHN, 2015).

A WWTF is proposed to replace the eastern and western systems and treat the additional wastewater from Phase 1 and Phase 2 developments. The proposed Samoa WWTF is subject to permit requirements under Draft Waste Discharge Requirements (WDR) Order No. R1-2014-0031. Wastewater discharged through the RMT II ocean outfall would be subject to the Ocean Plan, and would be required to meet U.S. Environmental Protection Agency (EPA) secondary effluent standards.

## 1.1 Project Location

The project is located in Samoa, California, an unincorporated community within Humboldt County (Figure 1; United States Geological Survey [USGS] Eureka 7.5-minute Quadrangle, Township 5 North, Range 1 West, Section 16, Humboldt Meridian). The project is potentially located within portions of six separate parcels (Assessor's parcel numbers [APNs] 401-112-003, 401-031-039, 401-031-068, 401-031-065, 401-031-067, and 401-112-021). Parcels 401-112-003 and 401-031-039 are railroad right-of-way and will most likely be the location of the wastewater discharge pipeline; however, the location of the pipeline may pass through portions of the adjacent parcels. The area of potential effects for the wastewater discharge pipeline consists of approximately 23 acres with a center latitude and longitude of 40.811009° and -124.195243°, respectively. The total area of study includes an approximately 3,200-foot long, 100-foot wide proposed alignment area from the proposed WWTF to the RMT II ocean outfall access point and two different stockpile and staging areas. One stockpile and staging area is located within the area of the potential WWTF on the northern end of the discharge pipeline and includes the area surrounding the Eel River

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**SHN**  
Consulting Engineers  
& Geologists, Inc.

Humboldt Bay Harbor District  
 Samoa Effluent Pipeline, RMT II NRA  
 Samoa, California

September 2017

Project Location

SHN 015147.100

Figure 1

Resource Recovery Samoa transfer station and recycling center. An additional stockpile and staging area is located on the southern end of the proposed discharge pipeline within the area of the connection to the ocean outfall pipeline. The proposed discharge pipeline is located approximately 250 feet east of New Navy Base Road at its nearest point, 550 feet east of the edge of sand at Samoa Beach at its nearest point, and 1,130 feet west of Humboldt Bay at its nearest point. The project is located on the Samoa peninsula, approximately 1 air-mile west of the city of Eureka, and 6.5 air-miles southwest of Arcata.

## 1.2 Site Description

The entire discharge pipeline project is located within former industrial land constructed on historical dune habitat. The study area is situated at an approximate 15- to 32-foot elevation above mean sea level (Figures 1 and 2). The study area has been used for industrial purposes since the 1960s. Several lumber mills operated on the northern portion of the site closing at different times within the last 20 years. These facilities have mostly been demolished, leaving vacant industrial land. The southern portion of the project area has been the location of a pulp mill from the 1960s until 2008 when it closed. The area still contains structures from the shuttered mill; however, the majority of the site is composed of broad stretches of vacant asphalt with some small scale industrial use continuing onsite. The western portion of the project area is adjacent to an industrial recycling facility that will be avoided by the proposed effluent pipeline. Currently, the majority of the project area is covered in old asphalt, broken concrete, compacted gravel on former log decks, and railroad infrastructure. Small areas of semi-natural dune habitat occur between the vacant industrial lands in areas that were used as drainages, or along property lines. The area is characterized by a mix of disturbance-adapted, primarily non-native, herbaceous species, along with shrub-dominated regions, and areas with higher native vegetation cover. The native vegetation-dominated communities usually had an over story dominated by coast willow (*Salix hookeriana*) and California wax-myrtle (*Morella californica*), indicating a longer period since it was last disturbed.

## 2.0 Methodology

### 2.1 Literature Review

This natural resources assessment includes a review of pertinent literature on habitat characteristics of the site, and a review of information related to special status species of plants and animals that could potentially use the described habitats.

The findings for this report are a result of several sources, including a review of existing literature regarding sensitive resources that have the potential to occur within the site. Resources for this determination included:

- California Natural Diversity Database (CNDDDB) query for the Eureka and surrounding USGS 7.5-minute topographic quadrangles (Arcata South, Cannibal Island, McWhinney Creek, Tyee City, Arcata North, and Fields Landing) (CDFW, 2017a)
- Biogeographical Information and Observation System (BIOS; CDFW, 2017b)
- Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2017c) queried for a list of all plant species reported for the Eureka and surrounding USGS 7.5-minute topographic quadrangles

\\Eureka\Projects\2015\015147-redwood-marine-terminal-II\GIS\PROJ\_MXD\NRA\_Fig2\_ProjectArea.mxd;User:jsousa;Printed:9/21/2017



PACIFIC OCEAN

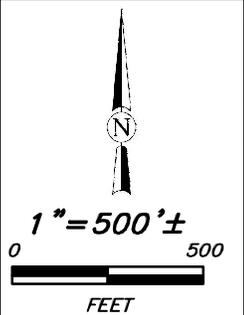
NEW NAVY BASE RD.

LP DR.

PROJECT AREA

VANCE AVE.

HUMBOLDT BAY



	Humboldt Bay Harbor District Samoa Effluent Pipeline, RMT II NRA Samoa, California		Project Area  SHN 015147.100
	September 2017	NRA_Fig2_ProjectArea	Figure 2

- Special Vascular Plants, Bryophytes, and Lichens of California List (CDFW, 2017c)
- Special Animals of California List (CDFW, 2017d)
- United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) was queried for threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of the proposed project and/or may be affected by the proposed project (USFWS, 2017a)

From the database queries, a list of potential target species for the study area was compiled. Tables A-1 and A-2 in Appendix A include species reported by the CNDDDB and USFWS, and species listed in the California Native Plant Society (CNPS) inventory of rare plants.

Additionally, the USFWS Critical Habitat Portal was queried for habitat designated as critical for species listed under the Federal Endangered Species Act (FESA). No critical habitat is designated within the project area. The nearest designated critical habitat is 2.6 miles east at Ryan Slough for the threatened Chinook salmon (*Oncorhynchus tshawytscha*). Additional critical habitat is designated around Humboldt Bay for the endangered tidewater goby (*Eucyclogobius newberryi*) and the threatened Western snowy plover (*Charadrius alexandrinus nivosus*). However designated critical habitat for these species is over 4 miles away.

Numerous CNDDDB occurrences of special status species have been recorded from the dune habitat surrounding the project area. This includes beach layia (*Layia carnosa*), manyleaf gilia (*Gilia millefoliata*), western lily (*Lilium occidentale*), Menzies' wallflower (*Erysimum menziesii*), pink sand verbena (*Abronia umbellata* var. *breviflora*), marsh pea (*Lathyrus palustris*), coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), and western sandspurrey (*Spergularia canadensis* var. *occidentalis*) within a half-mile of the project area. The western bumblebee (*Bombus occidentalis*), eulachon (*Thaleichthys pacificus*), and western snowy plover (*Charadrius alexandrinus nivosus*) also have been recorded within a half-mile of the project.

## 2.2 Field Observations and Studies

SHN's biologist conducted site visits on March 23 and 24, and July 26, 2017, for a biological survey and habitat assessment. A wetland delineation (SHN, March 2017) was done concurrently with the survey, in order to better analyze the habitats found within the project area. Surveys were conducted with an attempt to identify all species present within the project-related area of potential effects, including possible species of special concern. In addition to surveying for target species, a list of all botanical and animal species encountered was compiled (Tables A-3 and A-4 in Appendix A). Plants were identified to the lowest taxonomic level possible to distinguish special status species from others. Nomenclature for special status animals conforms to California Department of Fish and Wildlife (CDFW) guidelines (CDFW, 2009, 2017b). Plant community names conform to *A Manual of California Vegetation, Second Edition* (Sawyer et al.; 2009) and the VegCAMP (Vegetation Classification and Mapping Program) Natural Communities List (CDFW; 2010). Botanical nomenclature of species in this assessment follows the *Jepson Manual* (Baldwin et al., 2012) and subsequent online revisions. The March and July site visits were conducted at seasonally appropriate times to best detect early and late blooming special status plant species, and a number of nesting bird species. Analysis of the habitat and vegetation communities present within the project area during the site visits indicate that the developed and former industrial lands comprising the majority of the project area do not have suitable conditions for any of the special

status species reported as potentially occurring within the area. The industrial and former industrial lands are dominated with disturbance-adapted primarily non-native plants, and are not likely to support any of the special status species listed as potentially occurring within the project area. The areas most likely to support special status species, namely the willow- and California wax-myrtle (*Morella californica*)-dominated wetlands to the west of the project area, are not slated to be disturbed; an appropriate buffer will be maintained between these areas and construction activities.

Site photographs from the site visits are included in Appendix B.

### 3.0 Environmental Setting

The entire discharge pipeline project is located within former industrial land constructed on historical dune habitat. The study area is situated at an approximate 15- to 32-foot elevation above mean sea level (See Figures 1 and 2). The study area was used for industrial purposes since the 1960s. Several lumber mills operated on the northern portion of the site, closing at different times within the last 20 years. These facilities have mostly been demolished leaving vacant industrial land. The southern portion of the project area was the location of a pulp mill from the 1960s until 2008 when it closed. The area still contains structures from the shuttered mill; however, the majority of the site is composed of broad stretches of vacant asphalt with some small-scale industrial use continuing on site (Photo B-4 and B-5, Appendix B). The western portion of the project area passes by an industrial recycling facility that will be skirted by the proposed effluent pipeline. Currently, the majority of the project area is covered in old asphalt, broken concrete, compacted gravel within former log decks, and railroad infrastructure. Small areas of semi-natural dune habitat occur between the vacant industrial lands in areas that were used as drainages, or along property lines. The area is characterized by a mix of disturbance-adapted, primarily non-native, herbaceous species, along with shrub-dominated regions, and areas with higher native vegetation cover. The native vegetation-dominated communities primarily have an over story dominated by coast willow (*Salix hookeriana*) and California wax-myrtle, indicating a longer period since it was last disturbed. Areas that have previously been developed are flat, generally sloping to the east. Less disturbed areas are undulating, typical of coastal dune habitat. Vegetation across the site is characteristic of disturbed areas, with portions dominated by non-native grasses and herbs. Other areas are dominated by shrubby vegetation, including California blackberry (*Rubus ursinus*) and coyote brush (*Baccharis pilularis*), and represent potential habitat for bird species. (Figure 1, and Photo B-3, Appendix B). The average 30-year precipitation data for this area from October 1 through August 24 is 40.33 inches (NOAA Eureka Station, 2017), with the majority of precipitation and snowfall occurring between November and March. Temperatures in Samoa range from an average low of 46.2 degrees Fahrenheit (°F) in December to an average high of 59.6°F in September; extremes in temperatures are relatively uncommon due to the regional maritime influence.

### 3.1 Hydrology

The project is located within the Mad-Redwood watershed (hydrologic unit code 18010102), which includes all of Humboldt Bay. The study area is on a narrow sandy spit of land between Humboldt Bay and the Pacific Ocean. Topography across the site is naturally undulating between dunes, with stormwater draining into wetlands between dunes and other low spots. Within industrial areas, stormwater is directed into Humboldt Bay or the Pacific Ocean; at newer locations, it flows into catchment basins where it infiltrates into well-drained sandy soils. No streams originate or pass

through the study area due to the well-drained nature of the soils, and relatively small catchment area. Humboldt Bay is at a minimum 1,130 feet to the east of the project area, while the Pacific Ocean is at a minimum 550 feet west of the project area.

The USFWS is the federal agency responsible for tracking wetland trends and maintaining an inventory through its National Wetland Inventory (NWI; USFWS, 2017b). The NWI can be queried for specific locations throughout the United States (U.S.) to aid federal, State, and local agencies in making informed decisions concerning wetlands. According to the NWI, freshwater emergent and excavated freshwater pond wetland types occur within the study area region (Appendix C).

NWI maps are excellent references for scoping the presence or absence of wetlands; however, the resolution of the NWI tends to be on a macro scale, often with no field verification. As recommended by NWI, a site-specific wetland delineation was conducted within the project area of potential effects detailing wetland conditions and determining an accurate distribution of wetlands within the proposed project area. Wetland distribution observed during the field visits as recorded within the wetland delineation report (SHN, March 2017) documented additional wetland areas within the northeastern portion of the project area, and noted the lack of wetland conditions in the western portion of the project area near the recycling facility (Figure 2).

## 3.2 Soils

Soils within the project area consist of urban industrial fill and the Samoa-Clambeach-duneland complex (151) (USDA-NRCS, 2016; McLaughlin and Harradine, 1965). Industrial fill is found across the majority of the area of potential effects; the fill consists of soils from mixed sources. Industrial fill soils were used during the construction of the various industrial facilities within and surrounding the area of potential effects, and covers the majority of the area reviewed for this assessment. Soils within the remaining area consist of the native Samoa-Clambeach-duneland complex. Soils within this complex are sandy and are found in dunes and deflation basins. They are composed of Eolian and marine sand derived from mixed sources. Soils can be somewhat excessively drained on upper dune regions, to very poorly drained in deflation basins. These soils are found within the dunes comprising the Samoa peninsula, and can support unique dune habitat and inter-dune wetlands.

## 3.3 Vegetation Communities

The project area is characterized by vegetation typical of disturbed sites. This included non-native grassland and forbs, shrubby areas, and more native plant communities in less disturbed areas dominated by coast willow and California wax-myrtle. The most common species within non-native grassland and forb-dominated areas included iceplant (*Carpobrotus edulis*), hairy cat's-ear (*Hypochaeris radicata*), pampas grass (*Cortaderia jubata*), bur-clover (*Medicago polymorpha*), large quaking grass (*Briza maxima*), sweet vernal grass (*Anthoxanthum odoratum*), small fescue (*Festuca microstachys*), creeping bentgrass (*Agrostis stolonifera*), and hairy vetch (*Vicia villosa*), among others. The non-native grassland forb-dominated regions represented the most disturbed areas within the project area. This included compacted gravel areas, former chip storage areas, and currently disturbed areas alongside roadways, within the vicinity of the recycling facility and the pulp mill. Vegetation within the non-native grassland and forb-dominated areas does not represent a natural vegetation community, but rather vegetation adapted to human caused disturbance.

