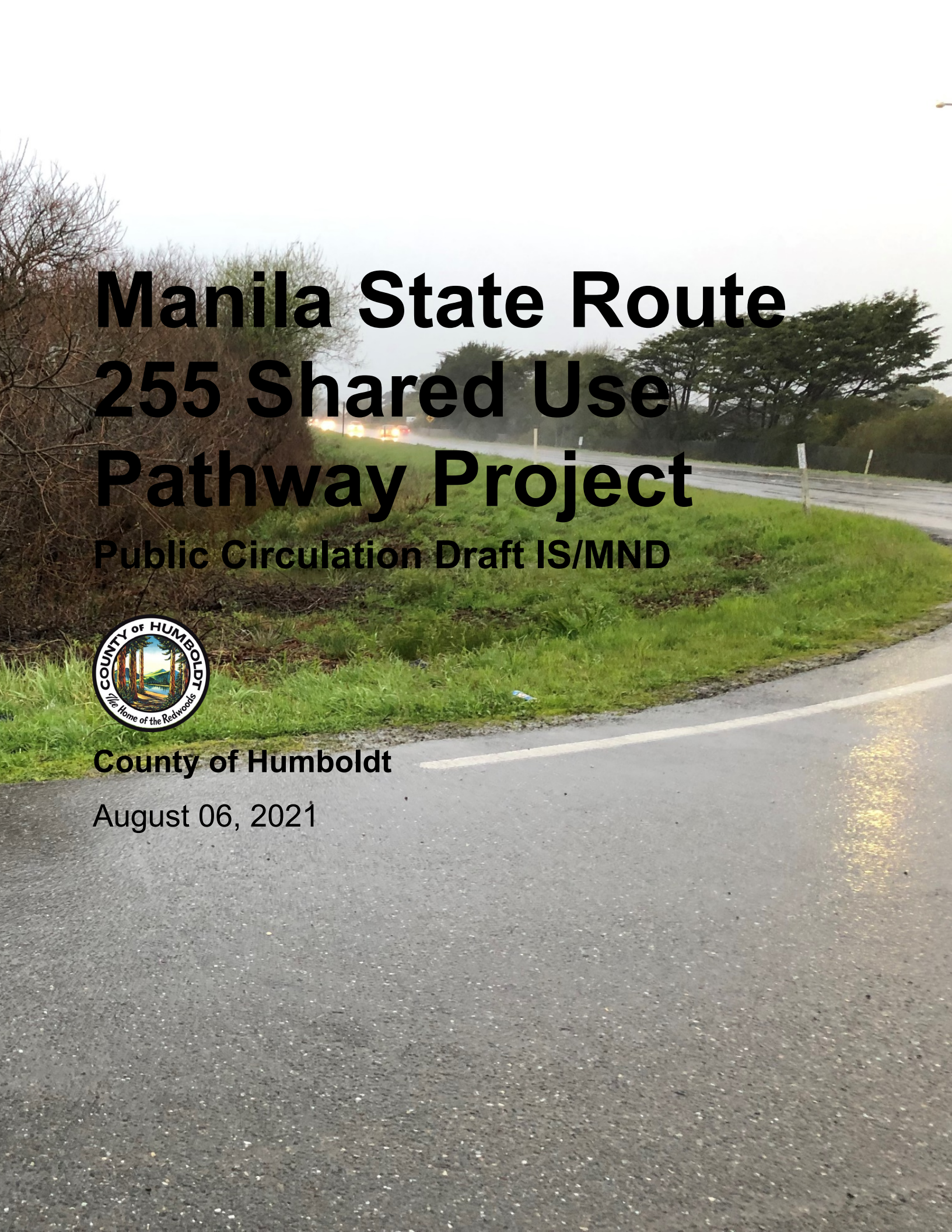


Manila State Route 255 Shared Use Pathway Project

Public Circulation Draft IS/MND

County of Humboldt

August 06, 2021

Public Circulation Draft IS/MND

Manila State Route 255 Shared Use Pathway Project

Prepared for:

Humboldt County Department of Public Works
1106 2nd Street
Eureka, CA 95501

T 707.445.7741 | **website** https://humboldtgov.org/1392/Public-Works

Prepared by:

718 3rd Street
Eureka, CA 95501, United States
T +1 707 267 2279 | **E** andrea.hilton@ghd.com | **ghd.com**

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Project manager	Andrea Hilton
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1. Introduction

The Manila State Route (SR) 255 Shared Use Pathway Project (Project) is a collaborative project between the Humboldt County Department of Public Works, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District (MCSD). The Project is intended to provide a Class I Bikeway (also known as shared use pathway or multi-use trail) for non-motorized use along the west side of SR 255, starting near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating just north of the Carlson Drive intersection (Post Mile 4.24). The facility would conform to the Class I Bikeway standards in Chapter 1000 of the Highway Design Manual. The Project includes on-site wetland creation in upland areas adjacent to the proposed pathway and in open space along SR 255 within Caltrans right of way (ROW) between Post Mile 3.45 and 3.58(Figure 2 – Project Area).

2. Purpose and Need

The purpose of the Project is to improve safety for non-motorized and motorized travelers in Manila and increase the use of active modes of transportation. The Project would have additional benefits including enhanced coastal access, enhanced opportunities for recreation and nature study, and heightened driver awareness of the community. SR 255 runs through the center of Manila and is classified as an expressway with a posted speed limit of 55 miles per hour. The roadway consists of two 12-foot-wide vehicle travel lanes with shoulders ranging from four to eight feet wide. The average width of the Caltrans ROW is 140 feet. The Project is needed because SR 255 through Manila is an incomplete transportation facility that was designed primarily to support motorized vehicles. Many Manila residents do not feel comfortable walking or biking on the shoulder of the highway due to safety concerns. The Project is intended to be an important incremental step towards connecting neighborhoods and improving opportunities for non-motorized transportation and recreation within Manila.

The Manila Community Transportation Plan was initially developed in 2003 (Phase I) and then amended in 2005 (Phase II). Following this planning work, Caltrans developed a State Route 255 Engineered Feasibility Study Report in 2013 to explore concepts for non-motorized traffic improvements and transportation enhancements, including traffic calming and intersection improvements. The 2013 report identified a range of options for improving safety, accessibility, and mobility along SR 255 through Manila. Caltrans implemented certain measures such as radar feedback signs and optical speed bars using readily available funding, but larger capital projects require specific funding sources. A Class I Bikeway was identified as a viable non-motorized transportation improvement. According to the 2013 report, intersection improvements such as roundabouts, traffic signals, or all-way stops could not be pursued at that time due to a variety of factors including prevailing speeds, accident history, and Caltrans policy.

In 2014, Caltrans, Humboldt County, and MCSD agreed to collaborate on a project to develop a Class I Bikeway along SR 255 and identified the Active Transportation Program (ATP) as a target funding source. Humboldt County agreed to serve as the funding applicant because at that time Caltrans was not eligible to be an applicant to ATP. One of the considerations for prioritizing the Project is that Manila is an economically disadvantaged community with longstanding concerns about the impacts of SR 255 on traffic safety and how the highway divides the community and disconnects neighborhoods. Caltrans completed a design study which identified potential trail alignments on the west side of SR 255 connecting Dean Street/Pacific Avenue, Lupin Avenue, and Carlson Road. The three agencies along with Redwood Community Action Agency solicited public input on project selection during an MCSD meeting (March 11, 2015) and workshop (April 8, 2015) and by circulating a community questionnaire and developing a survey for families attending Redwood Coast Montessori. In June 2015, Humboldt County applied for funding from the Active Transportation Program (ATP) to design and construct the Project. The Project was awarded funding by the California Transportation Commission in 2016 and technical studies began in 2017. The project is included in the 2017 Humboldt County Regional Transportation Plan (HCAOG 2017). In 2018, Humboldt County and Caltrans executed a Cooperative Agreement which identifies the roles and responsibilities of each agency for delivering the Project.

Humboldt County is the implementing agency responsible for design, permitting, ROW, and construction and Caltrans will be responsible for ongoing maintenance.

3. Project Location

The Project is in unincorporated Humboldt County along SR 255 (a western alternate to U.S. Highway 101 [US 101]), between Post Mile 3.45 and 4.24 in the community of Manila, California (Figure 1 – Vicinity Map). The Project is in Section 34 of Township 6 North and Section 3 of Township 5 North, Range 1 West of the Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The northern and southern boundaries of the Project are located at latitude 40°51'20.1" N and longitude 124°9'42.7" W and latitude 40°50'41.3" N and longitude 124° 9'59.7" W, respectively. The elevation within the Project Area ranges from approximately 17 to 25 feet above mean sea level. The Project can be accessed from Eureka by taking the SR 255 exit from US 101, crossing the Samoa Bridge, and heading north along SR 255 for approximately 1.6 miles. From Arcata, the Project can be accessed by taking the SR 255 exit from US 101 and heading west towards Manila for 4.6 miles (Figure 1 – Vicinity Map). Please see Appendix D – Site Photos for representative photographs of the Project Area.

4. Project Information

Project Title	Manila State Route 255 Shared Use Pathway Project
Lead Agency Name & Address	County of Humboldt Planning & Building Department 3015 H Street Eureka, CA 95501
Contact Person & Phone Number	Trevor Estlow (707) 268-3740 testlow@co.humboldt.ca.us
Project Location	Manila, CA
General Plan Land Use Designation	N/A; Caltrans Right of Way
Zoning	N/A; Caltrans Highway Right of Way

4.1 CEQA Requirements

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the County of Humboldt (County). The purpose of this Initial Study is to analyze potential environmental impacts and provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration. This Initial Study is intended to satisfy the requirements of CEQA (Public Resources Code [PRC], Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts.

Section 15063(d) of the State CEQA Guidelines states the content requirements of an Initial Study as follows:

1. A description of the project including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;

4. A discussion of the ways to mitigate the significant effects identified, if any;
5. An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
6. The name of the person or persons who prepared or participated in the Initial Study.

4.2 Project Description

The Project is intended to provide non-motorized transportation and recreational access in Manila via a Class I Bikeway (shared use pathway). SR 255 has no developed facilities for bicycles or pedestrians and the drainage ditches on both sides of the highway force non-motorized users to travel on the highway shoulder. The Project would link critical activity centers within the community, including schools and residential areas.

The Project would provide a shared use pathway along the west side of SR 255 beginning near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating approximately 250 feet north of the Carlson Drive intersection (Post Mile 4.24; Figure 1 – Vicinity Map). The pathway would provide a non-motorized alternative to SR 255, link neighborhoods, and enhance access for users. The pathway would be designed as a paved, 10-foot-wide surface with two, two-foot wide, shoulders, situated at least five feet from the edge of a standard eight-foot wide shoulder along SR 255. The pathway alignment would balance separation from vehicular traffic to provide for the best user experience, and to accommodate highway operations and maintenance activities, with the competing goal of minimizing impacts to environmentally sensitive habitat areas. Crosswalks would be provided at the Pacific Avenue, Lupin Avenue, and Carlson Drive pathway-road crossings. The pathway's edge of shoulder would generally be at least 30 feet from the edge of traveled way along SR 255 (i.e., outside the clear recovery zone for an expressway), with the exception of areas near the three intersections and crosswalks (Figure 2 – Project Area).

The Project includes intersection and pedestrian safety improvements along Pacific Avenue, including sidewalk, curb ramps, and a crosswalk. The Project would include streetlight installation at the southern trail terminus at the Pacific Avenue intersection to enhance visibility at night.

The Project would complement pedestrian improvements recently completed by Humboldt County, Redwood Community Action Agency, and the Peninsula Community Collaborative on Peninsula Drive near Pacific Avenue. These improvements included widening the shoulder of Peninsula Drive between Pacific Avenue and the Manila Community Center/Redwood Coast Montessori School to create more separation between pedestrians and cyclists and vehicles. The improvements also included placement of a speed hump, crosswalk, and signage in front of the Manila Community Center/Redwood Coast Montessori School to improve safety to the existing bus stop on the opposite side of Peninsula Drive, as well as general pedestrian safety during roadway crossings. Project users would be able to access these pedestrian improvements along Peninsula Drive from the shared use pathway, enabling safer access along Peninsula Drive between Pacific Avenue and the Manila Community Center, including the dunes and beach commonly accessed from the Manila Community Center.

The Caltrans ROW within the Project area includes depressions in the ground surface which hold water during portions of the winter season and exhibit wetland characteristics for soil, hydrology, and/or vegetation. The primary wetland types are emergent wetlands containing herbaceous vegetation and scrub-shrub wetlands containing broad-leaf woody vegetation. Wetlands with herbaceous vegetation are regularly mowed by Caltrans. Wetlands with scrub-shrub vegetation are periodically cut back by Caltrans to limit encroachment into open space. The Project will impact 0.77 acres of delineated wetlands (see Section 7.4). The Project includes up to approximately 0.92 acres of on-site wetland establishment within the Caltrans ROW between Post Mile 3.45 and 3.58 (south of the intersection with Pacific Avenue) and between Post Mile 3.64 and 4.24 (areas adjacent to the proposed shared use pathway) to off-set these impacts. The types of created wetlands would be similar to the existing wetland types within the Project area. Additional mitigation would be located off-site at the California Department of Fish and Wildlife (CDFW) Fay Slough Wildlife Area, under an established mitigation bank developed in 1992. As the wetlands in the mitigation bank have already been developed, no additional construction would be required at an off-site location.

4.2.1 Project Elements

The Project is being designed to achieve the standards of a Class I Bikeway in accordance with the Caltrans Highway Design Manual (2020). In addition, the Project is being designed to conform to other applicable standards, including the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, Fourth Edition (2018); California Manual of Uniform Traffic Control Devices (CA MUTCD; 2020); and the 2010 Americans with Disabilities Act (ADA) Standards for Accessibility Design.

The Project is being designed to accommodate the expected volume and diversity of users, which includes a range of ages, experience levels, speeds, trip purposes, and mobility modes. As described in more detail below, the Project includes a multi-use trail, sidewalk and curb ramps, lighting, signage, drainage improvements, and safety railings. Particular constraints within the trail alignment may warrant adjustments to the standards to address site specific issues. Please see Appendix E for the complete 90% design planset.

Class I Multi-Use Trail

The standard trail would consist of a 10-foot wide asphalt traveled way with two, two-foot wide, gravel shoulders on each side. A narrower trail width may be utilized in isolated areas in special situations where it is not practical to maintain the standard width. In accordance with Class I and accessibility standards, the trail would be designed with a two percent or less cross slope and a five percent or less running slope.

The trail is anticipated to have a typical pavement structural section that has approximately 6 inches of aggregate base and approximately 4.2 inches of asphalt concrete. In areas of poor soils, the structural section may be increased to up to three-feet of aggregate/engineered fill base or other soil stabilization measures such as the use of geotextiles and increased structural section depth.