Less continuously disturbed areas were dominated by more shrubby vegetation. This included coyote brush, California blackberry, Himalayan blackberry (*Rubus armeniacus*), yellow bush lupine (*Lupinus arboreus*), Scotch broom (*Cytisus scoparius*), and milkflower cotoneaster (*Cotoneaster lacteus*), among others. Areas dominated by shrubby vegetation included excavated depressions, concrete piles, railroad infrastructure, old industrial foundations, and the fringes of coast willow and California wax-myrtle-dominated habitat. The herbaceous stratum within the shrub-dominated portions of the project area varied depending on the density of the shrub cover; however, species composition was similar to that of the surrounding disturbed industrial lands. The majority of the shrub-dominated areas were dominated or co-dominated by non-native shrub and herbaceous species, and did not meet the criteria for a California vegetation community.

The least disturbed areas were dominated by coast willow and California wax-myrtle. Dominant species under the canopy included California blackberry, slough sedge (*Carex obnupta*), sword fern (*Polystichum munitum*), bittercress (*Cardamine oligosperma*), and the non-native English Ivy (*Hedera helix*).

Natural vegetation communities were observed within the coast willow and California wax-myrtle-dominated areas. The vegetation community most closely resembled that of the *Salix hookeriana* shrubland Alliance (Coastal dune willow thickets) (Sawyer et al., 2009), with *Salix hookeriana* constituting over 50 percent of the relative cover; with lesser amounts of cover by California wax-myrtle.

See Section 5.3.1 for more information on the natural communities observed on site.

### 3.4 Wildlife Habitats

Common wildlife species expected on the site are those associated with northern California coastal dunes, shrublands, and disturbed sites. This includes: willow shrub, non-native grasslands, and abandoned buildings. Wildlife species observed at the site included common raven (*Corvus corax*), song sparrow (*Melospiza melodia*), osprey (*Pandion haliaetus*), and pacific slope flycatcher (*Empidonax difficilis*), among others (see Appendix A, Table A-4). Other wildlife species are likely to inhabit the surrounding area and it is expected that there are many other bird, mammal, and amphibian species that might use the project site, if only transitionally. However, human activities within the project site may limit the abundance of a variety of birds and animals.

### 3.5 Wildlife Movement Corridors

Wildlife movement includes migration (that is, usually one-way per season), inter-population movement (that is, long-term genetic flow), and small travel pathways (that is, daily movement corridors within an animal's territory). Although small travel pathways usually facilitate movement for daily home range activities (such as, foraging or escape from predators), they also provide connection between outlying populations and the main corridor, permitting an increase in genetic flow among populations.

These linkages among habitat types can extend for miles from primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete

sub-populations constituting a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as, occurs with coastal dunes and coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors, and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Low-frequency genetic flow may potentially lead to complete isolation and, if pressures are strong, potential extinction (McCullough, 1996; Whittaker, 1998).

### **3.6 Offsite Conditions**

Off-site conditions are similar to those found within the project area. The majority of the land surrounding the project area has been developed at some time in the past. Land to the north and east is relatively vacant industrial land with asphalt and gravel pavement and few remaining buildings. One large asphalt pavement area to the east of the project area is used for temporary log storage. Land to the south contains the remains of the Samoa pulp mill, with several large buildings still intact, and some ongoing small industrial use. Lands to the west of the project area are the least manipulated, however fencing and New Navy Base Road separate the project area from the less disturbed dune habitat. Two wetland areas occur to the west of the project area adjacent to New Navy Base Road; however the project is to remain outside of a 50-foot buffer from these wetland areas.

## **4.0 Regulatory Setting**

Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of legislative acts. The following section summarizes the federal, State, and local regulations for special status species, jurisdiction Waters of the U.S. and State of California, and other sensitive biological resources. This section provides a listing and overview of these federal and State laws; only select regulations will be applicable to this project.

### **4.1 Federal Laws**

#### **4.1.1 Clean Water Act Sections 404 and 401**

Under Section 404 (33 U.S. Code (USC) 1344) of the Clean Water Act (CWA), as amended, the U.S. Army Corps of Engineers (USACE) retains primary responsibility for permits to discharge dredged or fill material into Waters of the U.S. All discharges of dredged or fill material into jurisdictional Waters of the U.S. that result in permanent or temporary losses of Waters of the U.S. are regulated by the USACE. A permit from the USACE must be obtained before placing fill or grading in wetlands or other Waters of the U.S., unless the activity is exempt from CWA Section 404 regulation (for example, certain farming and forestry activities).

The USACE defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (USACE Environmental Laboratory, 1987). In other words, the USACE defines wetlands by the presence of all three wetland indicators: hydrophytic vegetation, hydric soils, and wetlands hydrology.

Waters of the U.S. are defined at 33 Code of Federal Regulations (CFR) Part 328. They include traditional navigable waters; relatively permanent, non-navigable tributaries of traditional navigable waters, and certain wetlands. Following recent court cases, the EPA and USACE published a memorandum entitled “Clean Water Act Jurisdiction” (USACE/EPA, 2008) to guide the determination of jurisdiction over Waters of the U.S., especially for wetlands. The applicability of Section 404 permitting over discharges to wetlands is, therefore, a two-step process: 1) determining the areas that are wetlands, and 2) where a wetland is present, assessing the wetland’s connection to traditional navigable waters and non-navigable tributaries to determine whether the wetland is jurisdictional under the CWA. A wetland is considered jurisdictional if it meets certain specified criteria.

The USACE is required to consult with the USFWS and/or National Marine Fisheries Service (NMFS) under Section 7 of the FESA if the action subject to CWA permitting could result in “Take” of federally listed species or an adverse effect to designated critical habitat. The project is within the jurisdiction of the Sacramento District of the USACE.

Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification from the state in which the discharge originates or would originate, or if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). The project is within the jurisdiction of the North Coast RWQCB.

#### **4.1.2 Fish and Wildlife Coordination Act**

The “Fish and Wildlife Coordination Act” (16 USC Sections 661-667e, March 10, 1934, as amended 1936, 1946, 1947, 1948, 1949, 1958, 1965, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NMFS and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the CDFW), with a view to conservation of birds, fish, mammals; all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

If direct permanent impacts occur to Waters of the U.S. from a proposed project, then a permit from USACE under CWA Section 404 is required for the construction of the proposed project. USACE is required to consult with USFWS and/or NMFS as appropriate regarding potential impacts to federally listed species under FESA. Such action may prompt consultation with CDFW, which would review the project pursuant to California Endangered Species Act (CESA) and issue a consistency letter with USFWS and/or NMFS, if required.

#### **4.1.3 Federal Endangered Species Act**

The United States Congress passed the FESA in 1973 to protect species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National

Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend and within which they live. The USFWS and the NMFS are the designated federal agencies responsible for administering the FESA.

The FESA prohibits the “Take” of endangered or threatened wildlife species. A “Take” is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1531, 50 CFR 17.3). An activity can be defined as a “Take” even if it is unintentional or accidental. Taking can result in civil or criminal penalties. Activities that could result in “Take” of a federally listed species require an incidental “Take” authorization resulting from FESA Section 7 consultation or FESA Section 10 consultation. Plants are legally protected under the FESA only if “Take” occurs on federal land or from federal actions, such as, issuing a wetland fill permit.

A federal endangered species is one that is considered in danger of becoming extinct throughout all, or a significant portion, of its range. A federal threatened species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of species proposed for listing as threatened or endangered. Proposed species are those for which a proposed rule to list as endangered or threatened has been published in the Federal Register. In addition to endangered, threatened, and proposed species, the USFWS maintains a list of candidate species. Candidate species are those for which the USFWS has on file sufficient information to support issuance of a proposed listing rule.

Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such a species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA or result in the destruction or adverse modification of critical habitat designated or proposed to be designated for such species (16 USC 1536[3], [4]). Project-related impacts to species on the FESA endangered or threatened list would be considered significant and thus, would require mitigation.

#### **4.1.4 Migratory Bird Treaty Act**

The federal Migratory Bird Treaty Act (MBTA) of 1918 makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in CFR Part 10, including feather or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21; USFWS, 1918). The MBTA also prohibits disturbance and harassment of nesting migratory birds at any time during their breeding season. The USFWS is responsible for enforcing the MBTA (16 USC 703). The migratory bird nesting season is generally considered to be between March 15 and August 15 within the study region.

## **4.2 State Laws**

### **4.2.1 California Coastal Act**

The California Coastal Act includes specific policies that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection,

visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the California Coastal Commission and by local governments, pursuant to the Coastal Act.

#### **4.2.2 Porter-Cologne Water Quality Control Act**

The state and RWQCB also maintain independent regulatory authority over the placement of waste, including fill, into waters of the State under the Porter-Cologne Water Quality Control Act. Waters of the State are defined by the Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The SWRCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies might not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCBs under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require an USACOE 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 Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCBs have the option to regulate such activities under their state authority in the form of WDRs or certification of WDRs.

#### **4.2.3 California Endangered Species Act**

The State of California enacted the CESA in 1984. The CESA is similar to the FESA but pertains to state-listed endangered and threatened species. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened and endangered species designated under state law (California Fish and Game Code [CFGF] 2070). Section 2080 of the CFGF prohibits “Take” of any species that the commission determines to be an endangered or threatened species. “Take” is defined in Section 86 of the CFGF as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

The State and federal lists of threatened and endangered species are generally similar; however, a species present on one list may be absent from the other. CESA regulations are also somewhat different from the FESA in that the State regulations included threatened, endangered, and candidate plants on non-federal lands within the definition of “Take.” CESA allows for “Take” incidental to otherwise lawful development projects.

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. Project-related impacts to species on the CESA endangered or threatened list (or, in addition, designated by the CDFW as a “Species of Special Concern,” which is a level below threatened or endangered status) would be considered significant and would require mitigation.

#### 4.2.4 California Environmental Quality Act

California Environmental Quality Act (CEQA) Guidelines Sections 15125 (c) and 15380(d) provide that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. Thus, CEQA provides the ability to protect a species from potential project impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

The CNPS maintains a list of plant species native to California whose populations that are significantly reduced from historical levels, occur in limited distribution, or are otherwise rare or threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (CNPS, 2017). Taxa with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, 2B, and 3 in the CNPS inventory consist of plants that meet the definitions of the CESA of the CFGC, are eligible for state listing, and meet the definition of Rare or Endangered under CEQA Guidelines Sections 15125 (c) and 15380(d). Some taxa with a CRPR 4 may meet the definitions of the CESA of the CFGC. CRPR 4 populations may qualify for consideration under CEQA if they are peripheral or disjunct populations; represent the type locality of the species; or exhibit unusual morphology and/or occur on unusual substrates.

Additionally, CDFW maintains lists of special animals and plants. These lists include a species conservation ranking status from multiple sources, including FESA, CESA, and federal departments with unique jurisdictions, CNPS, and other non-governmental organizations. Based on these sources, CDFW assigns a heritage rank to each species according to their degree of imperilment (as measured by rarity, trends, and threats). These ranks follow NatureServe's Heritage Methodology, in which all species are listed with a G (global) and S (state) rank. Species with state ranks of S1-S3 are also considered highly imperiled.

CEQA checklist IV (b) calls for the consideration of riparian habitats and sensitive natural communities. Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. However, these communities may or may not necessarily contain special status species. Sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by CDFW (i.e., the CNDDDB and VegCAMP programs) or the USFWS. Impacts to sensitive natural communities and habitats must be considered and evaluated under CEQA (California Code of Regulations [CCR]: Title 14, Div. 6, Chap. 3, Appendix G).

Although sensitive natural communities do not (at present) have legal protection, CEQA calls for an assessment of whether any such resources would be affected, and requires a finding of significance if there will be substantial losses. High quality occurrences of natural communities with heritage ranks of 3 or lower are considered by CDFW to be significant resources and fall under the CEQA Guidelines for addressing impacts. Local planning documents (such as general plans) often identify these resources as well. Avoidance, minimizations, or mitigation measures should be implemented if project-affected stands of rare vegetation types or natural communities are considered high-quality occurrences of the given community.

As a trustee agency under CEQA, CDFW reviews potential project impacts to biological resources, including wetlands. In accordance with the CEQA thresholds of significance for biological resources, areas that meet the state criteria of wetlands and could be impacted by a project must be analyzed. Pursuant to CFGC Section 2785, CDFW defines wet areas as "lands which may be

covered periodically or permanently with shallow water and which include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, fens, and vernal pools.”

#### **4.2.5 California Fish and Game Code Section 1600**

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC. Any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake, generally requires a Streambed Alteration Agreement (SAA).

The term “stream,” which includes creeks and rivers, is defined in the 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. 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” (CDFW, 1994). Removal of riparian vegetation also requires an SAA from the CDFW.

#### **4.2.6 California Fish and Game Code Sections 3503 and 3513**

According to Section 3503 of the CFGC it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrows [*Passer domesticus*] and European starlings [*Sturnus vulgaris*]). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the “Take” or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “Take” by the CDFW.

#### **4.2.7 Fully Protected Species and Species of Special Concern**

The classification of “fully protected” was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced with possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The CFGC sections (fish at Sec. 5515, amphibian and reptiles at Sec. 5050, birds at Sec. 3511, and mammals at Sec. 4700) dealing with “fully protected” species states that these species “...may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species,” (CDFW, 1998) although “Take” may be authorized for necessary scientific research. This language makes the “fully protected” designation the strongest and most restrictive regarding the “Take” of these species. In 2003, the code sections dealing with

fully protected species were amended to allow the CDFW to authorize “Take” resulting from recovery activities for state-listed species.

Species of special concern (SSC) are broadly defined as animals not listed under the CESA, but that are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologists, and others, and is intended to focus attention on the species to help avert the need for costly listing under CESA and cumbersome recovery efforts that might ultimately be required. This designation is also intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although the SSC designation provides no special legal status, they are given special consideration under CEQA during project review.

Table A-2 in Appendix A includes potentially occurring federal and state listed species and SSC animals that may occur in the project area.

#### **4.2.8 Native Plant Protection Act of 1973**

The Native Plant Protection Act (NPPA) of 1973 (Sec.1900-1913 of the CFGC) includes provisions that prohibit the taking of endangered or rare native plants from the wild and a salvage requirement for landowners. The CDFW administers the NPPA and generally regards as “rare” many plant species included on Lists 1A, 1B, 2A, 2B, 3, and 4 of the CNPS Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2017).

Table A-1 in Appendix A includes potentially occurring endangered or rare native plants that may occur in the project area (including CNPS lists).

#### **4.2.9 Natural Community Conservation Planning Act**

The Natural Community Conservation Planning (NCCP) Act of 1991 is an effort by the State of California, and numerous private and public partners that is broader in its orientation and objectives than the CESA and FESA (refer to discussions above). The primary objective of the NCCP Act is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP Act seeks to anticipate and prevent the controversies and gridlock caused by species listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

No regionally occurring natural community or associated plan is listed by the state for the project area.

## **5.0 Special Status Biological Resources**

An evaluation was conducted for the potential presence or absence of habitat for special status plant and animal species. CNDDDB RareFind (CDFW, 2017a), BIOS (CDFW, 2017b), and CNPS (CNPS, 2017) searches were completed for the 7.5-minute USGS Eureka quadrangle and all adjacent quadrangles. The aforementioned databases were queried for historical and existing occurrences of state and federally listed threatened, endangered, and candidate plant and animal species; species

proposed for listing; and all plant species listed by the CNPS (Online 2017 inventory). In addition, a list of all federally listed species that are known to occur or may occur in the vicinity was obtained from the USFWS' IPaC database (USFWS, 2017a).

Table A-1 in Appendix A includes all plant species reported from the queries, their preferred habitat, and if there is suitable habitat present within the study area for the species. Table A-2 includes all animal species reported from the queries, their preferred habitat, and if there is suitable habitat present within the study area for the species. The potential for occurrence of those species included on the list were then evaluated based on the habitat requirements of each species relative to the conditions observed during the field surveys.

Each species was evaluated for its potential to occur in the study area according to the following criteria:

- **None.** Species listed as having “none” are those species for which:
  - there is no suitable habitat present in the study area (that is, habitats in the study area are unsuitable for the species requirements [for example, elevation, hydrology, plant community, disturbance regime, etc.]).
- **Low.** Species listed as having a “low” potential to occur in the study area are those species for which:
  - there is no known record of occurrence in the vicinity, and
  - there is marginal or very limited suitable habitat present within the study area.
- **Moderate.** Species listed as having a “moderate” potential to occur in the study area are those species for which:
  - there are known records of occurrence in the vicinity, and
  - there is suitable habitat present in the study area.
- **High.** Species listed as having a “high” potential to occur in the study area are those species for which:
  - there are known records of occurrence in the vicinity (there are many records and/or records in close proximity), and
  - there is highly suitable habitat present in the study area.
- **Present.** Species listed as “present” in the study area are those species for which:
  - the species was observed in the study area.

## 5.1 Special Status Plant Species

Based on a review for special status plant species, 53 special status plant species have been reported from the region consisting of the Eureka quadrangle and the surrounding quadrangles. Of the special status plant species reported for the region, 40 plant species are considered to have low or no potential to occur at the project site and 13 species have a moderate or high potential of occurring at the project site. Species with a moderate or high potential for occurrence within the study area are described below. The western lily is anticipated to have no occurrence of existing

within the project area based on lack of appropriate habitat. However, because CNDDDB includes a large polygon including a portion of the study area as potential habitat, the western lily is also described below.

Sea watch (*Angelica lucida*) is a perennial herb in the Apiaceae family. Its elevation range is reported from 0 to 150 meters above sea level. Within its range state-wide, its blooming period is reported as May through September. This species is reported from coastal bluff scrub, coastal dunes, coastal scrub, and coastal salt marshes. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*) is a perennial herb in the Fabaceae family. Its elevation range is reported from 0 to 155 meters above sea level. Within its range state-wide, its blooming period is reported as April through October. This species is reported from mesic sites in coastal dunes, along streams, coastal marshes and swamps, and mesic sites in coastal scrub. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Oregon coast paintbrush (*Castilleja litoralis*) is a perennial herb in the Orobanchaceae family. Its elevation range is reported from 5 to 255 meters above sea level. Within its range state-wide, its blooming period is reported as June. This species is reported from coastal sandy sites within coastal bluff scrub, coastal scrub, and coastal dune habitat. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Menzies' wallflower (*Erysimum menziesii*) is a perennial herb in the Brassicaceae family. Its elevation range is reported from 0 to 35 meters above sea level. Within its range state-wide, its blooming period is reported as March through September. This species is reported from coastal dunes. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Dark-eyed gilia (*Gilia millefoliata*) is an annual herb in the Polemoniaceae family. Its elevation range is reported from 1 to 60 meters above sea level. Within its range state-wide, its blooming period is reported as April through July. This species is reported from coastal dune habitat. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

American glehnia (*Glehnia littoralis* ssp. *leiocarpa*) is a perennial herb in the Apiaceae family. Its elevation range is reported from 0 to 20 meters above sea level. Within its range state-wide, its blooming period is reported as May through August. This species is reported from coastal dune habitat. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*) is an annual herb in the Asteraceae family. Its elevation range is reported from 0 to 215 meters above sea level. Within its range state-wide, its

blooming period is reported as March through June. This species is reported from coastal bluff scrub, coastal dunes, and coastal prairie where it is found primarily on sandy bluffs and flats. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Harlequin lotus (*Hosackia gracilis*) is a perennial herb in the Fabaceae family. Its elevation range is reported from 0 to 700 meters above sea level. Within its range state-wide, its blooming period is reported as March through July. This species is reported from broadleaf upland forests, coastal bluff scrub, coastal prairie, coastal scrub, meadows, seeps, marshes and swamps, north coast coniferous forests, and valley and foothill grassland habitats. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Seaside pea (*Lathyrus japonicus*) is a perennial herb in the Fabaceae family. Its elevation range is reported from 3 to 65 meters above sea level. Within its range state-wide, its blooming period is reported as May through August. This species is reported from coastal dune habitat. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Marsh pea (*Lathyrus palustris*) is a perennial herb in the Fabaceae family. Its elevation range is reported from 2 to 140 meters above sea level. Within its range state-wide, its blooming period is reported as March through August. This species is reported from bogs and fens, lower montane coniferous forests, marshes and swamps, north coast coniferous forests, coastal prairie, and coastal scrub habitats, primarily from moist coastal areas. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Beach layia (*Layia carnosa*) is an annual herb in the Asteraceae family. Its elevation range is reported from 0 to 30 meters above sea level. Within its range state-wide, its blooming period is reported as March through July. This species is reported from coastal dunes and coastal scrub, on sparsely vegetated semi-stabilized dunes, usually behind foredunes. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance and past industrial use within the project area most likely prevents this species from occurring within the study area.

Western lily (*Lilium occidentale*) is a perennial bulbiferous herb in the Liliaceae family. Its elevation range is reported from 2 to 185 meters above sea level. Within its range state-wide, its blooming period is reported as June and July. This species is reported from bogs and fens, coastal bluff scrub, coastal prairie, coastal scrub, freshwater marshes and swamps, and from north coast coniferous forest openings. Within these habitat types, it is most common on well-drained old beach washes overlain with windblown alluvium and organic topsoil, usually near margins of Sitka spruce. This species is very susceptible to soil compaction and texture and is extremely susceptible to herbivory and encroachment by invasive species. Habitat within the study area is has been used for industry for many years and is comprised of compacted soils, paved areas, and dominance by non-native species. Poor habitat conditions within the project area prevent this species from existing within the study area.

Howell's montia (*Montia howellii*) is an annual herb in the Montiaceae family. Its elevation range is reported from 0 to 835 meters above sea level. Within its range state-wide, its blooming period is reported as March through May. This species is reported from vernal mesic meadows and seeps, north coast coniferous forests, and sometimes roadside habitats. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance, past industrial use, and non-native species cover within the project area most likely prevents this species from occurring within the study area.

Wolf's evening primrose (*Oenothera wolfii*) is a perennial herb in the Onagraceae family. Its elevation range is reported from 0 to 125 meters above sea level. Within its range state-wide, its blooming period is reported as May through October. This species is reported from coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forest. Although habitat may exist locally for this species, it was not detected within the study area. Heavy disturbance, past industrial use, and non-native species cover including *Oenothera glazioviana* within the project area most likely prevents this species from occurring within the study area.

Surveys were conducted at a seasonally appropriate time for all of the plant species expected to potentially occur within the project area. Surveys of the study area failed to locate any sensitive botanical species at the project site. It is unlikely that any species were missed; however the findings in this report represent a "snapshot in time" and it is possible that false negative surveys for rare plant species could occur. This report documents the 2017 field investigations, and the findings presented here are based on best professional judgment.

## 5.2 Special Status Animal Species

Based on a review of special status animal species, 50 special status animal species have been reported with the potential to occur in the project region consisting of the Eureka quadrangle and the surrounding quadrangles. Of the special status animal species potentially occurring in the region, 34 animal species are considered to have a low potential to occur at the project site and 16 species have a moderate to high potential. Species with a moderate or high potential for occurrence within the study area are described below.

### 5.2.1 Amphibians

The northern red-legged frog (*Rana aurora*) occurs in lowlands or foothills in humid forests, woodlands, grasslands, and within and adjacent to stream sides with plant cover. Breeding occurs in permanent water sources between December and April, with metamorphosis completed by late July. Red-legged frogs are known to occur hundreds of meters from water, especially in thick vegetation. However, they are most frequently found within five meters of water in densely vegetated areas (Thomson, 2016). Habitat exists locally for this species, although they were not observed within the study area. Marginal northern red-legged frog habitat is present within the coast willow-dominated dune hollow wetland within the northeastern section of the project area. The lack of thick vegetation and expanse of compacted gravel and pavement make it unlikely that any northern red-legged frogs would occur outside of this hollow, and would be unlikely to move too far from it. A wetland area outside of the project area to the west is additional northern red-legged frog habitat; however this area is outside of the project area to the west of the railroad tracks. Wetlands within the project area have been delineated (SHN, 2017) and the project does not

propose to impact wetland areas that represent moderate or high quality northern red-legged frog habitat; therefore the project is not anticipated to have a significant impact on this species or its habitat.

## 5.2.2 Birds

The great egret (*Ardea alba*) forages in brackish marsh, estuaries, freshwater marsh, swamps, riparian areas, and wetlands. It will sometimes forage in open fields, sometimes around cattle. It nests in trees near water and foraging areas. Rookery sites are located near foraging sites within large trees. Habitat does not exist within the project area; however habitat for this species exists surrounding the project area for this species, especially foraging habitat along Humboldt Bay. Occurrences of this species within the project area would most likely be limited to flyover from different foraging locations. Project-related activities are not anticipated to have a significant impact on this species or its habitat.

The great blue heron (*Ardea herodias*) occurs in shallow estuaries and emergent wetlands. It is less common along riverine, rocky marine shores, and pastures. The great blue heron searches for prey in shallow water and open fields. It nests in colonies in tops of secluded large snags/live trees. Habitat does not exist within the project area and this species was not detected within the study area. Habitat for this species exists surrounding the project area for this species, especially foraging habitat along Humboldt Bay. Occurrences of this species within the project area would most likely be limited to flyover from different foraging locations. Project-related activities are not anticipated to have a significant impact on this species or its habitat.

The western snowy plover (*Charadrius alexandrinus nivosus*) is known from sandy beaches, salt pond levees, and shores of large alkaline lakes. It is known to nest above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at river mouths, and salt pans at lagoons and estuaries. Although habitat may exist to the west of the project area for this species, it was not detected within the study area. Habitat for this species was not present within the project area, due to vegetation cover, distance from the beach, compacted soils within the project area, and lack of loose sand. Project-related activities are not anticipated to have a significant impact on this species due to a lack of habitat. The closest habitat area for the western snowy plover is 500 feet to the west on the western side of New Navy Base Road, and will not be impacted by this project.

The northern harrier (*Circus cyaneus*) occurs in coastal scrub, Great Basin grassland, marshes, swamps, and riparian scrub. The northern harrier nests and forages in grasslands usually near wet areas, with nesting usually occurring at a marsh edge. This species feeds primarily on rodents and small birds, hunting over open areas. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat, as riparian areas, marshes, wetlands, and grasslands will not be impacted by the project.

The snowy egret (*Egretta thula*) occurs in marshes, swamps, wetlands, meadows, and riparian woodlands. They are known to forage in marshes, tidal flats, streams, wet meadows, and borders of ponds and lakes with rookery sites situated nearby. This species is a colonial nester with nesting occurring in protected beds of dense tules. Habitat for this species does not exist within the project area, and this species was not observed onsite. Habitat for this species does occur along Humboldt

Bay, and it is expected that this species may flyover the project area on its way to different foraging areas. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Wetlands, marshes, and tidal areas will not be impacted by the project.