Sidewalk, Curb Ramps and Retaining Structures

The Project includes a concrete curb, gutter, and sidewalk along the north side of Pacific Avenue in addition to new curb ramps and crosswalks to the intersection of Pacific Avenue and Peninsula Drive. The sidewalk and curb ramps would be at least six feet wide and constructed of four- to six-inch thick reinforced concrete placed over four to six inches of compacted aggregate base.

A cast-in-place concrete retaining wall would be used at the back of the sidewalk on Pacific Avenue in order to limit encroachment into the existing drainage ditch which is located between the roadway and fence line. The retained height of the wall would be less than 36 inches. Where required, safety railing would be installed at the top of retaining structure.

Lighting

The Project includes streetlight installation at the southern trail terminus at Dean Street/Pacific Avenue intersection to enhance visibility at night. Lighting would be designed to protect wildlife and nighttime views, including views of the night sky. This design goal would be satisfied using a variety of means as applicable, including fixture types, cut off angles, lamp arm extensions, and pole heights. Specific design preferences include directing light downward and away from other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and directing lighting away from sensitive habitat areas.

Wayfinding and Interpretive Signage

Directional/wayfinding signage would be installed at regular intervals to inform trail users of nearby connections to surface streets and nearby destinations. Interpretive signs would be placed at specific locations and would encourage an appreciation of the environment and the socio-cultural history of the area by providing opportunities for nature and cultural study. The interpretive signs would include information regarding local habitats and cultural/historical sites. Specific locations for wayfinding and interpretive signage would be determined later in the design process.

Striping, Signage and Vehicle Control

The shared use pathway would include a centerline stripe throughout or at specific locations only, such as intersections. Standard trail-related traffic-control signage would be installed to comply with Class I standards and MUTCD requirements. At locations where the trail intersects a vehicular roadway, bollards or similar control features would be installed to discourage motorized vehicles from entering the trail. Authorized personnel (e.g., police, emergency-responders, maintenance crews, etc.) would be able to remove the bollards and temporarily access some portions of the trail with motorized vehicles.

Drainage

The shared use pathway I would be designed to maintain existing drainage patterns and not exacerbate existing drainage conditions. Project improvements are not intended to improve or correct existing drainage characteristics. The trail would typically have a two percent or less cross slope to allow surface water to flow off the trail surface. In cases where the trail's fill prism (elevated median upon which the trail is constructed) encroaches into the existing drainage ditch, the drainage ditch may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position. Cross drains or culverts under the trail or boardwalk crossings would be located at low spots in the topography to convey surface drainage through the trail prism.

Railings and Fencing

Safety railing and fencing would be included along retaining walls and at the edge of the trail when adjacent to drop-offs or steep embankments. The railing and fencing would be constructed from wood or metal material, and may include chain link, cable, or picket style fencing. The fencing would not be continuous, as to avoid a migration barrier to wildlife.

Wetland Creation

The Project includes on-site wetland establishment within the Caltrans ROW between Post Mile 3.45 and 3.58 (south of the intersection with Pacific Avenue) and between Post Mile 3.64 and 4.24 (areas adjacent to the proposed trail; Figure 3 – On-site Wetland Creation Areas) to offset 0.77 acres of unavoidable impacts to wetlands within the project area due to trail construction. A total of approximately 0.92 acres of wetlands would be established on-site (i.e., at a ratio of 1.2:1). Additional groundwater data would be obtained and used to inform wetland design grading depths to ensure wetland hydrology criteria are met. The criterion for meeting wetland hydrology, as defined by the U.S. Army Corps of Engineers (USACE), is flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days (USACE 2010). Wetlands would be established by excavating to a target elevation and planting wetland plants or seed. Anticipated established wetland types include palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands. The relative amounts of each wetland types generally correspond with the existing wetlands that will be impacted. Palustrine emergent wetlands would be established closest to the existing highway and proposed trail. Palustrine scrub-shrub and coastal willow wetlands would be set back from the highway and trail shoulders in order to reduce the potential for vegetation encroaching on the facilities, and thus reducing the need for regular vegetation maintenance.

Additional wetland mitigation would be achieved at a ratio of 4:1 by debiting 3.1 acres of mitigation credit from the existing mitigation bank associated with the CDFW Fay Slough Wildlife Area, for a total Project mitigation ratio of 5.2:1. Off-site construction would not be required to create or enhance off-site wetlands for mitigation purposes.

4.2.2 Project Construction

Construction Schedule

Construction is anticipated to occur between April and October, with the exception of vegetation clearing, which may occur during outside the bird nesting season, from 17 August to 13 March. Work near wetlands would only occur during the dry season between May and October. Anticipated daytime work hours are 7:00 a.m. to 7:00 p.m., Monday

through Friday with occasional work on Saturdays. Construction on Sunday or legal and county holidays is not currently anticipated except for emergencies or with prior approval from the County. Construction of the Project is expected to require approximately 80 working days to complete and would occur in 2022 and/or 2023.

Construction Staging, Activities and Equipment

Construction staging areas would be located within the Project footprint, or within paved, graveled, or designated, previously disturbed areas. Access and staging areas are shown in Figure 4.

Construction would primarily include removal of trees and vegetation, excavation and grading, trail paving, and placement of signage along the Project alignment. Excavation and grading associated with wetland creation areas and piezometer installation for future groundwater monitoring would occur concurrent with trail construction. All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices (BMPs).

Trail construction would include the following activities:

– Clearing and Grubbing – To clear trees, vegetation, and soil from the proposed trail footprint
– Excavation and Grading – Primarily at shallow excavations to maintain trail grades; installation of culverts and drainage improvements; creation of wetland mitigation area; piezometer installation for future groundwater monitoring of wetland creation areas.
– Embankment – Fill to maintain trail grades through low areas
– Aggregate Base – For trail shoulders and to support asphalt and concrete paving
– Retaining Walls – To limit encroachment into drainage ditches
– Boardwalk Crossings – To convey drainage runoff
– Concrete Curbs, Gutters, Sidewalks and Curb Ramps
– Asphaltic Concrete Paving – For trail surface
– Bollards and Railings
– Trail Striping and Signage

Equipment required for trail construction would include tracked excavators, backhoes, graders, loaders, bulldozers, dump trucks, rollers, paving machines, water trucks, cranes, and pick-up trucks.

It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for construction.

Construction Access and Hauling Traffic

The anticipated haul truck routes to the Project Area include SR 255 from the north and south from US 101. The number of construction-related vehicles traveling to and from the Project Area would vary on a daily basis. It is anticipated that up to 30 haul truck round trips would occur on a peak day. In addition, it is anticipated that construction crew trips would require up to eight round trips per day. Therefore, for the purposes of analysis, on any one day during construction, up to 38 vehicular round trips could occur.

Traffic Control

In accordance with jurisdictional requirements, the construction contractor would be required to obtain an encroachment permit from the County, and Caltrans, prior to beginning the work within their respective ROWs. As part of the encroachment permit process, the construction contractor would be required to prepare a traffic control plan for review and acceptance of planned work within the public ROW. The development and implementation of a traffic control plan would include, but not necessarily be limited to, temporary traffic control systems, delineators, signs, and flaggers in accordance with the current CA MUTCD and Caltrans Standard Plans.

Dewatering

If needed, temporary dewatering would be conducted to provide a dry work area. Dewatering would involve pumping water out of a trench or excavation. Water would typically be pumped to a settling tank or into a dewatering bag. Discharge water from tanks or bags would not be discharged into wetlands or any water bodies.

Planting of Wetland Creation Areas

Planting of wetland creation areas would follow the wetland creation design for the Project, which includes a planting pallet, spacing requirements, and other specifications, consistent with the Project's Habitat Mitigation and Monitoring Plan. Planting pallets and specifications are specific to palustrine emergent, palustrine scrub, and one-parameter coastal willow wetland types. Native small-fruit bulrush (*Scirpus microcarpus*), slough sedge (*Carex obnupta*), Pacific silverweed (*Argentina egedii*), San Francisco rush (*Juncus lescurii*), coastal willow (*Salix hookeriana*), Pacific willow (*Salix lasiandra* var. *lasiandra*), California wax myrtle (*Morella californica*), and other appropriate native species would be planted per wetland creation design specifications and the Habitat Mitigation and Monitoring Plan. As is standard for revegetation, seasonally appropriate planting would be completed in the late fall and winter months following the close of Project construction in mid-October, to maximize plant survival during naturally wet conditions. A wetland edge seed mix would be spread immediately following planting over a total area of approximately 1 acre. The seed mix would include Pacific American-aster (*Symphyotrichum chilense*), Pacific rush (*Juncus effusus* ssp. *pacificus*), bulrush, red fescue (*Festuca rubra*), and slough sedge or similar species, at a total quantity of approximately 60 pounds per acre.

Site Restoration and Demobilization

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas along the Project alignment would be restored to pre-construction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, rock, and other plantings/vegetation.

4.3 Operation and Maintenance

The trail would be used for non-motorized transportation and recreation, including but not limited to walking, bicycling, running, skateboarding, roller skating, dog-walking, and nature study.

Following construction, general trail operation and maintenance activities associated with the proposed trail would include annual inspections, trash/debris removal, vegetation management, repaving, and painting. In the event of storm damage, more significant repairs to the trail facilities may be needed on occasion.

5. Other Requirements and Considerations

5.1 Avoidance and Minimization Measures

The Project has been designed to be the least environmentally damaging feasible alternative, including consideration of impacts to delineated wetlands. The Project design avoids wetland impacts to the greatest extent feasible by designing the pathway on uplands (non-wetlands) where possible and reducing the construction footprint and trail prism where wetlands are present to the extent allowable by engineering standards. Measures to minimize environmental impacts include the following:

– Side-slopes for the side of the trail prism facing SR 255 are designed at a slope of 3:1 to conform with the Caltrans Highway Design Manual. Side-slopes for the side opposite of SR 255 are designed moderately steeper, with a slope of 2.5:1, to minimize impacts to sensitive areas and to maximize the space available for on-site wetland creation.

– Grading and planting of the on-site created wetlands would be concurrent with trail construction to minimize temporal loss of habitat function.
– The on-site created wetlands would be vegetated with native plant species which will enhance the ecological value and function compared to the primarily non-native species within the wetlands that will be impacted by the Project.
– At three locations, a concrete boardwalk (five-feet wide) would be incorporated into the pathway to facilitate drainage and enhance connectivity through the trail prism.

During the preliminary design development, the option of an elevated boardwalk through delineated wetlands was considered through a screening-level assessment and determined to be economically infeasible. Utilization of a boardwalk in place of a fill prism through wetland areas would approximately double the total construction cost of the Project, from $1.5 million to $3 million. Due to the major difference in cost the boardwalk option was rejected. Boardwalks may be the only technically feasible option in environments that are regularly or frequently inundated with water, such as for the Eureka Waterfront Trail behind Target where the trail needed to traverse an intertidal portion of Humboldt Bay. However, developing trails with fill prisms is standard practice in inland areas with seasonal wetlands.

Aligning the trail closer to shoulder of SR 255 was determined to be infeasible, because it would conflict with Caltrans' Clear Recovery Zone requirements. Increased separation between the SR 255 and the trail would also enhance safety and improve the quality of experience on the trail.

During construction, the Project would seek coverage under State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The County would submit permit registration documents (notice of intent [NOI], risk assessment, site maps, Storm Water Pollution Prevention Plan [SWPPP], annual fee, and certifications) to the Water Board. The SWPPP would address pollutant sources, BMPs, and other requirements specified in the Order. The SWPPP would include erosion and sediment control measures, dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner would oversee implementation of the Project SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance. With the implementation of these required SWPPP provisions, impacts to water quality would be avoided.

Operationally, the Project would comply with Caltrans' requirements for stormwater runoff and management.

5.2 Required Agency Approvals

The Project would require the following agency approvals:

– Compliance with CEQA and the National Environmental Policy Act (NEPA)
– USACE Clean Water Act (CWA) Section 404 Permit
– NCRWQCB CWA Section 401 Water Quality Certification
– Humboldt County Coastal Development Permit

5.3 Mitigation, Monitoring, and Reporting Program

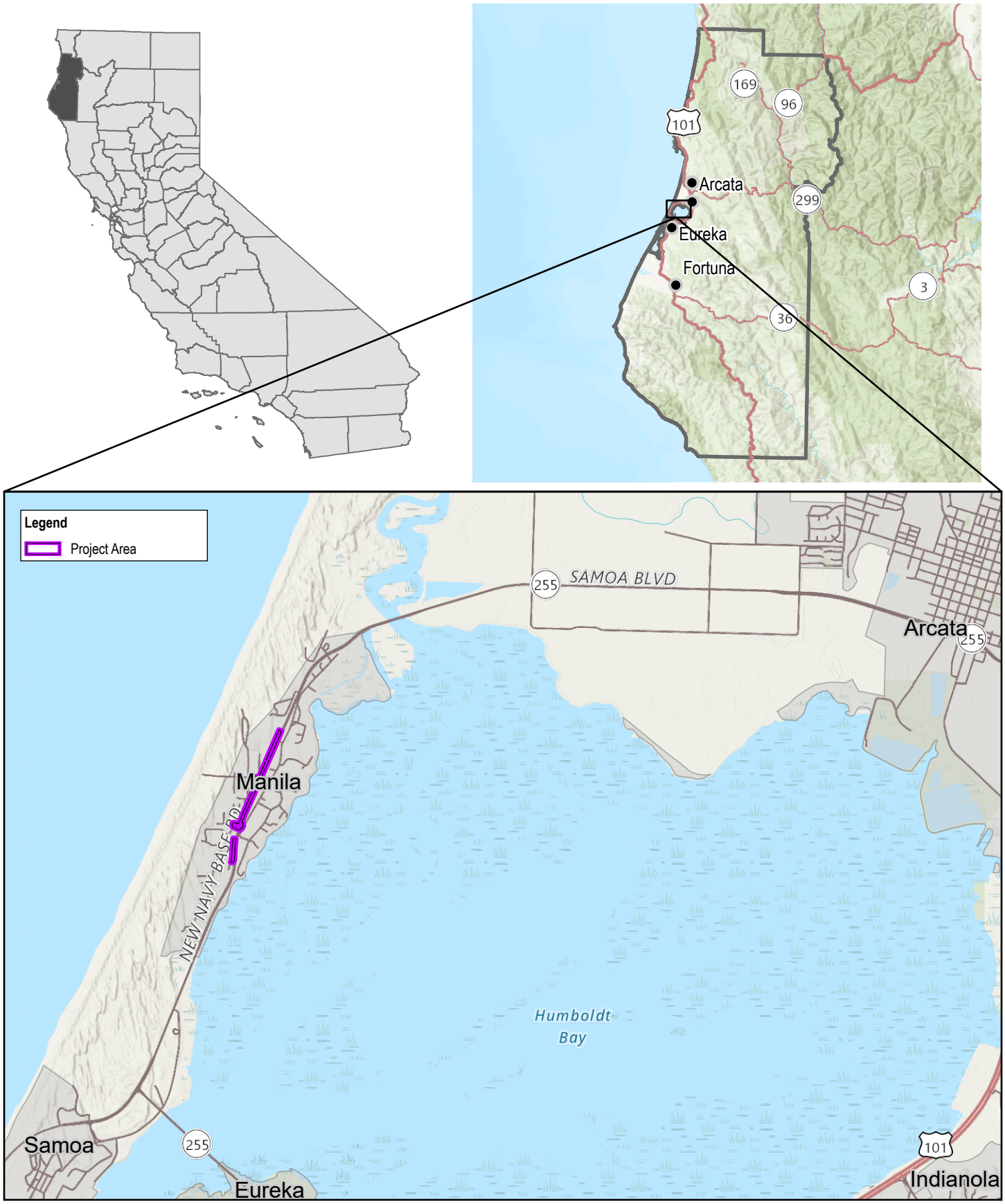
The Mitigation, Monitoring, and Reporting Program (MMRP) for this Initial Study/Mitigated Negative Declaration (ISMND) is included in Appendix C. The MMRP includes a summary of all mitigation measures and how each mitigation measure would be implemented to ensure all potential impacts associated with the Project would result in a less than significant environmental impact.