The merlin (*Falco columbarius*) occurs along the coast, and tidal estuaries, savannahs, edges of grasslands and deserts, farms and ranches, and within open woodlands. Clumps of trees or windbreaks are required for roosting in open country. Nesting can occur within trees, or clefts of cliffs, or on the ground in pre-existing nests. Merlins hunt small birds, large insects, and less commonly, bats. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Riparian and wooded areas will not be impacted by the project.

The American peregrine falcon (*Falco peregrinus anatum*) is found within many open habitats; however, it is more likely along coastlines, lake edges, and mountain edges. It is most common near wetlands, lakes, rivers, or other water. It often nests on cliffs, banks, dunes, and mounds; also, human-made structures, with the nest consisting of a scrape, depression, or ledge in an open area. The American peregrine falcon hunts birds which it will surprise by diving out of the sky to capture or stun. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat. The project will occur within compacted gravel and asphalt within vacant industrial lands.

The bald eagle (*Haliaeetus leucocephalus*) is typically found along ocean shores, lake margins, and rivers for both nesting and wintering. Most nests are constructed within one mile of open water within large, old-growth, or dominant live trees with open branches, especially ponderosa pine. No appropriate nesting trees or open water exist within the project area and this species was not observed during the 2017 surveys. Habitat for this species exists surrounding the project area, especially along Humboldt Bay. Occurrences of this species within the project area would most likely be limited to flyover from different foraging locations. Project-related activities are not anticipated to have a significant impact on the bald eagle or its habitat.

The black-crowned night heron (*Nycticorax nycticorax*) occurs in marshes, swamps, wetlands, meadows, and riparian woodlands. They are known to forage in marshes, tidal flats, lake margins, and mud-bordered bays with rookery sites situated nearby. This species is a colonial nester with nesting occurring in trees and occasionally in protected beds of dense tules. Habitat for this species does not exist within the project area, and this species was not observed onsite. Habitat for this species does occur along Humboldt Bay, and it is expected that this species may flyover the project area on its way to different foraging areas. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Wetlands, marshes, and tidal areas will not be impacted by the project.

The osprey (*Pandion haliaetus*) occurs near rivers, lakes, and coast where large numbers of fish are present. Ospreys are most common around major coastal estuaries and salt marshes. This species was observed within the project area, both flying over and perched nearby. Osprey nests were observed atop man-made structures approximately 1,350 feet to the east near the edge of Humboldt Bay. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Ospreys hunt within open water, and do not use the project area for hunting. The lack of tall structures within the project area make it unlikely that this species will perch or nest within the

project area in the future. Existing nests are 1,350 feet to the east of the project area and will not be impacted by project activities. Occurrences of Osprey within the project area will most likely be limited to flyover from perch and nesting sites to open water.

The California brown pelican (*Pelecanus occidentalis californicus*) occurs in estuaries and coastal marine habitat where it feeds on fish. This species is a colonial nester on coastal islands just outside of the surf line. Habitat for this species does not exist within the project area, and this species was not observed onsite. The California brown pelican is common in Humboldt Bay, and it is expected that this species may flyover the project area on its way to different feeding areas. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Humboldt Bay wetlands, marshes, and tidal areas will not be impacted by the project.

The double-crested cormorant (*Phalacrocorax auritus*) is known to occur in riparian forests, scrub, and woodlands when feeding. This species nests colonially along the coast on islets usually on the ground, or in tall trees along lake margins. Double-crested cormorants are excellent swimmers, often chasing prey through the water. This species requires exposed perches for drying and resting following feeding. Habitat for this species does not exist within the project area, and this species was not observed onsite. The double-crested cormorant is common in Humboldt Bay, and it is expected that this species may flyover the project area on its way to different feeding areas. Project-related activities are not anticipated to have a significant impact on this species or its habitat. Humboldt Bay wetlands, marshes, and tidal areas will not be impacted by the project.

The black-capped chickadee (*Poecile atricapillus*) inhabits riparian woodlands in Del Norte and northern Humboldt counties. It is mainly found in deciduous trees, especially willows and alders, along large or small watercourses. The chickadee excavates its nest cavity in rotten wood, or nests in old woodpecker holes. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat. All wetland areas will be avoided during the project and will not be impacted by project-related activities.

### 5.2.3 Fishes

Many special status fish species occur within Humboldt Bay (See Table A-2 in Appendix A). The project will not impact Humboldt Bay or any waterways or wetlands surrounding Humboldt Bay. All wetland areas will be avoided, and work will occur over 1,400 feet from Humboldt Bay marshes and tidal areas. Work is slated to occur during the dry season, with proper best management practices (BMPs) in place to prevent discharge. Project-related activities are not anticipated to have a significant impact on the special status fish species or habitat of Humboldt Bay.

### 5.2.4 Insects

The western bumblebee (*Bombus occidentalis*) pollinates a wide variety of flowers. It is known to gnaw through flowers to obtain nectar their tongues are too short to reach. Colonies nest in cavities or abandoned burrows. It was once common and widespread; however it has seriously declined, possibly due to disease. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat because of the project's limited size and scope, and the lack of flowering plants suitable for pollination by the western bumblebee within the project area.

## 5.2.5 Mammals

The long-eared myotis (*Myotis evotis*) feeds on a variety of arthropods including moths, flies, spiders, and especially beetles. The long-eared myotis roosts singly, or in small groups in buildings, crevices, spaces under bark, and snags. Caves are used primarily as night roosts. Although habitat may exist locally for this species, it was not detected within the study area. Project-related activities are not anticipated to have a significant impact on this species or its habitat due to the project's limited size and scope and because the project will not affect roosting habitat.

## 5.3 Special Status Natural Communities and Habitats

Sensitive natural communities are habitats that are generally defined by vegetation type and geographical location and are increasingly restricted in abundance and distribution. Recognition of natural communities is an ecosystem-based approach to maintaining biodiversity in California. Holland-type CNDDDB natural communities are habitat for numerous special status plant and animal species. CDFW no longer updates their tracking of Holland-type CNDDDB natural communities and has since standardized alliance and association-level vegetation nomenclature for California to comply with the National Vegetation Classification System.

### 5.3.1 Natural Communities

The disturbed and developed nature of the project area precludes the occurrence of many Natural communities (defined as vegetation alliances) from occurring onsite; however island-like areas of native vegetation communities were observed within and adjacent to the project area. Vegetation alliances within and adjacent to the study area included *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub), *Morella californica* Shrubland Alliance (Wax myrtle scrub), *Rubus (parviflorus, spectabilis, ursinus)* Shrubland Alliance (Coastal brambles), and *Salix hookeriana* Shrubland Alliance (Coastal dune willow thicket).

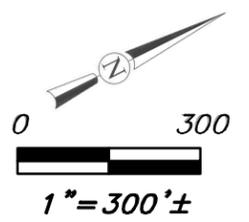
Coyote brush scrub is found within a wide range of conditions, and is known from stabilized dunes and disturbed sites, such as is found within the project area. This vegetation community is common within California, and is known to be increasing in many areas due to human-caused disturbance, and change in fire regimes (Sawyer, 2009). Coyote brush scrub has a rarity ranking of G5S5, meaning this vegetation community is demonstrably secure statewide and globally due to its worldwide and statewide abundance and does not qualify for consideration under CEQA. This vegetation community was found between the compacted former log deck and the dune hollow (see Figure 3 and Photo B-2, Appendix B), with many young plants in other areas, showing potential for an increase in cover by this vegetation community.

Wax myrtle scrub is known from wetland locations within coastal dunes, along coastal streams, and on coastal bluffs. This vegetation community is restricted to moist areas along the coast and consequently is not very common (Sawyer, 2009). Changes in hydrology, fire, and introduction of non-native species have further limited viable occurrences of this vegetation community. Wax myrtle scrub has a rarity ranking of G3S3, meaning this vegetation community occurs on 2,590 to 12,950 hectares and is known from 21 to 100 viable occurrences globally and statewide, and qualifies for consideration under CEQA Guidelines checklist IVb. This vegetation community was documented on the northern side of the dune hollow wetland, as well as from three isolated individuals to the west of the project area south of the recycling facility (see Figure 3 and Photo B-1, Appendix B).

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EXPLANATION	
	PROJECT AREA
	COASTAL BRAMBLES
	COASTAL DUNE WILLOW THICKETS
	COYOTE BRUSH SCRUB
	LANDSCAPING
	WASTEWATER TREATMENT POND
	WAX MYRTLE SCRUB
	BUFFER - 50 FT.
	BUFFER - 100 FT.



Coastal brambles vegetation community is known from coastal bluffs, headlands, exposed slopes, and gaps in forests. This vegetation community is restricted to coastal areas which limit the area that this vegetation community can be found (Sawyer, 2009). Consequently, coastal brambles have a rarity ranking of G4S3, meaning that there are over 100 viable occurrences globally, but less than 100 viable occurrences statewide, qualifying for consideration under CEQA Guidelines checklist IVb. Within the project area this vegetation community was dominated exclusively by the California blackberry, and was documented on the top of bank surrounding the coastal dune hollow as well as in a large thicket to the northwest of the recycling facility (see Figure 3 and Photo B-3, Appendix B).

Coastal dune willow thicket is known from areas near the ocean within the summer fog belt, where water stands, and seasonally floods, such as deflation plains and swales among coastal dunes, lagoon margins, and floodplains. This vegetation community is restricted to moist areas along the coast and consequently is not very common (Sawyer, 2009). The coastal dune willow thicket has a rarity ranking of G4S3 meaning that there are over 100 viable occurrences globally, but less than 100 viable occurrences statewide, and qualifies for consideration under CEQA Guidelines checklist IVb. Within the project area, this vegetation community occurs within the coastal dune hollow in the northern portion of the project area, as well as to the west of the project area between the railroad and New Navy Base Road (see Figure 3 and Photo B-1, Appendix B).

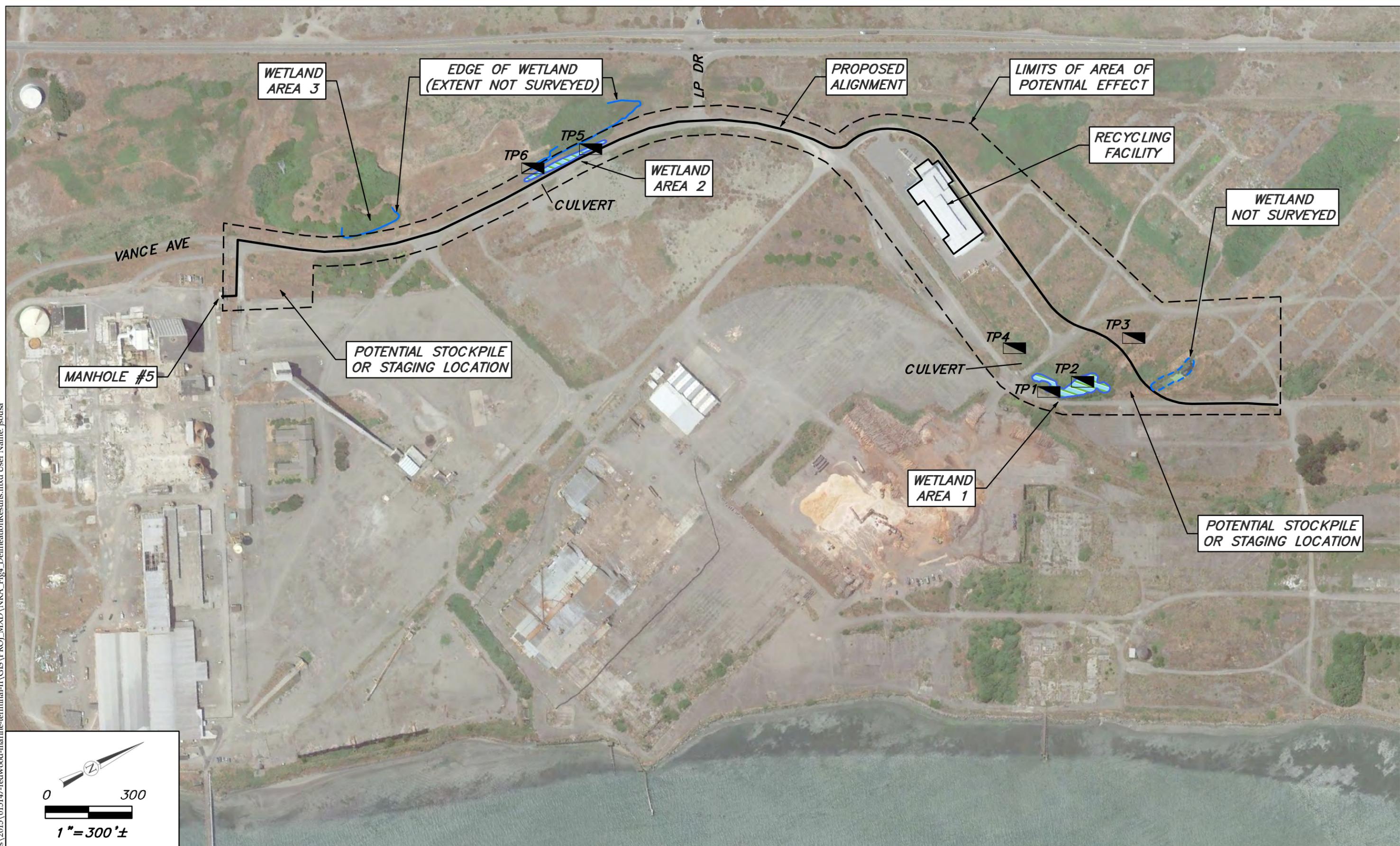
Appropriate buffers should be established and maintained for the duration of the project to minimize impacts to the S3 vegetation communities. The dune hollow (containing two of the S3 vegetation communities) was also mapped as wetland within the Samoa effluent pipeline wetland delineation (SHN, 2017) and will be protected by buffers required around wetlands. See Section 7.0 for recommended buffers and setbacks from S3 vegetation communities.

### **5.3.2 Wetlands and Riparian Habitats**

A site-specific wetland delineation was conducted within the proposed project area (SHN, 2017). Wetlands were documented within the northeastern portion of the project area, associated with the existing wastewater treatment pond, and within the dune hollow (see Figure 4). Additional wetlands were observed and documented within and adjacent to the southwestern portion of the project (see Figure 4). This included a drainage ditch between Vance Avenue and the railroad bed as well as wetlands to the west of the project area, on the western side of the railroad fill prism. Wetlands to the west of the railroad are outside of the project area; however wetland setbacks apply to these wetlands that will determine where the pipeline is placed. The wetland delineation (SHN, 2017) also documented and mapped Coastal Act wetlands (one or more wetland parameters present) within the project area. The project is not scheduled to occur on any coastal wetlands. Project-related activities will be designed to avoid wetlands as much as is feasibly possible, however, there are areas where the project will occur within the 100-foot wetland buffer. See Section 7.0 for measures to minimize impacts to the wetlands on site.

There are no riparian areas within the proposed project area.

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## 6.0 Conclusions

The purpose of this report was to assess the biological resources and habitat available within the study area, and to evaluate project-related impacts. The habitat value and availability was assessed for special status species that could occur within the study area. Recommendations for avoiding and mitigating impacts are addressed in Section 7.0.

### 6.1 Special Plant Status Species

Of the 53 special status plant species potentially occurring in the area, 40 are considered to have a low potential to occur within the project site, and 13 are considered to have a moderate or higher potential; however, site investigations failed to locate any rare plants within the study area. Surveys were conducted at a seasonally appropriate time for all of the plant species expected to potentially occur within the project area. Surveys of the study area failed to locate any sensitive botanical species at the project site. The project is not likely to affect rare plant species or their habitats, due to the lack of habitat within the project area. The industrial conditions surrounding the project area, and disturbed nature of the project area, are unlikely to support the special status species most likely to occur in the area.

### 6.2 Special Wildlife Status Species

Of the 50 special status animal species potentially occurring in the Eureka and surrounding quadrangles, 34 animal species are considered to have a low or no potential to occur at the project site, and 16 species have a moderate to high potential.

Special status birds are not likely to be affected by the proposed project. Riparian and wooded areas will not be impacted by the project. No trees will be removed, and no significant vegetation clearing is slated to occur. Construction is proposed to occur within previously developed areas, including a former log deck, the railroad right of way, and alongside Vance Avenue. There may be some noise-related disturbance associated with the construction of the project; however, a minimum 50-foot buffer will be maintained between construction, wetlands, and ESHA (the only areas that contain significant vegetation cover). Construction activities are comparable to existing ongoing industrial operations at the site (including recycling processing, log deck storage and chipping, and small scale industrial operations within the pulp mill buildings) and it is not anticipated that the project will have a significant impact on special status birds. Osprey nests were observed approximately 1,350 feet to the east of the project area along Humboldt Bay. Construction will maintain a 300-foot buffer between construction and nesting osprey.

Special status mammals are not likely to be affected by the proposed project. Wetland habitat will be avoided during construction of the project, and no significant vegetation clearing is slated to occur. Habitats that may be used by bats will not be impacted by the project.

Special status amphibians are not likely to be affected by the proposed project. Wetland habitat and areas suitable for the northern red-legged frog or other special status amphibians will be avoided during construction of the project, and no significant vegetation clearing is slated to occur. Therefore the project is not anticipated to have a significant impact on special status amphibians or their habitats.

Special status fishes are not likely to be affected by the proposed project. All wetland areas will be avoided, and work will occur over 1,400 feet from Humboldt Bay marshes and tidal areas. Work is slated to occur during the dry season, with proper BMPs in place to prevent discharge. Project-related activities are not anticipated to have a significant impact on the special status fish species or habitat of Humboldt Bay.

Special status insects (western bumble bee) are not likely to be affected by the proposed project. Wetland habitat will not be impacted by the project, and no significant vegetation clearing is slated to occur. Project-related activities are not anticipated to have a significant impact on the special status insect species or habitat.

### **6.3 Sensitive Natural Communities**

Three sensitive natural communities (defined as vegetation alliances) were identified within the study area (see Figure 3). Sensitive vegetation communities are not anticipated to be impacted during the project. Vegetation communities will be protected by a 100-foot buffer or a 50-foot buffer where a 100-foot buffer is determined to be infeasible (see Section 7.0 for buffer recommendations). No vegetation clearing is anticipated with this project, and the majority of vegetation communities will have a 100-foot buffer between them and construction. Therefore no impact to a sensitive natural community is anticipated from this project.

### **6.4 Nesting Birds**

Nesting birds protected by the MBTA are not likely to be affected by this project. Only limited vegetation removal is proposed and above-ground disturbance will be limited to construction at previously developed industrial lands. While construction activities associated with the project will temporarily elevate noise levels, birds nesting within and immediately adjacent to the project area are subject to constant disturbance from existing industrial use and traffic on New Navy Base Road; therefore, it is unlikely that birds nesting within such a setting would be persuaded to leave the nest due to construction noise disturbance. Equipment noise within the project area is not likely to exceed that which regularly occurs onsite with ongoing industrial operations, including log deck storage and chipping, recycling processing, and small scale industry within the pulp mill buildings.

### **6.5 Impacts on Wildlife Movement**

Wildlife corridors are not anticipated to be impacted by the proposed effluent pipeline project. The project area is located on the isolated north spit, with little vegetation cover. While this area is used as a flyover path for migratory birds, the lack of vegetation on site make it unlikely that the project area is used for resting, and is most likely bypassed during migrations. The industrial and isolated nature of the site makes it unlikely that the project area is used as a wildlife movement corridor. Wildlife movement corridors are expected to be concentrated along Humboldt Bay and its associated marshes, wetlands, and connectivity to other riparian habitat. The project will not impact a wildlife movement corridor.

### **6.6 Wetlands and Riparian Habitats**

Wetlands within and adjacent to the project area will not be directly impacted by the project. The Samoa effluent pipeline will be located 100 feet from wetlands; however there are several areas

were the setback may need to be reduced to 50 feet from the edge of wetlands. If a reduced setback is determined to be the least environmentally damaging feasible alternative, then a reduced wetland setback justification will be written, with information stating why a reduced buffer is justified (see Section 7.0 for recommendations regarding wetland setbacks).

With the incorporation of Recommendations within Section 7.0, the project will not result in a significant impact to wetlands, including indirect impacts.

## 7.0 Recommendations

The Humboldt Bay Local Coastal Program (LCP) states: "All wetlands and non-wetland ESHAs (within the Samoa Town Master Plan) identified outside of the areas designated Natural Resources shall require a 100-foot setback/buffer, unless it can be demonstrated that a reduced buffer is sufficient to prevent disruption of the habitat. Wetland and non-wetland ESHA buffers shall not be reduced to less than 50 feet." (County of Humboldt, 2007)

Should it be found to be infeasible to locate the pipeline 100 feet from the edge of wetland or ESHA areas, then a minimum 50-foot setback will be created to minimize impacts to wetlands during temporary encroachment into the 100-foot wetland buffer during construction. Should a buffer reduction be required for this project, then a wetland and ESHA buffer reduction assessment shall be submitted that addresses the following:

1. Biological significance of adjacent lands and the functional relationships among nearby habitat types and areas;
2. Sensitivity of species to disturbance;
3. Nesting bird habitat nearby;
4. An assessment of the short-term and long-term adaptability of various species to human disturbance;
5. An assessment of the impact and activity levels of the proposed development on the resource;
6. Erosion susceptibility; and
7. Use of natural topography for situating development. Where feasible, use hills and bluffs adjacent to ESHAs to buffer habitat areas.

Required buffer areas shall be measured from the following points:

- The perimeter of the sand dune/permanently established terrestrial vegetation interface for dune-related ESHA.
- The upland of a wetland.
- The outer edge of the canopy of coastal sage scrub or forests including areas for underground root zones.
- The outer edge of the plants that comprise the rare plant community for rare plant community ESHA.

All BMPs detailed within the project description shall be adhered to in order to reduce impacts during construction.

## 8.0 References

- Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds). (2012). *The Jepson Manual: Vascular Plants of California, Second Edition*. Berkeley, CA:University of California Press, Berkeley.
- Calflora. (NR). "Calflora" database. Berkeley, CA:Calflora. Accessed March 2017 at: <http://calflora.org/>.
- Consortium of California Herbaria. (NR). "Consortium of California Herbaria" database. Berkeley, CA:CCH. Accessed March 2017 at: <http://ucjeps.berkeley.edu/consortium/>.
- California Department of Fish and Wildlife. (1984). "California Endangered Species Act. Fish and Game Code sections 2070, 2080." Sacramento, CA:CDFW.
- . (1994). "A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, Fish and Game Code." Sacramento, CA:CDFW.
- . (1991). "Natural Community Conservation Planning Act. Fish and Game Code Section 2800." Sacramento, CA:CDFW.
- . (1998). "Fish and Game Code." Sacramento, CA:CDFW.
- . (November 2009). "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities." Accessed at: [https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols\\_for\\_Surveying\\_and\\_Evaluating\\_Impacts.pdf](https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf).
- . (2010). Vegetation Classification and Mapping Program (VegCAMP), "Natural Communities List." Sacramento, CA:CDFW. Accessed March 2017 at: [http://www.dfg.ca.gov/biogeodata/vegcamp/natural\\_communities.asp](http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp).
- . (2017a). "California Natural Diversity Database (CNDDB)." Accessed March 2017 at: <http://www.dfg.ca.gov/biogeodata/cnddb/>. Sacramento, CA:CDFW.
- . (2017b). "Biogeographic Information and Observation System (BIOS), Version 5.48.27." Sacramento, CA:CDFW. Accessed March 2017 at: <http://bios.dfg.ca.gov/>.
- . (2017c). "Special Vascular Plants, Bryophytes, and Lichens List." Sacramento, CA:CDFW.
- . (2017d). "Special Animals List." Sacramento, CA:CDFW.
- California Native Plant Society. (2017). "CNPS Rare Plant Program, Inventory of Rare and Endangered Plants (online edition, v8-02)." Sacramento, CA:CNPS. Accessed March 2017 at: <http://www.rareplants.cnps.org>.
- California Natural Resources Agency. (1970). "California Environmental Quality Act. CCR: Title 14, Div. 6, Chap. 3, Appendix G; Sections 15125 (c) and 15380(d)." Sacramento, CA:CNRA.
- County of Humboldt. (1988). *Humboldt County General Plan: Volume I Framework Plan* (Amended 1998). Eureka, CA:County of Humboldt.
- . (2007). "Humboldt Bay Area Plan" Eureka, CA: County of Humboldt.
- McCullough, Dale R. (ed). (1996). *Metapopulations and Wildlife Conservation*. Washington D.C.:Island Press.
- McLaughlin, J. and F. Harradine. (1965). *Soils of Western Humboldt County California*. Davis, CA: Department of Soils and Plant Nutrition at UC Davis and Humboldt Co.

- National Oceanic & Atmospheric Administration, National Climatic Data Center. NOAA/NCDC Database, Arcata Eureka Airport, CA US. Accessed March 2017 at:  
<https://www.ncdc.noaa.gov/cdo-web/datatools/normals>.
- North Coast Regional Water Quality Control Board. (2014). Order No. R1-2014-0031. Santa Rosa, CA:RWQCB.
- Sawyer, J.O., T. Keeler-Wolf, and J. Evans. (2009). *A Manual of California Vegetation, Second Edition*. Sacramento, CA:CNPS Press.
- SHN Consulting Engineers & Geologists. (March 10, 2015). Groundwater Modeling Report, Proposed Wastewater Treatment Facility, Samoa, California. Eureka, CA:SHN.
- . (March 2017). *Wetland Delineation, RMT II Samoa Effluent Pipeline Project, Samoa, California*. Eureka, CA:SHN.
- State Water Resource Control Board. (1969). "Porter-Cologne Act. CWC Section 7." Sacramento, CA:SWRCB.
- Thomson, R.C. (2016). *California Amphibian and Reptile Species of Special Concern*. Oakland, CA: University of California Press, co-published with California Department of Fish and Wildlife.
- U. S. Army Corps of Engineers Environmental Laboratory. (January 1987). *Corps of Engineers Wetlands Delineation Manual: Wetlands Research Program Technical Report Y-87-1*. Vicksburg, MS:USACE.
- U.S. Army Corps of Engineers/Environmental Protection Agency. (2008). "Clean Water Act Jurisdiction." Washington, D.C.:USACE/EPA.
- U.S. Census Bureau. (2015). "State & County QuickFacts," Accessed 2017 at:  
<http://quickfacts.census.gov/qfd/states/06/06023.html>
- U.S. Department of Agriculture, Natural Resources Conservation Service. (2010). *Field Indicators of Hydric Soils in the United States, Version 7.0*. Hurt, G.W. and L.M. Vasilas (eds.). NR: USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.
- . (2016). Soil Mapping porta. Accessed March 2017 at:  
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- U.S. Environmental Protection Agency. (2002). "Clean Water Act of 1972, 33 USC § 1251 et seq." Washington, D.C.:EPA.
- . Section 401 of the Clean Water Act, 33 USC § 1341. Washington, D.C.:EPA.
- U.S. Fish and Wildlife Service. (1918). "Migratory Bird Treaty Act . 50 CFR 21, 16 USC 703." Washington, D.C.:USFWS.
- . (1934). "The Fish and Wildlife Coordination Act (16 USC Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995)." Washington, D.C.:USFWS.
- . (1973). "Endangered Species Act. 16 USC 1532, 16 USC 1536, 50 CFR 17.3." Washington, D.C.:USFWS.
- . (2017a). Information, Planning and Conservation System (IPAC), "Trust Resources List." Washington D.C.:USFWS. Accessed March 2017 at:  
<https://ecos.fws.gov/ipac/location/index>.