5.4 Tribal Consultation

In November 2017 letters were sent from Caltrans to the Wiyot Tribe, Blue Lake Rancheria, and the Bear River Band of the Rohnerville Rancheria to begin consultation under Section 106 of the National Historic Preservation Act. These letters provided notification to the tribes about the Project. In 2017, Roscoe and Associates initiated correspondence

with the Native American Heritage Commission (NAHC) who provided a list of Native American individuals and tribes with ancestral interest in this portion of Humboldt County. Email and telephone conversations were ultimately conducted with representatives of the three tribes mentioned above (Wiyot Tribe, Blue Lake Rancheria, and the Bear River Band of Rohnerville Rancheria). A site visit was conducted with a Tribal Historic Preservation Officer (THPO) for the Blue Lake Rancheria regarding a recorded archaeological site on November 8, 2017. In 2019, an email correspondence between THPOs of the three tribes listed above, GHD (Project engineer), USACE, Caltrans, and County of Humboldt occurred, which further discussed the Project and stated that the Area of Potential Effect (APE) considered in 2018 had expanded to the north and south. The memo from Caltrans which stated that the original Archaeological Survey Report (Roscoe and Associates 2018) and Historic Property Survey Report (Caltrans 2018a) adequately considered the additional areas was shared with the group (Caltrans 2018b).

Although the letters from Caltrans and correspondence from Roscoe and Associates were not specific to AB 52 compliance, they upheld the same purpose as letters specific to AB 52 compliance, which is to identify cultural resources important to tribes that should be avoided or at least considered during project implementation. Therefore, the letters from Caltrans, correspondence with Roscoe and Associates, NAHC correspondence, and the email thread from 2019 can serve as AB 52 compliance with tribes potentially affected by the proposed Project. Tribal cultural resources were not identified as a result of the correspondence.



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

GHD

Humboldt County Department of Public Works
Manila Highway 255 Bike/Pedestrian Improvements

Project No. **11228754**
Revision No. **-**
Date **July 2021**

Vicinity Map

FIGURE 1

N:\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\08-GIS\Maps\Deliverables\11228754_ISMND\11228754_ISMND.aprx - 11228754_001_Vicinity
Print date: 21 Jul 2021 - 09:30

Data source: World Topographic Map - labelless: Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS; World Topographic Map - labelless: Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA; transportation: USGS The National Map: National Transportation Dataset; U.S. Census Bureau – TIGER/Line; U.S. Forest Service. Data Refreshed July, 2021.; World Hillshade: Esri, NASA, NGA, USGS, FEMA; World Imagery: Maxar; World Hillshade: Esri, USGS. Created by: jclark2



Paper Size ANSI A

0 140 280 420 560

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

GHD

Humboldt County Department of Public Works
Manila Highway 255 Bike/Pedestrian Improvements

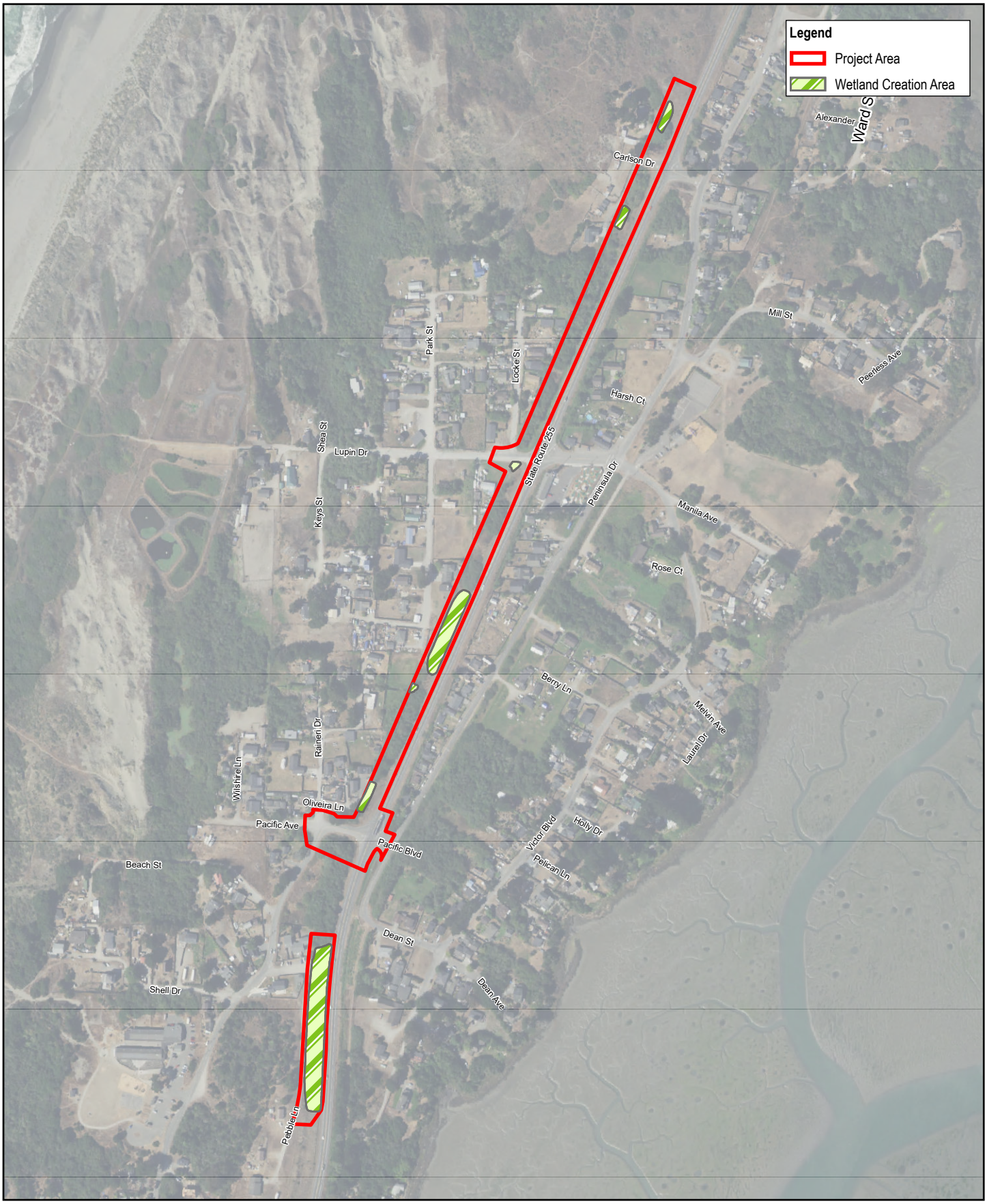
Project No. **11228754**
Revision No. **-**
Date **July 2021**

Project Area

FIGURE 2

N:\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\08-GIS\Maps\Deliverables\11228754_ISMND\11228754_ISMND.aprx - 11228754_002_ProjectArea
Print date: 21 Jul 2021 - 09:28

Data source: . Created by: jclark2



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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Humboldt County Department of Public Works
Manila Highway 255 Bike/Pedestrian Improvements

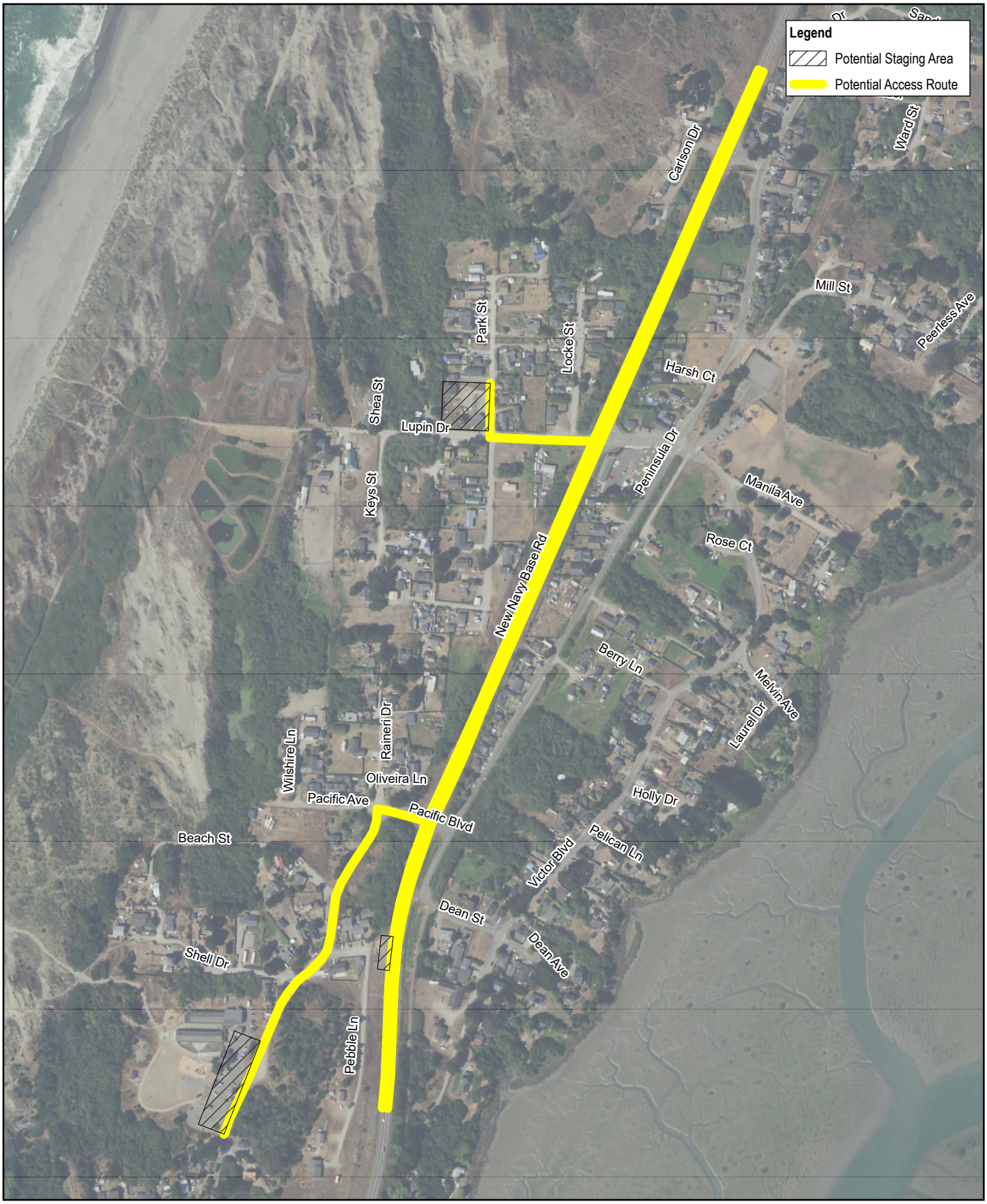
Project No. **11228754**
Revision No. **-**
Date **July 2021**

Onsite Wetland Creation Areas

FIGURE 3

N:\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\08-GIS\Maps\Deliverables\11228754_ISMND\11228754_ISMND.aprx - 11228754_003_OnsiteWetCreate
Print date: 21 Jul 2021 - 09:30

Data source: . Created by: jclark2



Paper Size ANSI A

0 140 280 420 560

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

GHD

Humboldt County Department of Public Works
Manila Highway 255 Bike/Pedestrian Improvements

Project No. **11228754**
Revision No. **-**
Date **July 2021**

Access and Staging Areas

FIGURE 4

N:\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\08-GIS\Maps\Deliverables\11228754_ISMND\11228754_ISMND.aprx - 11228754_004_AccessStaging
Print date: 21 Jul 2021 - 09:34

Data source: . Created by: jclark2

6. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages:

☒ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agricultural & Forestry Resources	☐ Hazards & Hazardous Materials	☐ Recreation
☒ Air Quality	☐ Hydrology/Water Quality	☐ Transportation
☐ Energy	☐ Land Use/Planning	☐ Tribal Cultural Resources
☒ Biological Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☒ Cultural Resources	☐ Noise	☐ Wildfire
☐ Geology/Soils	☐ Population/Housing	☐ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Trevor Estlow, Senior Planner Date

7. Environmental Analysis

7.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?		X		
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Views within the Project Area are limited to the SR 255 highway corridor, roadside vegetation, and adjacent residences and are not considered to have exceptional scenic quality. Visual elements within the Project Area consist of SR 255, grassy roadside shoulders to the west and east, drainage swales, and fences and residences beyond the grassy roadside shoulders. Dunes and the Pacific Ocean to the west and Humboldt Bay to the east of the Project Area are not visible from the Project Area. Within the Project Area corridor, views are dominated by SR 255, which is not considered scenic.

a) Have a substantial adverse effect on a scenic vista? (No Impact)

A scenic vista can generally be defined as a view that has remarkable scenery or a broad or outstanding view of the natural landscape. The Humboldt County General Plan identifies scenic vistas from US 101, beaches, state parks, and coastal access points. There are no scenic vistas in the Project Area. Therefore, construction and operation of the Project would have no effect on scenic vistas. No impact would result.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

The Project is not located on, near, or within view of a state scenic highway (Caltrans 2018c). No impact would result.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (Less Than Significant with Mitigation)

The proposed Project would not substantially degrade the existing visual character or quality of public views, because the Project Area is located in the Caltrans ROW. The proposed Project would improve the visual character of the area by providing an aesthetically enhanced shared use pathway to allow pedestrian mobility throughout the community of Manila at a safe distance away from SR 255. However, as a result of construction, some existing vegetation within the

Caltrans ROW would need to be cleared. This could result in a potentially significant impact to adjacent landowners who would lose a portion of the vegetative visual screen between their residences and the future shared use pathway, as well as SR 255. To ensure the visual impact of vegetation removal is less than significant, Mitigation Measure AES-1 has been incorporated into the Project.

Mitigation

Mitigation Measure AES-1 would reduce the potential impact of the Project related to the loss of vegetative visual screening by requiring replanted native vegetation in specific locations.

> **Mitigation Measure AES-1: Replanting of Vegetative Visual Screening**
>
> Only the minimum required vegetation required for clearing north of Lupin Avenue shall be performed, based on measurements of where the shared use pathway would be located. Lost vegetative visual screening would be replanted in specific locations behind the six residences on Locke Street bordering the Project north of Lupin Avenue. Planting locations would be identified in the final 100% construction plans. Plantings would include combinations of native willow cuttings and/or container stock (1-gallon minimum) for California wax myrtle and/or other appropriate native tree and shrub species that mature in excess of eight feet in height. Planting would occur in the autumn and winter months following completion of construction, concurrent with revegetation of the entire Project Area.

With the implementation of Mitigation Measure AES-1, potential impacts to vegetative visual screening would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less than Significant Impact)

The Project includes streetlight installation at the southern shared use pathway terminus near the Pacific Avenue intersection to enhance visibility at night. Lighting would be designed to protect wildlife and nighttime views, including views of the night sky. This design goal would be satisfied using a variety of means as applicable, including fixture types, cut off angles, lamp arm extensions, and pole heights. Specific design preferences include directing light downward and away from other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and directing lighting away from sensitive habitat areas. With incorporation of the design considerations mentioned above, light emissions would be minimized. No proposed Project elements would cause significant new sources of glare. Fencing would be constructed of wood, chain link, cable, picket style, or similar low-glare material. Due to Project design considerations, potential light or glare impacts would be less than significant.

7.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

The Project Area is along SR 255, located on the Samoa Peninsula. There are no agricultural or forestry land uses within the Project Area. SR 255 roadside shoulders are grassy or vegetated with coastal species, such as willow. There are agricultural land uses north of the Project Area.

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland)? (No Impact)

Lands within the Project Area have not been formally analyzed by the Department of Conservation to determine if they meet the criteria for being designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, because the Farmland Mapping and Monitoring Program has not been completed for Humboldt County as of the date of this Initial Study/Mitigated Negative Declaration (IS/MND) publication. For this analysis, “agricultural soils” and “prime agricultural soils” designations via the Humboldt County WebGIS platform was utilized (which utilizes soils data from the Natural Resources Conservation Service [NRCS]). There are no “agricultural soils” or “prime agricultural soils” within the Project Area. Therefore, construction and operation of the Project would have no impact on farmland because no farmland exists in the Project Area.

b) Conflict with Agricultural Zoning or Williamson Act Contract? (No Impact)

There are no agricultural zoning or active Williamson Act contracts within the Project Area. Zoning within the Project Area is discussed in Section 7.11 (Land Use and Planning). Therefore, construction and operation of the Project would have no effect on agricultural zoning or Williamson Act contracts because none exist within the Project Area. No impact would result.

c,d) Conflict with Forest Land Zoning or Convert Forest Land? (No Impact)

There are no forest lands, timberland, or land zoned Timberland Production in the Project Area; therefore, no forest land or timberland would be converted to non-forest or non-timberland use. Zoning within the Project Area is discussed in Section 7.11 (Land Use and Planning). No impact would result.

e) Convert Farmland or Forest? (No Impact)

The Project would include the removal of some small coastal trees; however, the trees that would be removed are coastal species (e.g., willow) and not considered a forest resource. Potential biological impacts associated with tree removal are discussed in Section 7.4 (Biological Resources). There are no other changes in the existing environment caused by the Project that would impact farmland or forest land in or adjacent to the Project Area. No impact would result.

7.3 Air Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?		X		
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

The Project is located within the North Coast Air Basin (Air Basin) which is managed by the North Coast Unified Air Quality Management District (NCUAQMD). The NCUAQMD monitors air quality, enforces local, State, and federal air quality regulations for counties within its jurisdiction, inventories and assesses the health risks of Toxic Air Contaminants (TACs), and adopts rules that limit pollution.

For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be relatively short in duration, lasting less than one year. For Project construction lasting more than one year or involving above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds (NCUAQMD 2019). Construction is expected to require approximately 80 working days to complete and would occur in 2022 and/or 2023. Emissions related to construction were calculated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0 and are discussed below (also see Appendix A – CalEEMod Modeling Information and Results).

a) Conflict with or obstruct implementation of the applicable air quality plan? (Less Than Significant with Mitigation)

This impact relates to consistency with an adopted attainment plan. The NCUAQMD is responsible for monitoring and enforcing local, State, and federal air quality standards. Humboldt County is designated 'attainment' for all National Ambient Air Quality Standards. With regard to the California Ambient Air Quality Standards, Humboldt County is designated attainment for all pollutants except PM_{10}. Humboldt County is designated as "non-attainment" for the State's PM_{10} standard.

PM_{10} refers to inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM_{10} includes emission of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} emissions include unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. Therefore, any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD. The proposed Project would create PM_{10} emissions in part through vehicles coming and going to the Project Area and the construction activity associated with the Project.

To address non-attainment for PM_{10}, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM_{10} standard exceedances and identifies cost-effective control measures to reduce PM_{10} emissions to levels necessary to meet California Ambient Air Quality Standards. However, the NCUAQMD states that the plan, "should be used cautiously as it is not a document that is

required in order for the District to come into attainment for the state standard" (NCUAQMD 2021). Therefore, compliance with applicable NCUAQMD PM_{10} rules is applied as the threshold of significance for the purposes of analysis. NCUAQMD Rule 104 Section D, Fugitive Dust Emissions, is applicable to the Project.

Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM_{10}. Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land. During earth moving activities, fugitive dust (PM_{10}) would be generated. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the shared use pathway could be a potentially significant impact, therefore, Mitigation Measure AQ-1 would be incorporated to comply with NCUAQMD's Rule 104 Section D.

Operation of the Project would not include the handling, transporting, or open storage of materials in which particulate matter may become airborne. Due to the absence of handling, transport, or open storage of materials that would generate particulate matter, operation of the Project is not expected to conflict with NCUAQMD's Rule 104 Section D. No impact from operation of the Project would result.

Mitigation

Implementation of Mitigation Measures AQ-1 would reduce the potential impact related to PM_{10} fugitive dust by requiring BMPs.

Mitigation Measure AQ-1: BMPs to Reduce Air Pollution

The contractor shall implement the following BMPs during construction:

- All exposed surfaces (e.g., staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day or as required by site conditions and current weather patterns.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using street sweepers at least once per day, or as needed to alleviate dust and debris on the roadway.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All areas to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.

With implementation of Mitigation Measure AQ-1, the Project would not conflict with applicable air plans. This impact would be reduced to a less-than-significant level with mitigation.

b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Less Than Significant)

This impact is related to regional criteria pollutant impacts. As identified in Section 7.3 a), Humboldt County is designated nonattainment of the State's PM_{10} standard. The County is designated attainment for all other State and

federal standards. Potential impacts of concern will be exceedances of State or federal standards for PM_{10}. Localized PM10 is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities.

Construction

Localized PM_{10}

The Project would include clearing and grubbing, grading, and paving activity. Generally, the most substantial air pollutant emissions would be dust generated from site clearing and grubbing, and grading. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily generate emissions of equipment exhaust and other air contaminants. The Project's potential impacts from equipment exhaust are assessed separately below.

The NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions above and beyond Rule 104, Section D which does not provide quantitative standards. For the purposes of analysis, this document uses the Bay Area Air Quality Management District (BAAQMD) approach to determining significance for fugitive dust emissions from Project construction. The BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. BAAQMD recommends a specific set of "Basic Construction Measures" to reduce emissions of construction-generated PM10 to less than significant. Without incorporation of these Basic Construction Measures, the Project's construction-generated fugitive PM_{10} (dust) would result in a potentially significant impact.

The Basic Construction Measure controls recommended by the BAAQMD are incorporated into Mitigation Measure AQ-1. These controls are consistent with NCUAQMD Rule 104 Section D, Fugitive Dust Emission and provide supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 Section D compliance alone. Therefore, with incorporation of Mitigation Measure AQ-1, the Project would result in a less than significant impact for construction-period PM_{10} generation and would not violate or substantially contribute to an existing or projected air quality violation.

Construction Criteria Pollutants

For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be of relatively short duration, lasting less than one year. For project construction lasting more than one year or that involves above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds.

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that would result from projects such as the proposed Project; however, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed construction emissions that last more than one year to its stationary source significance thresholds, which are:

– Nitrogen Oxides – 40 tons per year
– Reactive Organic Gases – 40 tons per year
– PM_{10} – 15 tons per year
– Carbon Monoxide – 100 tons per year.

If an individual project's emission of a particular criteria pollutant is within the thresholds outlined above, the project's effects concerning that pollutant are considered to be less than significant.

CalEEMod version 2020.4.0 was used to estimate air pollutant emissions from Project construction (Appendix A). Construction of the Project is expected to begin in 2022 and require approximately 80 working days to complete. Detailed construction equipment activity and material hauling volumes were provided by the Project's Design Team.

Table 7.3-1 summarizes construction-related emissions for the Project. As shown in Table 7.3-1, the Project's construction emissions are far below the NCUAQMD's stationary sources emission thresholds. Therefore, the Project's construction emissions are considered to have a less than significant impact.

Table 7.3-1 Construction Regional Pollutant Emissions

Parameter	Emissions (tons per year)			
	ROG	NOx	CO	PM10
Project Construction (2022)	<0.1	0.3	0.4	<0.1
NCUAQMD Stationary Source Thresholds	40	40	100	15
Significant Impact?	No	No	No	No

Operation

Following construction, the Project would not include any stationary sources of air emissions. Vehicle trips associated with operation and maintenance of the proposed shared use pathway would include annual inspections, repaving, painting, and repairs as needed. Operation and maintenance of the Project would generate only infrequent trips. However, future larger repairs to shared use pathway may take several weeks to complete depending on the extent of damage and other circumstances. The Project would not result in substantial long-term operational emissions of criteria air pollutants. Therefore, Project-generated operational emissions would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. The Project's contribution to a cumulative impact would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less Than Significant)

Activities occurring near sensitive receptors should receive a higher level of preventative planning. Sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), the infirm (medical facilities/offices), and those who exercise outdoors regularly (public and private exercise facilities, parks). Sensitive receptors adjacent to the Project Area include residential uses and the Manila Community Center, which serves as a school during the academic year.

Project construction activities would occur over approximately 80 working days. Project construction is not expected to include intensive or prolonged construction equipment use for a long duration. Additionally, equipment use would be spread out over a linear project alignment, further reducing the duration of equipment use near individual receptor locations. Due to the short duration (no one area of prolonged or intense construction activity), the Project would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, the potential construction-related impact would be less than significant.

Following construction, the Project would not include any stationary sources of air emissions or new mobile source emissions that would result in substantial long-term operational emissions of criteria air pollutants. In fact, Project operation could potentially reduce vehicle-miles-traveled and therefore emissions. Therefore, Project operation would not expose nearby sensitive receptors to substantial levels of pollutants. The potential operation-related impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less Than Significant)

The Project would create limited exhaust fumes from gas- and diesel-powered equipment during construction. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions, specifically wind direction. Due to the relative short-term nature of construction, distribution of activities, emissions or odors caused by construction, the Project would not adversely affect a substantial amount of people. Therefore, a less than significant impact would result

Following construction, operation of the shared use pathway would not result in any major sources of odor or emissions. Therefore, there would be a less than significant potential impact from Project operations.

7.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

The Project would involve the clearing and grubbing of vegetation within the footprint of the proposed shared used pathway. Construction staging areas would be located within the Project footprint, within paved or graveled areas, or in designated previously disturbed areas. Natural habitat is present within the Project Area, and baseline conditions support some special status species, habitats, and aquatic resources, as described further below.

A Natural Environmental Study (NES) was prepared to evaluate baseline environmental conditions within the Project Area and to determine the potential for any special status plants, wildlife species, or any sensitive natural communities (SNCs) or aquatic resources to occur (Appendix B; Stillwater Sciences 2019). Special status species include those that are federal- or State-listed, State fully protected (FP), State species of special concern (SSC), species on the CDFW Special Animals List (SAL), or State rare, among others. Information in the NES was compiled through a review of literature and database searches. Database searches encompassed seven U.S. Geological Survey (USGS) quadrangles (quads) centered on the Project Area quad (Eureka) and the surrounding six quads (Tyee City, Arcata North, Arcata South, McWhinney Creek, Fields Landing, and Cannibal Island). Other sources reviewed included the California Natural Diversity Database (CNDDB), California Native Plant Society Database, U.S. Fish and Wildlife Service - Information for Planning and Conservation (IPaC) tool, National Oceanic and Atmospheric Administration - Fisheries West Coast Region California Species List Tools. The NES established a Biological Study Area (BSA) that included the Project footprint and the surrounding area.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less Than Significant with Mitigation)

Impact analysis in this section is based on the Project's NES analysis and updated 2021 environmental database searches. Sensitive and special status species and communities known to occur or have high potential to occur within the Project Area are identified below. The potential for special status species and communities to occur was determined by: (1) reviewing the current distribution of each species and whether it overlapped with the Project Area; (2) reviewing the documented occurrence information from CNDDB and other information sources (including Bat Acoustic Monitoring Visualization Tool [BatAMVT] 2021, Bumble Bee Watch 2021, eBird 2017 and 2021, iNaturalist 2021); (3) comparing the habitat associations of each species with habitat quality and conditions in and adjacent to the Project Area, based on existing information (e.g., elevation, aerial imagery); and (4) using qualified professional judgement to evaluate habitat quality and the relevance of occurrence data, or the lack thereof. Species or sensitive resources which are likely to be impacted as a result of the Project and require specific mitigation measures to lessen these impacts are further summarized below.

Construction of the Project would have the potential to impact wildlife species through noise, visual disturbance, and by physically occupying habitat areas as discussed below. Plant species may be impacted during clearing and grubbing, equipment staging, and tree limbing or removal.

The operational phase of the Project has little potential to impact special status species because motorized vehicles would be prohibited on the shared use pathway. In addition, proposed new lighting along the shared use pathway would be designed using wildlife-friendly practices (i.e., pointed downward and away from any natural habitat, etc.). As the shared use pathway would also be located directly adjacent to an active roadway, increased levels of pedestrian, non-motorized foot traffic are not expected to result in a significant increase in baseline noise levels in the Project vicinity. Operational impacts would be less than significant.