---. (2017b). "National Wetland Inventory." Washington D.C.:USFWS. Accessed March 2017 at <http://fws.gov/wetlands/data/mapper.html>.

---. (2017c). Critical Habitat Portal. Accessed March 2017 at: <http://ecos.fws.gov/crithab/>.

U.S. Geological Survey. (NR). Eureka, Cannibal Island, Fields Landing, McWhinney, Arcata South, Arcata North, and Tyee City 7.5-Minute Quadrangles. NR:USGS.

Whitaker, Doug and R.L. Knight (eds). (Summer 1998). *Understanding Wildlife Responses to Humans. Wildlife Society Bulletin, Vol. 26, No. 2.* pp. 312-317. Bethesda, MD:Wildlife Society.

**A**

**Species Lists**



**Table A-1**  
**Regionally Occurring Special Status Plant Species Scoping List CNDDDB<sup>1</sup>, CNPS<sup>2</sup>, IPaC<sup>3</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	Nyctaginaceae	None	None	G4G5-T2	S1	1B.1	June-Oct.	Coastal dunes and coastal strand.	Foredunes and interdunes with sparse cover. Usually the plant closest to the ocean. 0-10 m <sup>(6)</sup> .	Low
<i>Angelica lucida</i>	sea-watch	Apiaceae	None	None	G5	S3	4.2	May-Sept.	Coastal strand	Coastal bluff scrub, coastal dunes, coastal scrub, coastal salt marshes. 0-150 m	Moderate
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	Fabaceae	None	None	G2T2	S2	1B.2	April-Oct.	Coastal dunes, marshes & swamps, coastal scrub.	Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	Moderate
<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk-vetch	Fabaceae	None	None	G4T4	S4	4.3	April-July	Chaparral, cismontane woodland, lower montane conifer forest.	Open grassy hillsides, gravelly flats in valleys, and gravel bars of stream beds. 30-825 m.	None
<i>Bryoria pseudocapillaris</i>	false gray horsehair lichen	Parmeliaceae	None	None	G3	S2	3.2	Lichen	Coastal dunes, N. Coast conifer forest (immediate coast).	Usually on conifers. 0-90 m.	None
<i>Bryoria spiralifera</i>	twisted horsehair lichen	Parmeliaceae	None	None	G3	S1S2	1B.1	Lichen	North coast conifer forest.	Usually on conifers. 0-30 m.	None
<i>Cardamine angulata</i>	seaside bittercress	Brassicaceae	None	None	G5	S1	2B.1	Jan.-July	Lower montane, conifer forest, N. coast conifer forest, wetland	Wet areas, streambanks. 90-155 m.	Low
<i>Carex arcta</i>	northern clustered sedge	Cyperaceae	None	None	G5	S1	2B.2	June-Sept.	Bogs and fens, north coast conifer forest.	Mesic sites. 60-1,405 m.	Low
<i>Carex leptalea</i>	bristle-stalked sedge	Cyperaceae	None	None	G5	S1	2B.2	March-July	Bogs and fens, meadows and seeps, marshes and swamps.	Mostly known from bogs and wet meadows. 3-1,395 m.	Low

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**Regionally Occurring Special Status Plant Species Scoping List CNDDDB<sup>1</sup>, CNPS<sup>2</sup>, IPaC<sup>3</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Carex lyngbyei</i>	Lyngbye's sedge	Cyperaceae	None	None	G5	S3	2B.2	April-August	Marsh & swamp (brackish or freshwater).	0-200 m.	None
<i>Carex praticola</i>	northern meadow sedge	Cyperaceae	None	None	G5	S2	2B.2	May-July	Meadows and seeps.	Moist to wet meadows. 15-3200 m.	None
<i>Castilleja ambigua</i> var. <i>humboldtensis</i>	Humboldt Bay owl's-clover	Orobanchaceae	None	None	G4T2	S2	1B.2	April-August	Marshes and swamps.	Coastal saltmarsh with <i>Spartina</i> , <i>Distichlis</i> , <i>Salicornia</i> , <i>Jaumea</i> . 0-20 m.	None
<i>Castilleja litoralis</i>	Oregon coast paintbrush	Orobanchaceae	None	None	G3	S3	2B.2	June	Coastal bluff scrub, coastal dunes, coastal scrub.	Sandy sites. 5-255 m.	Moderate
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty bird's-beak	Orobanchaceae	None	None	G4?T2	S2	1B.2	June-Oct.	Coastal salt marsh.	Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. 0-10 m.	None
<i>Chrysosplenium glechomifolium</i>	Pacific golden saxifrage	Saxifragaceae	None	None	G5	S3	4.3	Feb.-June	North Coast coniferous forest, riparian forest	Streambanks, sometimes seeps, sometimes roadsides. 10-220 m.	None
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	Onagraceae	None	None	G5T1	S1	1B.1	June-August	Coastal bluff scrub, coastal scrub.	10-100 m.	Low
<i>Collinsia corymbosa</i>	round-headed Chinese-houses	Plantaginaceae	None	None	G1	S1	1B.2	April-June	Coastal Dunes	Coastal dunes from 10-30 m	Low
<i>Collomia tracyi</i>	Tracy's collomia	Polemoniaceae	None	None	G4	S4	4.3	June-July	Lower montane coniferous forest, ultramafic.	On rock outcrops. On serpentine at least sometimes. 300-2,100 m.	None
<i>Eleocharis parvula</i>	small spikerush	Cyperaceae	None	None	G5	S4	4.3	July-August	Marsh & swamp, salt marsh, wetland	In coastal salt marshes. 1-3,020 m.	Low
<i>Erysimum menziesii</i>	Menzies' wallflower	Brassicaceae	E	E	G1	S1	1B.1	March-Sept.	Coastal dunes.	Localized on dunes and coastal strand. 0-35 m.	High

**Table A-1**  
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**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Erythronium revolutum</i>	coast fawn lily	Liliaceae	None	None	G4G5	S3	2B.2	March-August	Bogs & fens, broadleaf upland forest, north coast conifer forest.	Mesic sites; streambanks. 60-1,405 m.	None
<i>Fissidens pauperculus</i>	minute pocket moss	Fissidentaceae	None	None	G3?	S2	1B.2	Lichen	North coast coniferous forest, Redwood.	Moss growing on damp soil along the coast. In dry streambeds & stream banks. 10-1,024 m.	None
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	Polemoniaceae	None	None	G5T3	S2	1B.2	April-August	Coastal bluff scrub, chaparral, coastal prairie, valley & foothill grassland.	5-1,345 m.	Low
<i>Gilia millefoliata</i>	dark-eyed gilia	Polemoniaceae	None	None	G2	S2	1B.2	April-July	Coastal dunes.	1-60 m.	High
<i>Glehnia littoralis</i> ssp. <i>leiocarpa</i>	American glehnia	Apiaceae	None	None	G5T5	S3	4.2	May-August	Coastal Dunes	0-20 m.	High
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	Asteraceae	None	None	G4T3	S2	1B.2	March-June	Coastal bluff scrub, coastal dunes, coastal prairie.	Sandy bluffs and flats. 0-215 m.	Moderate
<i>Hosackia gracilis</i>	harlequin lotus	Fabaceae	None	None	G4	S3	4.2	March-July	Broadleaf upland forest, coast bluff scrub, coast prairie, coast scrub, closed-cone conifer forest, meadow, seep, marsh & swamp, N. coast conifer forest, valley & foothill grassland.	Wetlands and roadsides. 0-700 m.	Moderate
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	Asteraceae	None	None	G3T2	S2	1B.2	Jan.-Nov.	Coastal bluff scrub, coastal dunes, coastal scrub.	5-185 m.	Low

**Table A-1**  
**Regionally Occurring Special Status Plant Species Scoping List CNDDDB<sup>1</sup>, CNPS<sup>2</sup>, IPaC<sup>3</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Lathyrus glandulosus</i>	sticky pea	Fabaceae	None	None	G3	S3	4.3	April-June	Cismontane woodland.	In oak woodlands upland from the coast redwood forests & along roadsides. 300-800 m.	None
<i>Lathyrus japonicus</i>	seaside pea	Fabaceae	None	None	G5	S2	2B.1	May-August	Coastal dunes.	3-65 m.	Moderate
<i>Lathyrus palustris</i>	marsh pea	Fabaceae	None	None	G5	S2	2B.2	March-August	Bogs & fens, lower montane conifer forest, marsh & swamp, north coast conifer forest, coastal prairie, coastal scrub.	Moist coastal areas. 2-140 m.	Moderate
<i>Layia carnosa</i>	beach layia	Asteraceae	E	E	G2	S2	1B.1	March-July	Coastal dunes, coastal scrub.	On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0-30 m.	High
<i>Lilium kelloggii</i>	Kellogg's lily	Liliaceae	None	None	G3	S3	4.3	May-August	Lower montane conifer forest, N. coast conifer forest.	Gaps and roadsides in conifer forest. 3-1,300 m.	None
<i>Lilium occidentale</i>	western lily	Liliaceae	E	E	G1	S1	1B.1	June-July	Coastal scrub, freshwater marsh, bogs & fens, coastal bluff scrub, coast prairie, N. coast conifer forest, marshes and swamps.	Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 3-110 m.	None
<i>Listera cordata</i>	heart-leaved twayblade	Orchidaceae	None	None	G5	S4	4.2	Feb.-July	Lower montane conifer forest, north coast conifer forest.	Bogs and fens, 5-1,370 m.	None

**Table A-1**  
**Regionally Occurring Special Status Plant Species Scoping List CNDDDB<sup>1</sup>, CNPS<sup>2</sup>, IPaC<sup>3</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Lycopodium clavatum</i>	running-pine	Lycopodiaceae	None	None	G5	S3	4.1	June-Sept.	Lower montane conifer forest, north coast conifer forest, marsh & swamp.	Forest understory, edges, openings, roadsides; mesic sites with partial shade and light. 45-1,225 m.	None
<i>Mitellastruca caulescens</i>	leafy-stemmed mitrewort	Saxifragaceae	None	None	G5	S4	4.2	March-Oct.	Broadleaf upland forest, lower montane conifer forest, meadow & seep, N. coast conifer forest.	Mesic sites. 5-1,700 m.	None
<i>Monotropa uniflora</i>	ghost-pipe	Ericaceae	None	None	G5	S2	2B.2	June-Sept.	Broadleaved upland forest, north coast conifer forest.	Often under redwoods or west hemlock. 15-855 m.	None
<i>Montia howellii</i>	Howell's montia	Montiaceae	None	None	G3G4	S2	2B.2	Feb.-May	Meadows and seeps, north coast coniferous forest, vernal pools.	Vernally wet sites; often on compacted soil. 10-1,005 m.	Moderate
<i>Oenothera wolffii</i>	Wolf's evening-primrose	Onagraceae	None	None	G2	S1	1B.1	May-Oct.	Coastal bluff scrub, coastal dunes, coastal prairie, low montane conifer forest.	Sandy substrates; usually mesic sites. 0-125 m.	Moderate
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	Asteraceae	None	None	G4T4	S2S3	2B.2	Jan.-August	Coastal scrub, north coast conifer forest.	Often along roadsides. 30-915 m.	Low
<i>Pityopus californicus</i>	California pinefoot	Ericaceae	None	None	G4G5	S4	4.2	March-August	Broadleaf upland forest, upper montane and, N. coast conifer forest, low montane conifer forest.	Deep shade with few understory species, often under layer of duff, in rocky to clay loam soil. 15-2,225 m.	None
<i>Pleuropogon refractus</i>	nodding semaphore grass	Poaceae	None	None	G4	S4	4.2	March-August	Meadow & seep, low montane conifer forest, N. coast conifer forest, riparian forest.	Mesic sites along streams, grassy flats in shaded redwood groves. 0-1,600 m.	None

**Table A-1**  
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Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Polemonium carneum</i>	Oregon polemonium	Polemoniaceae	None	None	G3G4	S2	2B.2	April-Sept.	Coast scrub & prairie, low montane conifer forest.	0-1,830 m.	None
<i>Puccinellia pumila</i>	dwarf alkali grass	Poaceae	None	None	G4?	SH	2B.2	July	Marshes and swamps.	Mineral spring meadows and coastal salt marshes. 1-10 m.	None
<i>Ribes laxiflorum</i>	trailing black currant	Grossulariaceae	None	None	G5	S4	4.3	March-August	N. coast conifer forest, Redwood forests.	Grows over logs and stumps in moist, wet places. 5-1,395 m.	None
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	Malvaceae	None	None	G3	S3	4.2	March-August	Broadleaf upland forest, coast prairie, coast scrub, N. coast conifer forest, riparian.	Woodlands and clearings near coast; often in disturbed areas. 0-730 m.	None
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	Malvaceae	None	None	G5T2	S2	1B.2	May-August	Coastal bluff scrub, coastal prairie, north coast conifer forest.	Open coastal forest; road cuts. 5-1,255 m.	Low
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	Malvaceae	None	None	G5T1	S1	1B.2	June-August	Meadow & seep, N. coast & low montane conifer forest.	Near meadows, in gravelly soil. 5-1,805 m.	None
<i>Spergularia canadensis</i> var. <i>occidentalis</i>	western sand-spurrey	Caryophyllaceae	None	None	G5T4	S1	2B.1	June-August	Marshes and swamps (coastal salt marshes).	0-3 m.	None
<i>Trichodon cylindricus</i>	cylindrical trichodon	Ditrichaceae	None	None	G4	S2	2B.2	Moss	Broadleafed upland forest, upper montane coniferous forest.	Moss growing in openings on sandy or clay soils on roadsides, stream banks, trails or in fields. 50-1,500 m.	None
<i>Usnea longissima</i>	Methuselah's beard lichen	Parmeliaceae	None	None	G4	S4	4.2	Lichen	North coast coniferous forest, broadleaf upland forest.	In the "redwood zone" on tree branches of a variety of trees, incl. big leaf maple, oaks, ash, Douglas-fir, and bay. 45-1,465 m in California.	None