Special-status Plant Species

Special status plant species include those listed as endangered, threatened, or as candidate species by the CDFW, under the California Endangered Species Act (CESA), and/or under the federal Endangered Species Act (ESA). Plant species on the California Native Plant Society's California Rare Plant Ranking (CRPR) Lists 1A, 1B and 2A and 2B are also considered eligible for State listing as endangered or threatened pursuant to the California Fish and Game Code (FGC); the CDFW has oversight of these special status plant species as a trustee agency. As part of the CEQA process, such species should be considered, as they meet the definition of Threatened or Endangered under Sections 2062 and 2067 of the California FGC. There are occasions where CRPR List 3 or 4 species might be considered of special concern particularly for the type locality of a plant, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology.

The following protocol-level floristic surveys were conducted to support preparation of the Project's NES and CEQA document:

– Floristic Surveys: May 26 and July 31, 2017 (Stillwater Sciences); June 3, 2020 (GHD)
    - Associated Reports: Natural Environment Study, Manila Highway 255 Bike Pathway Project (Stillwater Sciences 2019), Manila State Route 255 Shared Use Pathway Project 2020 Field Surveys – Special Status Plant Species (GHD 2020)

No special status plant species were detected within the Project Area during the protocol-level surveys completed by Stillwater Sciences in 2017 or GHD in 2020. Field surveys considered the list of special status plant species with potential to occur in the BSA as reported in Table 7 (page 48 and 49) of the Project's NES (Appendix B; Stillwater Sciences 2019). Previous surveys for special status plants completed in the 2017 were also negative (Appendix B; Stillwater Sciences 2019). Species on which the Project is expected to have no impact, or a less than significant impact, are analyzed further in the associated technical studies (Appendix B; Stillwater Sciences 2019). As no special status plants are present within the Project Area, no impact to special status plants would result, either from Project construction or operation. Mitigation is neither warranted nor proposed.

Special Status Mammals

No special status mammal species were observed in the Project Area during reconnaissance level surveys or technical surveys; however, focused wildlife surveys were not conducted in the Project Area. The NES did not identify any special status mammalian species as likely to occur in the Project Area based on baseline conditions. However, a review of the CNDDB in July 2021 revealed a North American Porcupine (*Erethizon dorsatum*; SAL) record in the Project vicinity. The North American Porcupine is expected to have low potential to occur. Any records of this species in the Project Area are assumed to be transient individuals; no high quality habitat is present that would support this species.

If present in the Project Area during construction activities, North American Porcupines may be temporarily displaced from foraging habitat (associated with minor tree removal and limbing in the Project Area). As the Project Area only makes up a very small portion of suitable foraging habitat in the Project vicinity, and activities would be of a short duration, Project-related impacts to North American Porcupines, if any, would be less than significant.

It is expected that the common, anthropogenically adapted mammalian wildlife species would be most likely to thrive in the Project Area (e.g., Raccoons [*Procyon lotor*], Striped Skunks [*Mephitis mephitis*], Black-tailed Deer [*Odocoileus hemionus columbianus*], etc.). Given the constriction of the Manila area between the Pacific Ocean and Humboldt Bay, and the habitat fragmentation caused by residential development along SR 255, mammals that require large home ranges of undisturbed habitat are not likely to occur and any potential impact would be less than significant.

Special Status Bats

Although special status bats were not observed within the Project Area during reconnaissance level surveys or technical surveys, survey methods were not designed to detect these species. In addition, the NES did not note any special status bats as having potential to occur in the Project Area (based on 2018 data from CNDDB, among other sources). However, a review of BatAMVT (BatAMVT Manila CDFW detector #SU088752 – PNDR; BatAMVT 2021) on July 12, 2021 indicated that the following species have moderate potential to occur based on existing habitat, recent nearby records, and a consideration of the species' natural history:

– Hoary Bat (*Lasiurus cinereus*; SAL) – moderate potential,
– Yuma Myotis (*Myotis yumanensis*; SAL) – moderate potential,
– Long-legged Myotis (*Myotis volans*: SAL) – moderate potential, and
– Townsend's Big-eared Bat (*Corynorhinus townsendii*; SSC) – moderate potential.

Special status bats are expected to occur in the Project Area strictly during foraging bouts. No high-quality roosting habitat is present; the Project is located along an active roadway and noise disturbance is high. If present in the Project Area during construction activities, special status bats may be temporarily displaced from foraging habitat (associated with minor tree removal and limbing in the Project Area). No impacts to roosting habitat are expected. As the Project Area only makes up a very small portion of suitable foraging habitat in the Project vicinity, and activities would be of a short duration, Project-related impacts to special status bats, if any, would be less than significant.

Special Status and Migratory Birds

No special status avian species were observed in the Project Area during reconnaissance level surveys or technical surveys; however, focused avian surveys were not conducted in the Project Area. The NES (Appendix B; Stillwater

2019) identified that suitable nesting habitat for several migratory nesting bird species (protected under the federal MBTA and California FGC) is present within the Project Area, and that nesting birds are expected to be present in the Project Area during the nesting season (March 14 through August 16 is the USFWS standard MBTA nesting season followed by Caltrans, with biologist discretion based on individual site conditions). No specific special status avian species were identified in the NES as having potential to occur. However, a review of recent (July 2021) CNDDB and eBird records from the immediate Project vicinity indicate that the following species have moderate potential to occur (nesting or foraging) based on existing habitat, recent nearby records, and a consideration of the species' natural history:

– Sharp-shinned Hawk (*Accipiter striatus*; SAL) – moderate potential (foraging),
– Great Egret (*Ardea alba*; SAL) – moderate potential (foraging),
– Great Blue Heron (*Ardea herodias*; SAL) – moderate potential (foraging),
– Northern Harrier (*Circus hudsonius*; SAL) – moderate potential (foraging),
– Snowy Egret (*Egretta thula*; SAL) – moderate potential (foraging),
– White-tailed Kite (*Elanus leucurus*; FP) – moderate potential (foraging), low potential (nesting),
– Yellow Warbler (*Setophaga petechia*; SSC) – moderate potential (foraging), low potential (nesting),
– Black-capped Chickadee (*Poecile atricapillus*; SAL) – moderate potential (foraging), moderate potential (nesting),
– Merlin (*Falco columbarius*; SAL) – moderate potential (foraging),
– Cooper's Hawk (*Accipiter cooperii*; SAL) - moderate potential (foraging), moderate potential (nesting),
– Peregrine Falcon (*Falco peregrinus anatum*; FP) - moderate potential (foraging),
– Purple Martin (*Progne subis*; SSC) - moderate potential (foraging).

If present in the Project Area during construction activities, special status and protected migratory birds could be injured or killed via clearing and grubbing of vegetation or limbing and removal of trees, and/or potentially displaced from habitat, resulting in a significant impact, unless mitigation measures are incorporated. Potential Project-related impacts to special status and protected migratory birds (if any) would be reduced to a less-than-significant level through the implementation of Mitigation Measure BIO-1.

Mitigation

Mitigation Measure BIO-1 would reduce the potential impact of the Project on special status and protected migratory birds to a less-than-significant level by the below-listed actions.

Mitigation Measure BIO-1: Protect Migratory and Nesting Birds

- Seasonal avoidance of the 14 March – 16 August nesting season would be utilized when feasible, to avoid impacts on native bird species protected under the federal MBTA and California FGC that may be present within the Project Area or adjacent area during construction. Clearing of shrubs or other vegetation for construction or maintenance shall be conducted if possible during the fall and/or winter months from 17 August to 13 March, outside of the active nesting season.
- If vegetation removal or ground disturbance cannot be confined to work during the non-breeding season, the County would have a qualified ornithologist conduct preconstruction surveys within the vicinity of the Project Area, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The ornithologist shall conduct a minimum of one-day preconstruction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified ornithologist shall conduct a supplemental avian survey before Project work is reinitiated.
- If an active nest is found, the qualified ornithologist would determine the extent of an appropriate construction free buffer zone to be established around the nest and/or operational restrictions in consultation with the CDFW. Buffer zones would be delineated with flagging and maintained until the

nests have fledged or nesting activity has ceased. Buffer sizes would take into account factors such as: (1) highway and other ambient noise levels, (2) distance from the nest to the highway and distance from the nest to the active construction area, (3) noise and human disturbance levels at the construction-site at the time of the survey and the noise and disturbance expected during the construction activity, (4) distance and amount of vegetation or other screening between the construction-site and the nest, and (5) sensitivity of individual nesting species and behaviors of the nesting birds.

With the implementation of Mitigation Measure BIO-1, potential impacts to special status and protected migratory birds would be less than significant.

Special-status Amphibian and Reptile Species

No special status amphibian or reptile species were observed in the Project Area during reconnaissance level surveys or technical surveys; however, focused herpetological surveys were not conducted in the Project Area. The NES (Appendix B; Stillwater 2019) notes that suitable habitat for Northern Red-legged Frogs (*Rana aurora*; SSC) is present in the Project Area, and that the species is expected to be present during construction. Specific areas of suitable habitat were noted in the drainage ditch adjacent to SR 255 between Lupin Drive and Carlson Drive, in the Manila water treatment plant, and in ponds and dune forested habitat in Project Area.

If present in the Project Area during construction activities, Northern Red-legged Frogs could be injured or killed via crushing, entrapment, or burying (related to ground disturbance), and/or potentially displaced from habitat, resulting in a significant impact, unless mitigation measures are incorporated. Potential Project-related impacts, if any, to this species would be reduced to a less-than-significant level through the implementation of Mitigation Measure BIO-2.

Mitigation

Mitigation Measure BIO-2 would reduce the potential impact of the Project on Northern Red-legged Frogs to a less-than-significant level by the below-listed actions.

Mitigation Measure BIO-2: Protect Northern Red-legged Frogs

- A qualified biologist would conduct a pre-construction survey of the work zone no more than one week prior to the initiation of ground disturbance. The qualified biologist would relocate any Northern Red-legged Frogs that occur within the work-impact zone to nearby suitable habitat.
- Construction within areas of standing water shall be limited to the period of the year between 1 July and 30 October to avoid disturbance to breeding Northern Red-legged Frogs. After 1 July, a qualified biologist would inspect any work areas containing surface water (not including puddles resulting from rainfall) to ensure tadpoles or metamorphosing frogs are not present. If they are present, the qualified biologist would implement a rescue and relocation operation to move any tadpoles or metamorphosing frogs to a safe location in nearby suitable habitat.

Mitigation Measure BIO-2 requires practicable avoidance and protection measures for Northern Red-legged Frogs during construction, thereby reducing any potential impacts. With the implementation of Mitigation Measure BIO-2, potential impacts to Northern Red-legged Frogs would be less than significant.

Special Status Fish

No special status fish species or aquatic habitat that could support fish species are present within the Project Area. No impact to special status fish would result, either from Project construction or operation. Mitigation is neither warranted nor proposed.

Special Status Invertebrates

No special status invertebrate species were observed in the Project Area during reconnaissance level surveys or technical surveys; however, focused invertebrate surveys were not conducted in the Project Area. The NES did not

identify any special status invertebrate species as likely to occur in the Project Area based on baseline conditions. However, a review of the CNDDB in July 2021 revealed records of the Western Bumble Bee (*Bombus occidentalis*; CESA candidate endangered) and Obscure Bumble Bee (*Bombus caliginosus*; CDFW SAL) in the Project vicinity.

Although the Project Area falls within the species pre-2002 range for the Western Bumble Bee, the range has contracted significantly in the last decade and now only includes the intermountain west and cascade regions of the US. This species is now regionally rare and has a low potential to occur within the Project Area. The Project Area contains some suitable habitat for the Obscure Bumble Bee (i.e., within the coastal fog belt and may include several of the species' nectar food plants; however large, extensive areas of nectar plants are not present). Based on habitat and local recent records, this species has a moderate potential to occur within the Project Area. No impacts to Western Bumble Bees or Obscure Bumble Bees would occur as a result of Project construction (e.g., no significant nectar resources, nesting, or foraging habitat would be impacted). Mitigation is neither warranted nor proposed.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (Less Than Significant with Mitigation)

Riparian Habitat

Riparian areas are those vegetated areas adjacent to rivers, streams, and lakes with specific overstory and/or understory plant species that meet the definition of riparian by the CDFW. The Project Area does not include a stream, tributary, or other waterway with riparian habitat. Riparian habitat is not present in the Project Area. Thus, no impact to riparian habitat would result from the Project.

Sensitive Natural Communities and ESHA

While the dominant vegetation is non-native sweet vernal grass (*Anthoxanthum odoratum*) and other invasive plant species, the Project Area contains SNCs, Environmentally Sensitive Habitat Areas (ESHA), and wetlands as described in this section, and in the Project's wetland delineation and NES (Stillwater 2019). SNCs are habitats and plant communities so designated by the CDFW and listed in the Sensitive in the CNDDB and on the California Sensitive Natural Communities List. The SNCs are broken down to alliance and association levels for vegetation types affiliated with ecological sections in California. The CDFW considers alliances and associations with a state rank of S1 to S3 to be Sensitive.

A total of 2.96 acres of SNCs are present in the BSA. Most of these are associated with potential jurisdictional waters and wetlands. Coastal brambles (two occurrences) associated with undisturbed upland habitat total 0.05 acres within the BSA. These two occurrences are considered a SNC as well as upland ESHA but would not be impacted by the Project. Wetlands are described in further detail in Section 7.4 (c). SNCs identified in the NES are summarized in Table 7.4-1 – Sensitive Natural Communities in the BSA.

Table 7.4-1 Sensitive Natural Communities in the Biological Study Area

Scientific Name	Common Name	Status	Potential to Occur	Potential Impact
Rubus ursinus Shrubland Alliance	coastal brambles	S3	Present	Less than significant with MM BIO-3
Salix hookeriana Shrubland Alliance	coastal dune willow thickets	S3	Present	Less than significant with MM BIO-3
Carex obnupta Herbaceous Alliance	slough sedge swards	S3	Present	Less than significant with MM BIO-3
Juncus breweri Herbaceous Alliance	salt rush swales	S2?	Present	Less than significant with MM BIO-3
Oenanthe sarmentosa Herbaceous Alliance	water parsley marsh	S2?	Present	Less than significant with MM BIO-3
Scirpus microcarpus Herbaceous Alliance	small-fruited bulrush marsh	S2	Present	Less than significant with MM BIO-3

Key:

State Ranks for Sensitive Natural Communities:

S2 - Imperiled: At high risk of extinction or elimination due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state

S3 - Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state

(?) - Denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank

Six SNCs with a state ranking of S2 or S3 on CDFW's California Sensitive Natural Communities List were documented within the BSA. Based on the vegetation alliances observed during the field surveys, no SNCs documented from CDFW's CNDDB query (i.e., coastal terrace prairie, northern coastal salt marsh, northern foredune grassland, or Sitka spruce forest; Table 2; Stillwater 2019) were identified in the Project Area.

Rubus ursinus Shrubland Alliance (coastal brambles), S3, Present

Small isolated patches of coastal scrub habitat are located in the BSA. Vegetation is best characterized by the *Rubus ursinus* Shrubland Alliance (coastal brambles). Coastal brambles are a SNC with a state rank of S3 and thus ranked as Vulnerable in California. California blackberry is a native vine in the Rosaceae family. Coastal brambles commonly occur along coastal bluffs, headlands, exposed slopes, and gaps in forest stands. Several mapped locations of coastal brambles in the BSA were highly disturbed and were not considered high-quality occurrences due to the presence of non-native and California Invasive Plant Council (Cal-IPC) rated plant species (e.g., *Hedera helix* [English ivy], greater periwinkle, *Lonicera japonica* [Japanese honeysuckle], *Acacia dealbata* [silver wattle], and *Convolvulus arvensis* [bindweed]), codominant cover by non-native sweet vernal grass, as well as road debris and litter. Although present in the BSA, Project construction would not impact this SNC. No mitigation is proposed.

Salix hookeriana Shrubland Alliance (coastal dune willow thickets), S3, Present

Coastal willow thickets are dominated by mature coastal willow (*Salix hookeriana*), with lower cover of other shrub species such as coyote brush (*Baccharis pilularis*). Coastal willow thickets are a SNC with a state rank of S3 and thus Vulnerable in California. Willow scrub occurs within old deflation plains throughout the BSA that are no longer connected to an active dune complex since the historic development of the community of Manila and SR 255. The *Salix hookeriana* Shrubland Alliance (coastal dune willow thickets) best characterizes this vegetation. Coastal willow is a California native shrub to small tree in the Salicaceae family. This hydrophytic plant colonizes disturbed areas near the ocean with standing water that seasonally floods and the alliance is the most common willow scrub found along the northwestern coastal belt of California. All mapped locations are entirely within the potential jurisdictional waters and wetlands. Additional species associated with willow scrub in the BSA include Pacific willow (*Salix lasiandra* var. *lasiandra*), Sitka willow (*Salix sitchensis*), twinberry (*Lonicera involucrata*, California blackberry, salmon berry (*Rubus*

spectabilis), Himalayan blackberry (*Rubus armeniacus*), small-fruited bulrush, field horsetail (*Equisetum arvense*), western sword fern (*Polystichum munitum*), San Francisco rush (*Juncus lescurii*), and slough sedge. In addition, some shore pine (*Pinus contorta*) individuals were interspersed within this alliance. The Project would impact 26,115 square feet (0.6 acres) of this SNC through clearing, grubbing, paving, and fill; these SNC impacts are co-located with impacted wetlands in the Project Area.

Carex obnupta Herbaceous Alliance (slough sedge swards), S3, Present
Juncus breweri Herbaceous Alliance (salt rush swales), S2?*, Present

Vegetation within dune swales of the BSA is best characterized by the *Carex obnupta* Herbaceous Alliance (slough sedge swards) and *Juncus breweri* Herbaceous Alliance (salt rush swales). Throughout the BSA, this vegetation is located adjacent to willow scrub and is associated with old deflation plains. Both alliances are SNCs with a state rank of S3 or S2? respectively, located within the potential jurisdictional waters and wetland boundaries. S2? denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this SNC rank. Slough sedge is a native perennial rhizomatous herb in the Cyperaceae family. It occurs in seasonally flooded swales in old deflation plains and sand dune complexes, shallowly inundated woods, meadows, roadside ditches, coastal swamps, lakeshores, marshes, and riverbanks with mucky soils with high organic content. Salt rush is a native perennial rhizomatous herb in the Juncaceae family that grows in dune swales and develops on transitional or seasonally wet depressions. Additional plant species identified in this habitat included sweet vernal grass, California brome (*Bromus carinatus*), and California blackberry. The Project would impact 93,200 square feet (2.14 acres) and 1,750 square feet (0.04) of these SNCs, respectively, through clearing, grubbing, paving, and fill; these SNC impacts are co-located with impacted wetlands in the Project Area.

Oenanthe sarmentosa Herbaceous Alliance (water parsley marsh), S2?, Present
Scirpus microcarpus Herbaceous Alliance (small-fruited bulrush marsh), S2, Present

Freshwater marsh vegetation occurs within several drainage ditches in the BSA. At these locations *Oenanthe sarmentosa* (water parsley) and small-fruited bulrush are dominant in the herbaceous layer along with the less prevalent herbaceous species such as various rushes (*Juncus* spp.), western bittercress (*Cardamine oligosperma*), Pacific silverweed (*Potentilla anserina* subsp. *pacifica*), and creeping buttercup (*Ranunculus repens*). The *Oenanthe sarmentosa* Herbaceous Alliance (water parsley marsh; S2?) and *Scirpus microcarpus* Herbaceous Alliance (small-fruited bulrush marsh; S2) best define this vegetation. Water parsley is a branched, sprawling perennial native herb in the Apiaceae family. It occurs in wet, mucky soil or shallow, brackish or freshwater marshes. Small-fruited bulrush is a perennial native rhizomatous herb in the Cyperaceae family. It is found in seasonally flooded marshes, stream sides, and roadside ditches with soils that are poorly aerated and have a high organic content. These alliances are entirely within the potential jurisdictional waters and wetland boundaries in the BSA. Project construction or operation would not impact the *Oenanthe sarmentosa* Herbaceous Alliance. Project construction would impact 100 square feet (0.002 acres) of *Scirpus microcarpus* Herbaceous Alliance through clearing, grubbing, paving, and fill; these SNC impacts are co-located with impacted wetlands in the Project Area.

Construction

The Project is located within the Coastal Zone and is subject to Humboldt County's Local Coastal Plan - Humboldt Bay Area Plan (Humboldt County 2014). Section 3.30 of the Humboldt Bay Area Plan states that ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. Section 3.30 further states that development in areas adjacent to ESHA, parks, and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas and shall be compatible with the continuance of such habitat areas. Given the Project would result in enhanced coastal access and enhanced opportunities for recreation and nature study, the Project, by its very nature, is dependent on ESHA resources. As a condition of the Project's Coastal Development Permit, the Project would submit, for review and approval of the Humboldt County Planning Director (Planning Director), a plan for temporary storage and disposal of construction debris. The plan would demonstrate that no construction materials, debris, or waste would be placed or stored during construction where it could enter wetlands and waters. Final disposal locations for debris from construction activities would be in upland areas absent impacts to ESHA.

In addition, the Project has been designed to be as minimally impactful as possible to avoid degradation of ESHA. All impacted ESHA is co-located with impacted wetlands and would be included in Mitigation Measure BIO-3, which requires compensatory mitigation to the satisfaction of jurisdictional resource agencies. Thus, impacts to ESHA would not conflict with the Humboldt Bay Area Plan and would be reduced to be a less than significant impact with the incorporation of Mitigation Measure BIO-3.

Except for the coastal bramble and dune mat alliances, all SNCs identified in the Project Area are within the boundaries of the potential jurisdictional waters or wetlands. Most of the coastal bramble occurrences in the Project Area were highly disturbed and not considered ESHA due to prevalence of non-native species, high level of human impact (e.g., litter, escaped ornamentals), and regular maintenance within the ROW. For example, a single mapped area totaling 0.06 acres within the Project Area was classified to the *Abronia latifolia - Ambrosia chamissonis* Herbaceous Alliance. This was mapped as disturbed and is not considered ESHA due to its prevalence of non-native vegetation (e.g., slender wild oat [*Avena barbata*], sheep sorrel [*Rumex acetosella*], and yellow bush lupine [*Lupinus arboreus*]), disconnect to an active dune complex, and entirely bound by non-native habitats (i.e., semi-natural alliances) and SR 255.

Construction is expected to impact SNCs and ESHA via clearing and grubbing (i.e., tree removal and trimming), excavation, and fill. Grading and paving of the shared use pathway would also physically occupy currently vegetated areas (i.e., permanent loss of SNCs and ESHA). Although the Project is being designed to minimize impacts, it is anticipated that 31,165 square feet (0.72 acres) of SNCs would be impacted, co-located with wetland impacts. All SNCs that would be impacted are within the boundaries of the potential USACE- and California Coastal Commission (CCC)/Local Coastal Program (LCP) jurisdictional waters or wetlands. No upland ESHA would be impacted by the Project. Construction impacts would be significant and require mitigation. Given all SNC and ESHA impacts are co-located with wetlands, the impact would be reduced to be less than significant with the incorporation of Mitigation Measure BIO-3.

Mitigation

Potential Project-related impacts to SNCs and ESHA would be reduced to be less than significant through the implementation of Mitigation Measure BIO-3.

Mitigation Measure BIO-3: Protect and Implement Compensatory Mitigation for Sensitive Natural Communities and Wetlands

Prior to beginning work on the Project, all crew and team members that work on-site would attend an environmental awareness training conducted by a qualified biologist detailing the measures to be implemented to protect sensitive resources. Ground disturbance and vegetation clearing and/or trimming would be confined to the minimum area necessary to facilitate Project implementation. Project activities would be restricted to the Project footprint. A qualified biologist would identify and mark all SNCs in the BSA adjacent to the Project footprint prior to any construction activities.

Additionally, the County shall implement the Habitat Mitigation and Monitoring Plan (HMMP; GHD 2020b) prepared for the Project and approved by the USACE and North Coast Regional Water Quality Control Board (NCRWQCB) in executed CWA Section 404 and Section 401 authorizations, which includes:

- On-site compensatory mitigation for impacts of 0.77 acres at a ratio of 1:1.2, resulting in the creation of 0.92 acres of mitigated wetlands following the specified species lists and planting requirements
- Removal of invasive species within the Project Area
- Five years of annual monitoring and reporting, including achievement of the following success criteria:
  - Year 1 – 50% relative cover and no more than 25% of absolute cover of target invasive plants
  - Year 3 – 60% relative cover and no more than 15% of absolute cover of target invasive plants
  - Year 5 – 78% relative cover and no more than 15% of absolute cover of target invasive plants

- Year 1, 3, and 5 – Native wetland species consist of obligate, facultative, and facultative wet species; no large non-vegetated bare spots (greater than 25%) or erosional areas; no permanent inundation during five-year monitoring period

In addition to the on-site wetland creation through implementation of the HMMP, the County shall implement additional compensatory mitigation at a ratio of 4:1 by deducting a credit of 3.1 acres (i.e., 0.77 acres times four) from the existing mitigation bank associated with the off-site CDFW Fay Slough Wildlife Area. The total wetland mitigation ratio is 5.2:1.

With the implementation of Mitigation Measure BIO-3, impacts to SNCs and ESHA would be less than significant.

OPERATION

The operational phase of the Project would have minimal to no impact on the four above-listed SNCs because the off-trail hiking would be prohibited by signage in the areas on either side of the shared use pathway and the terrain (in wetland areas) discourages hiking or camping. Operational impacts would be less than significant.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (Less Than Significant with Mitigation)

Wetland delineations were completed for the Project on August 1-2, 2017, and October 17-18, 2018 (Stillwater 2019). One- and three-parameter wetlands are present in the Project Area. Based on the 90% design, the Project would impact delineated wetlands and a small ditch (classified as Waters), as summarized in Table 7.4-2 – Summary of Project Impacts to Wetlands. Impacts to wetlands would result in a significant impact under CEQA. Thus, Mitigation Measure BIO-3 has been incorporated into the Project to ensure the impact to wetlands remains less than significant, requiring compensatory mitigation through on-site wetland creation at a ratio of 1.2:1 combined with a debit from an off-site wetland mitigation bank at a ratio of 4:1, for a total mitigation ratio of 5.2:1, along with five years of monitoring and reporting and achievement of numeric success criteria for the on-site created wetlands. The technical approach and associated requirements for wetland mitigation are summarized in the Project's HMMP (GHD 2020b) and incorporated into Mitigation Measure BIO-3. The wetlands at the Fay Slough Wildlife Area are palustrine wetlands created in 1992 through a cooperative agreement between Humboldt County Public Works and California Department of Fish and Game. Humboldt County's existing wetland credit is 3.94 acres (Coastal Commission 2009). The Project Area and the Fay Slough Wildlife Area are both situated along the margins of Humboldt Bay. The wetlands created at Fay Slough Wildlife Area have provided ecological function for nearly 30 years prior to the impacts associated with the Project (scheduled for 2022). Therefore, a ratio of 4:1 is considered reasonable off-site compensation to complement the on-site creation.

With the implementation of Mitigation BIO-3, impacts to delineated wetlands would be less than significant.

Table 7.4-2 Summary of Project Impacts to Wetlands

Wetland Types	Impact (Square Feet)	Impact (Acres)
Palustrine Emergent	4,173	0.10
Palustrine Scrub-Shrub	26,563	0.61
One-Parameter Coastal Willow Wetlands	2,497	0.06
Waters	391	0.009
Total	**33,624**	**0.77**

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (No Impact)

Wildlife movement corridors are areas that connect suitable wildlife habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, peninsulas, or areas with vegetative cover provide wildlife corridors. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas and facilitate the exchange of genetic traits between populations.

The Project Area is located within the Pacific Flyway for migratory birds. The Project Area is also located along the North Spit, which serves as a natural funnel for avian movement along the coast. No large expanses of high-quality natural habitat exist that would support high levels of migratory species stopover use, breeding, or wintering specifically within the Project Area (although there is considerable suitable habitat in the vicinity, around Humboldt Bay). No “essential connectivity areas,” “natural landscape blocks,” or “small natural landscape areas” have been identified or mapped in the Project vicinity by the California Essential Habitat Connectivity Project (CDFW 2021).

The Project does not include any features that would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. In addition, the Project would not impede the use of native wildlife nursery sites. As described in the NES, the habitat in the BSA has been fragmented by residential and infrastructure developments. In addition, fencing along the BSA limits the ability of large species (e.g., deer) to move freely. However, animal species (e.g., Opossums [*Didelphis virginiana*], raccoons, and skunks) do have opportunities to move between the dunes and Humboldt Bay in non-fenced areas and along vegetated corridors in the area, although they are subject to being hit by vehicles if they attempt to cross SR 255.