**Table A-1**  
**Regionally Occurring Special Status Plant Species Scoping List CNDDDB<sup>1</sup>, CNPS<sup>2</sup>, IPaC<sup>3</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	Family	FedList <sup>4</sup>	CalList <sup>4</sup>	GRank <sup>5</sup>	SRank <sup>5</sup>	RPlant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Viola palustris</i>	alpine marsh violet	Violaceae	None	None	G5	S1S2	2B.2	March-August	Coastal scrub, bogs and fens.	Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m.	Low

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|---|---|
| <p>1. CNDDDB: California Natural Diversity Database</p> <p>2. CNPS: California Native Plant Society</p> <p>3. IPaC: Information, Planning, and Conservation System</p> <p>4. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW). Note: Occurrence rankings need evaluation in report. 3/31/2017</p> <p>C: candidate<br/> CT: candidate threatened<br/> D: delisted<br/> DPS: distinct population segment<br/> E: endangered<br/> ESU: evolutionarily significant unit</p> | <p>5. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)</p> <p>G1/S1: critically imperiled<br/> G2/S2: imperiled<br/> G3/S3: vulnerable<br/> G4/S4: apparently secure<br/> G5/S5: secure</p> <p>6. m: meters</p> |
|---|---|

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CallList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<b>Amphibians</b>									
<i>Ascaphus truei</i>	Pacific tailed frog	None	None, SSC	G4	S3S4	Aquatic, Klamath/ N. coast flowing waters, Lower montane conifer, N. coast conifer, Redwood, and Riparian forests	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats.	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	None
<i>Rana aurora</i>	northern red-legged frog	None	None, SSC	G4	S3	Klamath/N. coast flowing waters, riparian forest, riparian woodland	Humid forests, woodlands, grasslands, & streamsides in NW California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	High
<i>Rana boylei</i>	foothill yellow-legged frog	None	None, SSC	G3	S3	Aquatic, Chaparral, Cismontane woodland, coast scrub, Klamath/N. coast flowing waters, lower montane conifer forest, meadow & seep, riparian forest and woodland	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	None
<i>Rhyacotriton variegatus</i>	southern torrent salamander	None	None, SSC	G3G4	S2S3	Lower montane conifer forest, old growth, redwood forest, riparian forest.	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CallList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<b>Birds</b>									
<i>Accipiter cooperii</i>	Cooper's hawk	None	None, WL	G5	S4	Cismontane woodland Riparian forest Riparian woodland Upper montane conifer forest	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Low
<i>Accipiter striatus</i>	sharp-shinned hawk	None	None, WL	G5	S4	Cismontane woodland, lower montane conifer forest, riparian forest, riparian woodland	Ponderosa pine, black oak, riparian deciduous, mixed conifer & Jeffrey pine habitats. Prefers riparian areas.	North-facing slopes, with plucking perches are critical requirements. Nests usually within 275 ft of water.	None
<i>Ardea alba</i>	great egret	None	None	G5	S4	Brackish marsh, estuary, freshwater marsh, marsh & swamp, riparian forest, wetland	Colonial nester in large trees.	Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	High
<i>Ardea herodias</i>	great blue heron	None	None	G5	S4	Brackish marsh, estuary, freshwater marsh, marsh & swamp, riparian forest, wetland	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes.	Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	High
<i>Brachyramphus marmoratus</i>	marbled murrelet	Threatened	Endangered	G3G4	S1	Lower montane conifer forest, Oldgrowth Redwood	Feeds near-shore; nests inland along coast from Eureka to Oregon border.	Nests in old-growth redwood-dominated forests, up to 6 mi. inland, often in Douglas-fir.	None
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T	None, SSC	G3T3	S2S3	Great Basin standing waters, Sand shore, Wetland	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	High

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Charadrius montanus</i>	mountain plover	None	None, SSC	G3	S2S3	Chenopod scrub Valley & foothill grassland	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms.	Short vegetation, bare ground & flat topography. Prefers grazed areas & areas with burrowing rodents.	None
<i>Circus cyaneus</i>	northern harrier	None	None, SSC	G5	S3	Coastal scrub, Great Basin grassland, Marsh & swamp, Riparian scrub	Coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	High
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	T	E	G5T2T3	S1	Riparian forest	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.	None
<i>Egretta thula</i>	snowy egret	None	None	G5	S4	Marsh & swamp, meadow & seep, riparian forest, riparian woodland, wetland	Colonial nester, with nest sites situated in protected beds of dense tules.	Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	Moderate
<i>Elanus leucurus</i>	white-tailed kite	None	None, FP	G5	S3S4	Cismontane woodland, marsh & swamp, riparian woodland, valley & foothill grassland, wetland	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Falco columbarius</i>	merlin	None	None, WL	G5	S3S4	Estuary, Great Basin grassland, Valley & foothill grassland	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands & deserts, farms & ranches.	Clumps of trees or windbreaks are required for roosting in open country.	Moderate
<i>Falco peregrinus anatum</i>	American peregrine falcon	Delisted	Delisted, FP	G4T4	S3S4	Many open habitats, however, more likely along coastlines, lake edges, mountain edges.	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Nest consists of a scrape or a depression or ledge in an open site.	Moderate
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted	Endangered, FP	G5	S3	Lower montane conifer forest, Oldgrowth	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Moderate
<i>Icteria virens</i>	yellow-breasted chat	None	None, SSC	G5	S3	Riparian forest, Riparian scrub, Riparian woodland	Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Low
<i>Numenius americanus</i>	long-billed curlew	None	None, WL	G5	S2	Great Basin grassland Meadow & seep	Breeds in upland shortgrass prairies & wet meadows in northeastern California.	Habitats on gravelly soils and gently rolling terrain are favored over others.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	G5	S4	Marsh & swamp, riparian forest, riparian woodland, wetland	Colonial nester, usually in trees, occasionally in tule patches.	Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	Moderate
<i>Pandion haliaetus</i>	osprey	None	None, WL	G5	S4	Riparian forest	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	<b>Present</b>
<i>Pelecanus occidentalis californicus</i>	California brown pelican	Delisted	Delisted, FP	G4T3	S3	Estuaries and coastal marine habitat.	Colonial nester on coastal islands just outside the surf line.	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	High
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	G5	S4	Riparian forest, Riparian scrub, Riparian woodland	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state.	Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	High
<i>Poecile atricapillus</i>	black-capped chickadee	None	None, WL	G5	S3	Riparian woodland	Inhabits riparian woodlands in Del Norte and northern Humboldt counties.	Mainly found in deciduous tree-types, especially willows and alders, along large or small watercourses.	Moderate

**Table A-2**  
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**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Rallus longirostris obsoletus</i>	California clapper rail	Endangered	Endangered, FP	G5T1	S1	Brackish marsh Marsh & swamp Salt marsh Wetland	Salt-water & brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay.	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None
<i>Riparia riparia</i>	bank swallow	None	T	G5	S2	Riparian scrub, Riparian woodland	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	None
<i>Setophaga petechia</i>	yellow warbler	None	None, SSC	G5	S3S4	Riparian forest, Riparian scrub, Riparian woodland Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada.	Riparian plant associations in close proximity to water.	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Low
<i>Strix nebulosa</i>	great gray owl	None	Endangered	G5	S1	Lower montane conifer forest, old growth, subalpine conifer forest, upper montane conifer forest.	Resident of mixed conifer or red fir forest habitat, in or on edge of meadows.	Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Strix occidentalis caurina</i>	northern spotted owl	Threatened	SSC	G3T3	S2S3	North coast conifer forest, Oldgrowth Redwood	Old-growth forests or mixed stands of old-growth & mature trees. Occasional in younger forests with patches of big trees.	High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris & space under canopy.	None
<b>Fish</b>									
<i>Acipenser medirostris</i>	green sturgeon	T	None, SSC	G3	S1S2	Aquatic, Klamath/N. coast flowing waters, Sacramento/ San Joaquin flowing waters	The most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, & Trinity Rivers.	Spawns at temps between 8-14 °C (degrees Celsius). Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	None
<i>Entosphenus tridentatus</i>	Pacific lamprey	None	None, SSC	G4	S4	Aquatic, Klamath/N. coast flowing waters, Sacramento/ San Joaquin flowing waters, South coast flowing waters	Found in Pacific Coast streams north of San Luis Obispo Co.; however, regular runs in Santa Clara River. Size of runs is declining.	Swift-current gravel-bottomed areas for spawning with water temps between 12-18 °C. Ammocoetes need soft sand or mud.	None
<i>Eucyclogobius newberryi</i>	tidewater goby	E	None, SSC	G3	S3	Aquatic, Klamath/North coast flowing waters, Sacramento/ San Joaquin flowing waters, South coast flowing waters	Brackish water habitats along the Calif coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CallList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Oncorhynchus clarkii clarkii</i>	coast cutthroat trout	None	None, SSC	G4T4	S3	Aquatic   Klamath/North coast flowing waters	Small coastal streams from the Eel River to the Oregon border.	Small, low-gradient coastal streams & estuaries. Need shaded streams with water temps <18°C, & small gravel for spawning	None
<i>Oncorhynchus kisutch</i>	Coho salmon (S. Oregon/N. California ESU)	Threatened	Threatened	G4T2Q	S2?	Aquatic, Klamath/North coast flowing waters, Sacramento/ San Joaquin flowing waters	Fed listing refers to populations between Cape Blanco, Oregon & Punta Gorda, Humboldt County, California.	State listing refers to populations between the Oregon border & Punta Gorda, California.	None
<i>Oncorhynchus mykiss irideus</i>	summer run steelhead trout	None	None, SSC	G5T4Q	S2	Aquatic Klamath/North coast flowing waters Sacramento/San Joaquin flowing waters	No. Calif coastal streams south to Middle Fork Eel River. Within range of Klamath Mtns province DPS & No. Calif DPS.	Cool, swift, shallow water & clean loose gravel for spawning, & suitably large pools in which to spend the summer.	None
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (California coast ESU)	Threatened	None	G5	S1	Aquatic Sacramento/San Joaquin flowing waters	Federal listing refers to wild spawned, coastal, spring & fall runs between Redwood Cr, Humboldt Co & Russian R., Sonoma Co	Major limiting factor for juvenile chinook salmon is temperature, which strongly effects growth & survival.	None
<i>Spirinchus thaleichthys</i>	longfin smelt	C	T, SSC	G5	S1	Aquatic   Estuary	Euryhaline, nektonic & anadromous. Open waters of estuaries, mostly mid to bottom of water column.	Prefer salinities of 15-30 ppt <sup>5</sup> , but can be found in completely freshwater to almost pure seawater.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Thaleichthys pacificus</i>	Eulachon	Threatened	None	G5	S3	Aquatic Klamath/North coast flowing waters	Found in Klamath River, Mad River, Redwood Creek & in small numbers in Smith River & Humboldt Bay tributaries.	Spawn in lower reaches of coastal rivers with moderate water velocities & bottom of pea-sized gravel, sand & woody debris	None
<b>Insects</b>									
<i>Bombus caliginosus</i>	obscure bumble bee	None	None	G4?	S1S2	Nests underground or above ground in abandoned bird nests.	Coastal areas from Santa Barbara county to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia, and Phacelia.	Low
<i>Bombus occidentalis</i>	western bumble bee	None	None	G2G3	S1	Pollinates a wide variety of flowers. Will gnaw through flowers to obtain nectar their tongues are too short to reach.	Once common & widespread; species has declined precipitously from central CA to southern B.C., perhaps from disease.	Nest in cavities or abandoned burrows.	Moderate
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	None	None	G5T2	S2	Coastal dunes	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico.	Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<b>Mammals</b>									
<i>Arborimus albipes</i>	white footed vole	None	None, SSC	G3G4	S2	North coast coniferous forest, Redwood, Riparian forest	Mature coastal forests in Humboldt & Del Norte Cos. Prefers areas near small, clear streams with dense alder & shrubs.	Occupies the habitat from the ground surface to the canopy. Feeds in all layers & nests on the ground under logs or rock	None
<i>Arborimus pomio</i>	Sonoma tree vole	None	None, SSC	G3	S3	North coast conifer forest, old growth, redwood forest	N. coast fog belt from Oregon border to Sonoma Co. In Douglas-fir, redwood & montane hardwood-conifer forests.	Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	None
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None, SSC	G3G4	S2	Broadleaf upland forest, chaparral, lower montane conifer forest, meadow & seep, riparian forest, riparian wood-land, montane conifer forest, valley & foothill grassland	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low
<i>Martes caurina humboldtensis</i>	Humboldt marten	None	CE, SSC	G5T1	S1	North coast conifer forest, old growth, Redwood forest	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County.	Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Myotis evotis</i>	long-eared myotis	None	None	G5	S3	Roosts in a wide range of substrate.	Found in all brush, woodland & forest habitats from sea level to about 9,000 feet; prefers coniferous woodlands & forests.	Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	Moderate
<i>Pekania pennanti</i>	fisher (west coast DPS)	Prop. Threatened	Cand. Threatened, SSC	G5T2-T3Q	S2S3	North coast conifer forest, old growth, riparian forest	Intermediate to large-tree stages of conifer forests & deciduous-riparian areas with high percent canopy closure.	Uses cavities, snags, logs & rocky areas for cover & denning. Needs large areas of mature, dense forest.,	None
<b>Reptiles</b>									
<i>Emys marmorata</i>	western pond turtle	None	None, SSC	G3G4	S3	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km <sup>(6)</sup> from water for egg-laying.	None
<b>Mollusks</b>									
<i>Anodonta californiensis</i>	California floater	None	None	G3Q	S2?	Freshwater lakes and slow-moving streams and rivers. Taxonomy under review by specialists.	Aquatic	Generally in shallow water.	None

**Table A-2**  
**Regionally Occurring Special Status Animal Species Scoping List CNDDDB<sup>1</sup>, IPaC<sup>2</sup>**  
**RMT II Samoa Effluent Pipeline Project**

Scientific Name	Common Name	FedList <sup>3</sup>	CalList <sup>3</sup>	GRank <sup>4</sup>	SRank <sup>4</sup>	Habitats	GenHab	MicroHab	Potential of Occurrence
1. CNDDDB: California Natural Diversity Database								4. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)	
2. IPaC: Information, Planning, and Conservation System								G1/S1: critically imperiled	
3. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)								G2/S2: imperiled	
C: candidate				FP: fully protected				G3/S3: vulnerable	
CT: candidate threatened				PT: proposed threatened				G4/S4: apparently secure	
D: delisted				SSC: species of special concern				G5/S5: secure	
DPS: distinct population segment				T: threatened				5. ppt: parts per trillion	
E: endangered				WL: watch list				6. km: kilometer	
ESU: evolutionarily significant unit									

**Table A-3  
Botanical Species Observed 3/23/17, 3/24/17,7/26/2017  
RMTII Samoa Effluent Pipeline**

Scientific Name	Common Name	Family	Native?
<b>Trees</b>			
<i>Hesperocyparis macrocarpa</i>	Monterrey cypress	Cupressaceae	N
<i>Morella californica</i>	California wax-myrtle	Myricaceae	Y
<i>Picea sitchensis</i>	Sitka spruce	Pinaceae	Y
<i>Pinus contorta</i> ssp. <i>contorta</i>	beach pine	Pinaceae	Y
<i>Pinus radiata</i>	Monterrey pine	Pinaceae	N
<i>Salix hookeriana</i>	dune willow	Salicaceae	Y
<b>Shrubs</b>			
<i>Baccharis pilularis</i>	coyote brush	Asteraceae	Y
<i>Ceanothus joyce coulter</i>	California lilac (Cultivar)	Rhamnaceae	N
<i>Cistus incanus</i>	hairy rock rose (Cultivar)	Cistaceae	N
<i>Cotoneaster lacteus</i>	milkflower cotoneaster	Rosaceae	N
<i>Cytisus scoparius</i>	scotch broom	Fabaceae	N
<i>Escallonia rubra</i>	escallonia cultivar	Grossulariaceae	N
<i>Garrya elliptica</i>	coast silk tassel	Garryaceae	Y
<i>Juniperus chinensis</i>	landscape juniper	Cupressaceae	N
<i>Lonicera involucrata</i>	twinberry	Caprifoliaceae	Y
<i>Lupinus arboreus</i>	yellow bush lupine	Fabaceae	N
<i>Rubus armeniacus</i>	Himalayan blackberry	Rosaceae	N
<i>Rubus ursinus</i>	California blackberry	Rosaceae	Y
<i>Ulex europaeus</i>	gorse	Fabaceae	N
<b>Ferns and Allies</b>			
<i>Polypodium scolieri</i>	leatherleaf fern	Polypodiaceae	Y
<i>Polystichum munitum</i>	sword fern	Dryopteridaceae	Y
<b>Sedges and Rushes</b>			
<i>Carex obnupta</i>	slough sedge	Cyperaceae	Y
<i>Carex subbracteata</i>	small bract sedge	Cyperaceae	Y
<i>Cyperus eragrostis</i>	tall flatsedge	Cyperaceae	Y
<i>Juncus bufonius</i>	toad rush	Juncaceae	Y
<i>Juncus effuses</i>	common rush	Juncaceae	Y
<i>Juncus breweri</i>	brewer's rush	Juncaceae	Y
<i>Luzula comosa</i>	common woodrush	Juncaceae	Y
<b>Grasses</b>			
<i>Agrostis exarata</i>	spike bentgrass	Poaceae	Y
<i>Agrostis stolonifera</i>	creeping bentgrass	Poaceae	N
<i>Ammophila arenaria</i>	European beachgrass	Poaceae	N
<i>Anthoxanthum odoratum</i>	sweet vernal grass	Poaceae	N
<i>Briza maxima</i>	large quaking grass	Poaceae	N
<i>Bromus catharticus</i>	rescue grass	Poaceae	N
<i>Cortaderia jubata</i>	pampus grass	Poaceae	N
<i>Cynosurus echinatus</i>	annual dogtail grass	Poaceae	N
<i>Dactylis glomerata</i>	orchard grass	Poaceae	N

**Table A-3  
Botanical Species Observed 3/23/17, 3/24/17, 7/26/2017  
RMTII Samoa Effluent Pipeline**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Family</b>	<b>Native?</b>
<i>Festuca arundinacea</i>	tall fescue	Poaceae	N
<i>Festuca bromoides</i>	brome fescue	Poaceae	N
<i>Festuca microstachys</i>	small fescue	Poaceae	Y
<i>Festuca rubra</i>	red fescue	Poaceae	Y
<i>Holcus lanatus</i>	velvet grass	Poaceae	N
<i>Phalaris arundinacea</i>	Canary reedgrass	Poaceae	N
<i>Poa annua</i>	annual grass	Poaceae	N
<b>Herbs</b>			
<i>Abronia latifolia</i>	coastal sand verbena	Nyctaginaceae	Y
<i>Achillea millefolium</i>	common yarrow	Asteraceae	Y
<i>Acmispon americanus</i>	American bird-foot trefoil	Fabaceae	Y
<i>Agapanthus africanus</i>	lily of the Nile	Liliaceae	N
<i>Allium triquetrum</i>	three cornered leek	Alliaceae	N
<i>Ambrosia chamissonis</i>	beach bur	Asteraceae	Y
<i>Armeria maritima</i>	thrift seapink	Plumbaginaceae	Y
<i>Artemisia douglasiana</i>	mugwort	Asteraceae	Y
<i>Barbarea sp.</i>	wintercress	Brassicaceae	N
<i>Calandrinia menziesii</i>	red maids	Montiaceae	Y
<i>Camissoniopsis cheiranthifolia</i>	beach evening primrose	Onagraceae	Y
<i>Cardamine oligosperma</i>	bittercress	Brassicaceae	Y
<i>Cardionema ramosissimum</i>	sand mat	Caryophyllaceae	Y
<i>Carpobrotus chilensis</i>	seafig	Aizoaceae	N
<i>Carpobrotus edulis</i>	iceplant	Aizoaceae	N
<i>Cerastium glomeratum</i>	mouseear chickweed	Caryophyllaceae	N
<i>Chamerion angustifolia</i>	fireweed	Onagraceae	Y
<i>Cirsium vulgare</i>	bullthistle	Asteraceae	N
<i>Claytonia perfoliata</i> ssp. <i>perfoliata</i>	miner's lettuce	Montiaceae	Y
<i>Daucus carota</i>	Queen Anne's lace	Apiaceae	N
<i>Epilobium ciliatum</i>	fringed willowherb	Onagraceae	Y
<i>Eriogonum latifolium</i>	coast buckwheat	Polygonaceae	Y
<i>Erodium cicutarium</i>	coastal heron's bill	Geraniaceae	N
<i>Euphorbia peplus</i>	petty spurge	Euphorbiaceae	N
<i>Fragaria chiloensis</i>	beach strawberry	Rosaceae	Y
<i>Geranium dissectum</i>	cutleaf geranium	Geraniaceae	Y
<i>Geranium robertianum</i>	Robert's geranium	Geraniaceae	N
<i>Grindelia stricta</i>	coastal gumweed	Asteraceae	Y
<i>Hedera helix</i>	English ivy	Araliaceae	N
<i>Hirschfeldia incana</i>	hoary mustard	Brassicaceae	N
<i>Hyacinthus orientalis</i>	Hyacinth (cultivar)	Liliaceae	N
<i>Hypericum perforatum</i>	Klamath weed	Hypericaceae	N
<i>Hypochaeris radicata</i>	hairy cats-ear	Asteraceae	N
<i>Lamium amplexicaule</i>	henbit	Lamiaceae	N
<i>Linum bienne</i>	flax	Linaceae	N
<i>Lotus corniculatus</i>	birds foot trefoil	Fabaceae	N
<i>Madia sativa</i>	coast tarweed	Asteraceae	Y

**Table A-3  
Botanical Species Observed 3/23/17, 3/24/17, 7/26/2017  
RMTII Samoa Effluent Pipeline**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Family</b>	<b>Native?</b>
<i>Malva parviflora</i>	cheeseweed mallow	Malvaceae	N
<i>Medicago lupulina</i>	black medick	Fabaceae	N
<i>Medicago polymorpha</i>	bur-clover	Fabaceae	N
<i>Melilotus albus</i>	white sweet clover	Fabaceae	N
<i>Mentha pulegium</i>	pennyroyal	Lamiaceae	N
<i>Oxalis pes-caprae</i>	Bermuda buttercup	Oxalidaceae	N
<i>Parentucellia viscosa</i>	yellow glandweed	Orobanchaceae	N
<i>Piperia transversa</i>	royal rein orchid	Orchidaceae	Y
<i>Plantago coronopus</i>	cutleaf plantain	Plantaginaceae	N
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	N
<i>Platystemon californicus</i>	creamcups	Papaveraceae	Y
<i>Polygonum paronychia</i>	dune knotweed	Polygonaceae	Y
<i>Pseudognaphalium beneolens</i>	cudweed	Asteraceae	Y
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	Asteraceae	N
<i>Raphanus sativus</i>	wild radish	Brassicaceae	N
<i>Rumex acetosella</i>	sheep sorrel	Polygonaceae	N
<i>Rumex crassus</i>	willow-leaved dock	Polygonaceae	Y
<i>Rumex crispus</i>	curly dock	Polygonaceae	N
<i>Senecio vulgaris</i>	common groundsel	Asteraceae	N
<i>Silene gallica</i>	common catchfly	Caryophyllaceae	N
<i>Solidago spathulata</i>	dune goldenrod	Asteraceae	Y
<i>Sonchus asper</i>	spiny sow-thistle	Asteraceae	N
<i>Stachys chamissonis</i>	coast hedge nettle	Lamiaceae	Y
<i>Symphotrichum chilense</i>	pacific aster	Asteraceae	Y
<i>Taraxacum officinale</i>	dandelion	Asteraceae	N
<i>Trifolium hybridum</i>	alsike clover	Fabaceae	N
<i>Triphysaria pusilla</i>	dwarf owl's clover	Orobanchaceae	Y
<i>Vicia sativa</i>	spring vetch	Fabaceae	N
<i>Vicia villosa</i> ssp. <i>villosa</i>	hairy vetch	Fabaceae	N
<i>Vinca major</i>	bigleaf periwinkle	Apocynaceae	N
<i>Zantedeschia aethiopica</i>	calla lily	Araceae	N
<i>Zeltnera muehlenbergii</i>	Muehlenberg's centaury	Gentianeae	Y
<b>113 Species</b>			<b>42% Native</b>

**Table A-4**  
**Animal Species Observed 3/23/17, 3/24/17,7/26/2017**  
**RMTII Samoa Effluent Pipeline**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Family</b>	<b>Nesting Habit</b>	<b>Listed?</b>
<b>Birds</b>				
<i>Callipepla californica</i>	California quail	Odontophoridae	Hides nest on the ground amid grasses, shrubs.	NL
<i>Calypte anna</i>	Anna's hummingbird	Trochilidae	Horizontal branches, open woodlands	NL
<i>Chamaea fasciata</i>	wrenit	Paradoxornithidae	In dense vegetation, 1-9 feet high.	NL
<i>Corvus corax</i>	raven	Corvidae	Cliffs, trees, and structures	NL
<i>Empidonax difficilis</i>	pacific slope flycatcher	Tyrannidae	Cavity nester in densely vegetated woodlands	NL
<i>Melospiza melodia</i>	song sparrow	Emberizidae	In grasses/weeds usually on the ground.	NL
<i>Pandion haliaetus</i>	osprey	Pandionidae	In open areas on a wide sturdy support.	WL
<i>Petrochelidon pyrrhonota</i>	cliff swallow	Hirundinidae	mud nests on structures near water.	NL
<i>Poecile rufescens</i>	chestnut backed chickadee	Paridae	Cavity nester, variety of woodland sites	NL
<i>Sturnella neglecta</i>	western meadowlark		On the ground shielded by dense vegetation	NL
<b>Mammals</b>				
<i>Felis catus</i>	house cat	Felidae	N/A	NL

**B**

**Site Photographs**



**Photo B-1:** Coastal dune hollow, with two S3 vegetation communities present. Note Wax Myrtle Shrubland Alliance on the Left and Coastal dune willow thicket on the right. Photo taken 3/23/2017.



**Photo B-2:** Coastal dune willow thicket transition to upland Coyote brush shrubland alliance. Note adjacent non-native grassland and former industrial area to the right. Photo taken 3/23/2017.



**Photo B-3:** Site conditions looking north. (Photo taken to the west of the recycling facility). Note former industrial lands to the right and California blackberry thicket at a distance in the left hand side of the photo. Photo taken 3/24/2017.



**Photo B-4:** Typical conditions within the project area. Samoa effluent pipeline proposed to be placed between Vance Avenue (left) and the railroad. Photo taken 3/23/2017.



**Photo B-5:** Typical conditions within the south end of the project area. Note developed area and non-native dominated grassland (Photo looking east). Photo taken 3/23/2017.





Photo B-6: Typical vegetation within the project area. Note low growing non-native grasses over compacted gravel. *Oenothera glazioviana* stalk is in foreground.

Photo taken 3/23/2017.

**C**

**National Wetlands Inventory**



U.S. Fish and Wildlife Service  
National Wetlands Inventory



March 2, 2017

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

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