The Project would not result in the creation of barriers to fish passage, as aquatic habitat is not present. The Project does not include fenced enclosures or other structures that would impede wildlife and would not preclude wildlife mobility, breeding, or reproduction beyond the existing conditions. No construction-related impact has been identified. Following construction, the proposed Project would not create an impediment to wildlife movement beyond the existing conditions. No construction or operational impact would result.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less Than Significant with Mitigation)

Humboldt Bay Area Plan of the Humboldt County Local Coastal Program (LCP)

The Project is located within the Humboldt Bay Area Plan of the Humboldt County LCP (Humboldt County 2014). The Humboldt Bay Area Plan identifies land uses and standards by which development will be evaluated within the Coastal Zone as defined by the California Coastal Act. The indicated uses and standards adopted by Humboldt County, and certified by the CCC, are in conformance and satisfy the policies and requirements for coastal land use contained in the California Coastal Act and other related legislation. Section 3.30 of the Humboldt Bay Area Plan describes the Natural Resources Protection Policies and Standards. The Humboldt Bay Area Plan defines ESHA as “any area in which plant or animal life or their habitats are either rare, including locally rare, or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” Chapter 3 of the Humboldt Bay Area Plan identifies the following environmentally sensitive habitats within the Humboldt Bay Planning Area:

– Wetlands and estuaries, including Humboldt Bay and the mouth of the Mad River
– Vegetated dunes along the North Spit to the Mad River and along the South Spit
– Rivers, creeks, gulches, sloughs and associated riparian habitats, including Mad River Slough, Ryan Slough, Eureka Slough, Freshwater Slough, Liscom Slough, Fay Slough, Elk River, Salmon Creek, and other streams
– Critical habitats for rare and endangered species listed on State or federal lists

With the implementation of Mitigation Measure BIO-3, SNCs, ESHA, and wetlands located within the Project Area would not be significantly impacted. The Project would not conflict with any policies in the Humboldt Bay Area Plan. With the incorporation of Mitigation Measure BIO-3, any potential impact would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)

Currently there is not an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans that cover the Project Area. No impact would result.

7.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

For this section and in the accompanying Archaeological Survey Report (Roscoe and Associates 2018) and Historic Property Survey Report (Caltrans 2018a), the study area is termed the APE. The APE was expanded in 2018 to both the north and south of the original APE, which together included the entire Project Area. The APE is located in Wiyot ancestral lands surrounding Humboldt Bay.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (No Impact)

A Historic Property Survey Report was completed in April 2018 by Caltrans and Humboldt County (Caltrans 2018a). No historic resources, properties or structures occur within the Project APE (Caltrans 2018a). Therefore, construction and operation of the Project would have no effect on historic resources within the Project Area. No impact would result.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less than Significant Impact with Mitigation)

An Archaeological Survey Report was completed in April 2018 by Roscoe and Associates. Field surveys did not yield artifacts, features, sites or other archaeological cultural resources. The Archaeological Survey Report included the review of eighteen cultural resource surveys conducted within 0.5 miles of the Project Area. Nine archaeological sites and eighteen houses and other historic structures were reported within 0.5 miles of the Project Area; however, no archaeological sites were present within the Project Area boundary. No artifacts, features, sites or other archaeological cultural resources were encountered during the field survey conducted throughout the APE (Roscoe and Associates 2018).

Native American tribes and individuals and the NAHC were contacted by Roscoe and Associates to discuss the proposed Project. Due to the proximity of a recorded archaeological site to the APE for the proposed Project undertaking, it is recommended that a pre-construction meeting be held with field contractors in order to communicate the Protocol for Inadvertent Discovery of archaeological resources (Mitigation Measure CR-1) to all Project construction personnel; as per a request made by Janet Eidsness, Ted Hernandez (Tribal Chairperson of the Wiyot Tribe), and Erica Cooper (Bear River Band of the Rohnerville Rancheria). The pre-construction meeting is a component of Mitigation Measure CR-1.

Although no archaeological resources were observed, in order to provide protection for archaeological resources that may be inadvertently discovered during the course of construction, Mitigation Measure CR-1 would be implemented to establish protocols for inadvertent archaeological discovery. With the implementation of Mitigation Measure CR-1 the potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measures CR-1 and CR-2 would reduce the potential impact to archaeological resources or human remains by requiring procedures that shall be taken in the event of inadvertent discovery

Mitigation Measure CR-1: Inadvertent Discovery of Archaeological Material

A pre-construction meeting shall be held with field contractors, where the protocols for inadvertent discovery (described below) would be communicated. The following provides means of responding to the circumstance of a significant discovery implementation of the proposed undertaking. If cultural materials for example: chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 66 feet of the discovery, per the requirements of CEQA (Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Tribal representatives shall be notified.

Implementation of Mitigation Measure CR-1 would reduce the potential impacts to a less-than-significant level during construction because a plan would be implemented to address discovery of unanticipated archaeological resources and to preserve and/or record those resources consistent with appropriate laws and requirements.

c) Disturb any human remains, including those interred outside of formal cemeteries? (Less than Significant Impact with Mitigation)

While the Archaeological Survey Report did not determine archaeological resources were likely to be present within the APE, inadvertent discovery of human remains may still occur. In the event human remains are encountered during construction, Mitigation Measure CR-2 would be implemented to ensure any potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measure CR-2 would reduce the potential impact to archaeological resources or human remains by requiring procedures that shall be taken in the event of inadvertent discovery.

Mitigation Measure CR-2: Inadvertent Discovery of Human Remains

If human remains are discovered during project construction, work would stop at the discovery location, within 66 feet, and any nearby area reasonably suspected to overlie adjacent to human remains (PRC, Section 7050.5). The Humboldt County Coroner would be contacted to determine if the cause of death must be investigated. If the Coroner determines that the remains are of Native American origin, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC, Section 5097). The Coroner would contact the NAHC. The descendants or most likely descendants of the deceased would be contacted, and work would not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in PRC, Section 5097.98.

Implementation of Mitigation Measure CR-2 would reduce the potential impacts to a less-than-significant level during construction because a plan would be implemented to address discovery of unanticipated human remains and to preserve and/or record those resources consistent with appropriate laws and requirements.

7.6 Energy Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?		X		
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less Than Significant with Mitigation)

Construction of the Project would involve a variety of earthwork and construction practices, involving the use of heavy equipment as discussed in Section 7.1 (Air Quality). Construction would require the use of fuels, primarily gas, diesel, and motor oil. Construction emissions were estimated using CalEEMod version 2020.4.0 and were estimated to be approximately 77 $MTCO_2e$ from all construction activities (Appendix A). The Project's construction emissions equal 2.57 $MTCO_2e$ per year when annualized over the assumed 30-year lifespan of the Project. Peak travel associated with Project construction would consist of approximately 38 vehicular round trips per day, and construction equipment would remain staged in the Project Area once mobilized. Excess soils and construction materials would be stored on-site within previously designated staging areas only. Excess soils may be re-used on-site for backfill and finished grading. Excess soils would not remain stockpiled on-site once the Project is complete. The contractor may haul additional excess soils off-site for legal use at other permitted sites.

Inefficient construction-related operations would also be avoided due to the measures in Mitigation Measure AQ-1 (BMPs to Reduce Air Pollution). Equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by Mitigation Measure AQ-1). Because construction would not encourage activities that would result in the use of large amounts of fuel and energy in a wasteful manner, and the incorporation of Mitigation Measure AQ-1would reduce idling time, impacts related to the inefficient use of construction-related fuels would be less than significant with mitigation.

Operation of the Project would include periodic maintenance including annual inspections, vegetation management, and infrequent pavement repair. In the event of storm damage, more significant repairs to the shared use pathway facility may be needed. These activities would generally be supported by vehicles and use of hand-held tools. The use of fossil-fuel powered equipment to support these operational and maintenance activities would be periodic and short-term (occurring intermittently). These activities would not result in a substantial increase in energy use, and would not result in inefficient, wasteful, or unnecessary consumption of fuels or other energy resources. By promoting bicycle and pedestrian transit, the Project would have a beneficial reduction on energy resources consumed by automobiles.

Operation and maintenance of the Project would not generate additional vehicle trips nor result in an increase in energy use above existing conditions. The potential for wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant with the incorporation of Mitigation Measure AQ-1.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

The Project would not conflict with or inhibit the implementation of the State Energy Action Plan, Senate Bill (SB) 1389, SB 100, Assembly Bill (AB) 1007, or other State regulations. The Project would not inefficiently utilize energy due to incorporation of Mitigation Measure AIR-1, which limits idling time and provides measures to protect air quality. The Project would temporarily require the use of equipment in order to construct the components of the Project;

however, these activities would be temporary and would not interfere with the broader energy goals of the State. Operationally, the Project would reduce automobile-related energy consumption by promoting and supporting pedestrian and bicycle transit. The majority of California's energy-related plans are not directly applicable to the Project or its operations; however, the Project complies with those plan requirements that apply. The Project would therefore not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, as no component of the Project would require an energy source, beyond the temporary use of construction equipment. No impact would result.

7.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				X
ii. Strong seismic ground shaking?			X	
iii. Seismic related ground failure, including liquefaction?				X
iv. Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

The Project is located adjacent to an existing highway (SR 255) on the Samoa Peninsula. The Project Area is generally flat; elevations range from approximately 17 to 25 feet above mean sea level (Stillwater Sciences 2019). Regional geology is likely influenced by seismic activity as a result of the relatively close proximity of the Mendocino Triple Junction to the Project. A spur of the Mad River Fault Zone is located approximately 3.5 miles northeast of the Project, and a spur of the Little Salmon Fault Zone is located approximately five miles south of the Project as mapped by the California Geological Survey (CGS 2021). Review of historical aerial photographs indicates that the majority of the Project Area was formerly sand dunes between the Pacific Ocean to the west, and Humboldt Bay to the east.

The Project Area is predominantly comprised of Urban land-Anthraltic Xerorthents association soils with zero to two percent slopes, and a small portion of the northern extent of the Project Area is comprised of Samoa-Clambeach complex soils with zero to 50 percent slopes (NRCS 2021). The Urban land-Anthraltic Xerorthents association contains gravelly loamy fine sand in the upper horizon (to a depth of six inches), underlain by sandy loam to a depth of 31 inches, followed by gravelly sand to 43 inches and underlain by sand (NRCS 2021). The Samoa-Clambeach complex is comprised of horizons of sand (NRCS 2021).

a, a.i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)

According to the California Geological Survey, there are no earthquake fault zones in the Project Area or vicinity. The closest fault zone is located in Arcata approximately 3.5 miles northeast of the Project Area. Construction and operation of the Project would have no effect on a known earthquake fault because none exist in the Project Area. No impact would result.

a.ii) Strong seismic ground shaking? (Less than Significant)

The Project is situated within a seismically active area close to several seismic sources capable of generating moderate to strong ground motions. Because the Project is located within a seismically active area, the probability that strong ground shaking associated with large magnitude earthquakes would occur during the design life of the Project is high.

The Project Area is in proximity to numerous latest Quaternary faults located in both the onshore and offshore areas, including the Cascadia subduction zone, Gorda plate, and shallow upper plates (e.g., Mad River and Little Salmon fault zones). The Mendocino fault zone and San Andreas fault also have the potential to generate strong ground motion in the Project Area. The Humboldt County coast is a highly active tectonic region that has been subjected to numerous earthquakes of low to moderate strength and occasionally to very strong earthquakes. Seismicity in the region is attributed primarily to the interaction between the Pacific, Gorda, and North American plates. Project implementation would not increase risk of strong seismic ground shaking above existing conditions.

Under existing conditions, the Project Area is primarily utilized by vehicular traffic and does not contain residences (however, residences are located adjacent to the Project Area). In the event of an earthquake, the Project would increase exposure to strong seismic ground shaking to anticipated pedestrians and bicyclists utilizing the proposed shared use pathway. The Project would be built to California Building Code standards, which account for earthquake resiliency. A goal of the Project is to provide an evacuation route for nearby residents in the event of a tsunami or similar emergency.

Given the Project would not increase the risk of strong seismic ground shaking and would be constructed to meet California Building Code earthquake resiliency standards, the impact to people and structures from strong seismic ground shaking would be less than significant.

a.iii, aiv, c, d) Liquefaction, landslides, or otherwise unstable soils? (No Impact)

Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Liquefaction is known to occur in loose or moderately saturated granular soils with poor drainage. The proposed Project would not include residential development, occupied structures, or critical facilities that would be subject to liquefaction. The Project is located on the northern portion of the Samoa Peninsula and is generally flat. The Project Area does not include steep slopes or hillsides and thus, does not have the potential for landslides. Implementation of the Project would not exacerbate potential liquefaction, rather the potential for liquefaction would remain unchanged following Project implementation. The Project would be constructed to California Building Code requirements and is proposed adjacent to an existing roadway which is underlain by the same soils as previously identified. Therefore, the soils are not considered unstable. Implementation of the Project would have no impact on liquefaction, landslides, or otherwise unstable soils.

b) Result in substantial soil erosion or the loss of topsoil? (Less than Significant Impact)

The Project Area is comprised of sandy substrate, predominantly sandy loam at depths less than four feet from the surface (NRCS 2021). Construction activities, including excavation, grading, soil compaction, and operation of heavy machinery would disturb soil and, therefore, have the potential to cause erosion. Erosion and sediment control provisions prescribed in the Humboldt County Municipal Code, California Building Code, and the SWPPP would be required as part of the Project. BMPs may include: silt fences, straw wattles, soil stabilization controls, and site watering for controlling dust. BMPs are designed to stabilize soils and minimize the potential transport of sediment to

receiving waters during and post construction. Therefore, the potential soil erosion impact from construction would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Project does not propose the installation or modification of septic tanks or wastewater disposal systems. Therefore, construction and operation of the Project would have no impact on the potential for wastewater infrastructure.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less than Significant Impact)

Paleontological resources are the remains or traces of prehistoric animals and plants. Paleontological resources, which include fossil remains and geologic sites with fossil-bearing strata, are non-renewable and scarce and are a sensitive resource afforded protection under environmental legislation in California. Under California PRC § 5097.5, unauthorized disturbance or removal of a fossil locality or remains on public land is a misdemeanor. State law also requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources (PRC § 30244).

It is unlikely that Project construction would impact potentially significant paleontological resources because most of the Project occurs in relatively newly deposited alluvium and was graded in the mid-1960s. Additionally, the Project does not involve any deep excavation that would be more likely to result in the inadvertent discovery of paleontological resources. In the unlikely event that fossils or other paleontological resources are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities would be diverted away from the discovery within 50 feet of the find, and a professional paleontologist would be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find, as a matter of County policy. The potential impact would be less than significant.

7.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less Than Significant)

The NCUAQMD has not adopted regulations regarding the evaluation of greenhouse gas (GHG) emissions in a CEQA document and has not established CEQA significance criteria to determine the significance of impacts with regard to GHGs (NCUAQMD 2019). The NCUAQMD recommends considering the GHG emission CEQA standards from the BAAQMD. For Project construction, BAAQMD does not have quantitative GHG emission thresholds (BAAQMD 2017). Rather, the BAAQMD states that a lead agency should disclose GHG emission information and make a determination on the significance in relation to meeting AB 32 GHG reduction goals.

In order to assess the potential impact of construction-generated emissions, the construction GHG emissions were annualized over an assumed 30-year Project lifespan and added to operational emissions. Based on CalEEMod modeling (attached as Appendix A), Project construction activities would result in a small, temporary increase in GHG emissions, including exhaust emissions from on-road trucks, worker commute vehicles, and off-road heavy-duty equipment. Construction would require clearing, earthmoving, and delivery equipment, as used for similar Projects, and which have been accounted for in the State's emission inventory and reduction strategy for both on and off-road vehicles. Construction emissions were estimated using CalEEMod version 2020.4.0 and were estimated to be approximately 77 $MTCO_2e$ from all construction activities. The Project's construction emissions equal 2.57 $MTCO_2e$ per year when annualized over the assumed 30-year lifespan of the Project. Emissions during construction would not be a considerable contribution to the cumulative GHG impact, given that construction would be temporary, of short duration, and would not require a large fleet of earthmoving equipment and soil off-hauling beyond the normal equipment and activities related to such Projects. Therefore, the Project's construction-related emissions would be less than significant.

Project operation and maintenance would generate less than one traffic trip per week on average with motorized access limited to light maintenance and emergency service vehicles. The BAAQMD's (2017) Air Quality Guidelines provides screening criteria for determining if a Project could potentially result in significant operational impacts from GHG. As provided by the BAAQMD's CEQA Air Quality Guidelines, if the Project is less than the screening level, and is consistent with the methodology used to develop the screening criteria, then its GHG emissions may be considered less than significant.

The applicable operational GHG screening level is 67 acres for a municipal park. Given the small Project footprint, the Project would be substantially less than the BAAQMD's operational GHG screening level for a municipal park. Additionally, by promoting bicycle and pedestrian transit, the Project would have a beneficial reduction on energy resources consumed by automobiles. Therefore, Project operation would result in a less than significant impact on GHG emissions.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less Than Significant)

The California Air Resource Board (CARB) 2017 Climate Change Scoping Plan provides California's climate policy portfolio and recommended strategies to put the State on a pathway to achieve the 2030 target. The scenario includes ongoing and statutorily required programs, continuing the Cap-and-Trade Program, and high-level objectives and goals to reduce GHGs across multiple economic sectors. Existing programs, also known as "known commitments," identified by the 2017 Climate Change Scoping Plan include: SB 350, the LCFS, CARB's Mobile Source Strategy, SB 1383 for short-lived climate pollutants and California's Sustainable Freight Action Plan. The high-level objective and goals recommendations cover the energy, transportation, industry, water, waste management, agriculture, and natural and working lands, and are to be implemented by a variety of State agencies.

Project construction would cause a temporary increase in GHGs; however, as discussed above Project emissions would not exceed the identified emission thresholds. Project construction is analyzed for consistency with the 2017 Climate Change Scoping Plan in Table 7.8-1 – Consistency Analysis Between Project and Climate Change Scoping Plan.

Table 7.8-1 Consistency Analysis Between Project and Climate Change Scoping Plan

Scoping Plan Reduction Measures	Consistency/Applicability Determination
California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	**Consistent**. This is a statewide measure that cannot be implemented by the project or lead agency. PG&E obtains 39 percent of its power supply from renewable sources such as solar, wind, and geothermal, in conformance with various regulations (PG&E 2020). The Project would utilize PG&E power.
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**Consistent**. This is a statewide measure that cannot be implemented by the project applicant or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the Project Area during construction.
Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**Not Applicable**. This is a measure for the state to increase its energy efficiency standards in new buildings. The Project would not result in new habitable buildings subject to the energy efficiency standards.
Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	**Not Applicable.** The Project would not require operational electricity.
Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**Consistent**. This is a statewide measure that cannot be implemented by the project or lead agency. The standard would be applicable to the fuel used by vehicles that would access the Project Area during construction.
Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	**Not applicable.** This is a statewide measure calling for the development of GHG emission reduction targets.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**Not applicable.** This is a statewide measure that cannot be implemented by the Project applicant or lead agency.
Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	**Not applicable.** The Project does not propose any changes to modes of transportation of goods.

Scoping Plan Reduction Measures	Consistency/Applicability Determination
Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	**Not Applicable.** The Project does not involve structures with roofs.
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**Not applicable.** This is a statewide measure that cannot be implemented by the Project applicant or lead agency.
Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost- effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	**Not applicable.** This measure would apply to the direct GHG emissions at major industrial facilities. The Project is not industrial.
High Speed Rail. Support implementation of a high-speed rail system.	**Not applicable**. This is a statewide measure that cannot be implemented by the Project or lead agency. The Project does not involve a high-speed rail system.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Not Applicable**. This is a measure for the state to increase its energy efficiency standards in new buildings. The Project would not result in new habitable buildings subject to the energy efficiency standards.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**Not Applicable**. The Project would not include air conditioners or commercial refrigerators.
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	**Consistent.** The Project does not include a landfill. The Project would reduce construction waste with implementation of state mandated recycling and reuse mandates.
Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	**Not Applicable**. The Project is located in a rural, coastal setting and would not affect forestland. Additionally, the Project would not include areas suitable for reforestation. The Project would replant most native trees removed during construction.
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	**Not Applicable**. The Project would not include an increase in water consumption or energy use associated with water treatment or transport.
Agriculture. In the near-term, encourage investment in manure digesters and at the five- year Scoping Plan update determine if the program should be made mandatory by 2020.	**Not applicable.** The Project does not include agricultural production.

Source of Scoping Plan Reduction Measures: CARB 2008

As described in Table 7.8-1, the Project is consistent with AB 32, as outlined in the 2017 Climate Change Scoping Plans. Therefore, the Project would not conflict with AB 32 or the 2017 Climate Change Scoping Plan and would result in a less than significant impact.

7.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

An Initial Site Assessment (ISA) was completed for this Project in 2017 (GHD 2017). The purpose of the ISA was to identify areas of potentially impacted soil and/or groundwater along the Project segments that may require special handling and disposal during construction or could pose a health exposure risk to construction workers. The ISA identified two locations where potentially impacted soil and/or groundwater may be encountered, and the sites were given a Hazard Rank ranging from one to four, which are defined as follows:

– Hazard Rank 1: A site that would likely affect Project construction. Contamination of soil and/or groundwater is confirmed to be within the Project alignment.
– Hazard Rank 2: A site with the potential to affect the Project, either because of the presence of contamination that may likely migrate into the Project Area or because the extent of contamination is unknown.
– Hazard Rank 3: A site that is not known to be contaminated, but due to current or historical use could possibly have contamination that could affect Project construction.
– Hazard Rank 4: A site that has little or no potential to affect the Project.

The two locations where potentially impacted soil and/or groundwater may be encountered include the entirety of Project Area which had a Hazard Rank of 3, and a distinct location outside of the Project Area known as the Big Oil and Tire Manila Station (Big Oil) which had a Hazard Rank of 2.

This ISA was completed in general conformance with the American Society of Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process 1527-13 and the

Caltrans ISA (Standard Environmental Reference, Volume 1, Chapter 10). Interviews were not conducted with current or past property owners, tenants, or occupants of the properties located within the Project alignment and constitutes a deviation from the ASTM and Caltrans standards.

The ISA included reviewing government records for properties within one-eighth (1/8) of a mile (660 feet) of the Project alignment boundaries that may have potential for environmental concern during construction. The basis for the records review was a government database search conducted by Environmental Data Resources Inc. (EDR), as part of the ISA.

The EDR database search identified sites that government regulatory agencies have reported as having environmental concerns, such as releases of contaminants to the soil and/or groundwater, underground storage tanks (USTs) or use of hazardous materials. GHD further researched listed sites that have the potential to affect the Project by reviewing available records on the SWRCB GeoTracker Website. GHD conducted a field reconnaissance within the Project alignment on September 12, 2017 where access was granted to determine if potential sites of concern existed which were not listed in the EDR Report. The Project alignment reconnaissance was also performed to verify the locations of listed sites. Aerial photographs from 1941 to 2012, and historical topographic maps from 1933 to 2012 were provided by EDR and reviewed during the completion of the ISA.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less than Significant Impact)

Although the Project Area contains a Hazard Rank of 3, there are no known areas of contamination. Rather there could be contamination due to decades of use by vehicular traffic and the associated ADL of vehicular traffic. To analyze the potential for ADL, an Aerially-Deposited Lead Sampling Soil Sampling Report was prepared (GHD 2020c). The ADL survey was conducted at the request of Caltrans and the Humboldt County Department of Public Works – Environmental Division to evaluate the Project Area for the presence of ADL. The survey was conducted in general accordance with Caltrans Section 7-1 Environmental Rules and Requirements (Caltrans 2018d) and Environmental Protection Agency Department of Toxic Substances Control (DTSC) and California Department of Transportation Variance Agreement (DTSC 2016). The survey included the collection of 28 soil samples within the Project Area. Statistical analysis of ADL laboratory data determined the TTLC 95% UCL concentration are below 80 mg/kg throughout the Project Area, thus Project waste soil is classified as a non-hazardous waste under the DTSC Variance Agreement. As per Caltrans requirements, the contractor(s) shall prepare a project specific Lead Compliance Plan that maintains agreement with the “Lead in Construction standard” (CCR Title 8, §, 1532.1). The plan to include protocols for environmental requirements for personal protective equipment, and additional health and safety protocols for the handling of lead-containing soils. Given the ADL investigation determined waste soil is classified as non-hazardous waste under current California standards and a Lead Compliance Plan would be prepared by the contractor in accordance with DTSC and Caltrans requirements under Section 7-1.02K(6)(j)(ii) of the 2018 Standard Specifications, and potential impact would less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?? (Less than Significant)

The Project would utilize heavy machinery to perform some construction-related tasks including grading, excavation, and transportation of materials. There is always the possibility when equipment is operating that an accident could occur and fuel could be released onto the soil. As a standard BMP and condition of CWA Section 401 and Section 404 permits, equipment on-site during construction would be required to have emergency spill cleanup kits immediately accessible in the case of any fuel or oil spills. As a condition of the Project’s Coastal Development Permit, the Project would be required to submit for review and approval of the Planning Director a plan to reduce potential impacts to water quality from the use and management of hazardous materials associated with construction activities on-site. The plan would be prepared by a licensed engineer with experience in hazardous material management. The plan would provide for the following: a) equipment fueling would occur only in designated fueling areas; b) oil absorbent pads would be on-site at all times during construction. All equipment used during construction would be free of oil and fuel leaks at all times; c) provisions for preparing and pouring cement in a manner that will prevent discharges into

wetlands; d) provisions for handling cleanup and disposal of any hazardous or non-hazardous materials used during the construction Project (e.g., asphalt, equipment fuel and lubricants, etc.); e) schedule for maintenance of containment measures on a regular basis for the duration of the Project; f) provisions for the containment of rinsate from cleaning equipment (e.g., cement mixing equipment), and methods and locations for disposal off-site; g) a site map detailing the location(s) for hazardous material storage, equipment fueling and maintenance, and concrete wash-out facilities; and h) reporting protocols to appropriate public and emergency services agencies in the event of a spill. No changes to the approved plan would occur without the consent of the Planning Director. Equipment would not be refueled near any perennial wetlands or waters. If equipment must be washed, it would be washed off-site. Thus, any potential impact would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (Less than Significant)

The Redwood Coast Montessori school is located within 0.25 mile of the Project at the Manila Community Center. The Project includes the use of heavy machinery which would emit hazardous emissions such as carbon monoxide and are assumed to include the use of hazardous materials such as fuels, lubricants, degreasers, paints, and solvents. These materials are commonly used during construction, are not acutely hazardous, and would be used in small quantities. Given that construction equipment would be immediately adjacent to SR 255, which is frequently used by vehicular traffic, the emissions associated with construction equipment would be considered less than significant.

Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials. Although construction activities could result in the inadvertent release of small quantities of hazardous substances, a spill or release at a construction area is not expected to endanger individuals at nearby schools given the nature of the materials, the small quantities that would be used, and the distance of the schools from the Project Area. Therefore, because the County and its contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, and because of the nature and quantity of the hazardous materials to be potentially used by the Project, the impact related to the use of hazardous materials during construction near the school would be less than significant. Project operations would have no impact on the Redwood Coast Montessori school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (Less than Significant)

No area within the Project Area is included on lists of hazardous material sites compiled pursuant to Government Code Section 65962.5. However, the ISA identified two areas that were considered to have Hazard Rankings due to previous land uses. The two areas are the entirety of the Project Area and the Big Oil location (outside of, and to the east of, the Project Area).

A site assigned a Hazard Rank of 3 is not known to be contaminated, but due to current or historical use, has the potential for soil and groundwater contamination that could affect Project construction. SR 255 has a Hazard Rank of 3. However, SR 255 is not identified in the EDR database review or on the SWRCB Geotracker website. SR 255 was assigned a Hazard Rank of 3 due to its current and historical use as a highly trafficked roadway. The Project alignment is located immediately adjacent to SR 255, which currently and historically has been used for vehicular traffic since its development in the late 1950s/early 1960s. Historically, elevated concentrations of lead have been documented adjacent to roadways with high traffic vehicular use. Due to the proximity of the Project Area to SR 255, ADL may have impacted soils in the immediate vicinity of the roadway. As the Project is located immediately adjacent to SR 255, there is the potential for ADL, which is the basis for the Hazard Rank of 3.

A site assigned a Hazard Rank 2 has the potential to affect the Project, either because of the presence of contamination that may likely migrate into the Project Area or because the extent of contamination is unknown. The Big Oil property (located east of the Project alignment) was assigned a Hazard Rank of 2 because of identified contamination which has been subsequently cleaned. The Big Oil site is located at 180 Lupin Drive, Manila, California and is further identified as Humboldt County Division of Environmental Health (HCDEH) Local Oversight Program

(LOP) Case Number 12667. This property is located east of the Project alignment on the southeast side of Lupin Drive.

Based on information contained in the SWRCB Geotracker website and the HCDEH files, soil quality at the Big Oil site was impacted by a release of petroleum hydrocarbons from five former USTs and associated piping utilized at the property. Constituents of concern (COCs) for this site include petroleum hydrocarbons and leaking UST (LUST) metals. HCDEH correspondence dated March 31, 2005 states that the site qualifies for No Further Action (NFA) as "No significant petroleum hydrocarbon was detected in soil and groundwater samples. Water quality objectives have been met." The HCDEH March 2005 correspondence noted that, "Chromium, nickel, and zinc are considered background." The HCDEH approved NFA for this case on June 9, 2006.

The Big Oil site is located east of, and not included within, the Project alignment. Based on the information available on the SWRCB Geotracker website and contained within the HCDEH file, soil impacts do not extend off-site and groundwater flow direction is to the east, towards Humboldt Bay and downgradient of the Project alignment. It is unlikely that impacts from this site would affect soil and groundwater quality in the vicinity of the Project alignment. The Project would not be located within 15 feet of the Big Oil site, and subsurface flow from the Big Oil site moves to the east (away from the Project), and therefore the Project would have no effect on the Big Oil site. Any potential impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (No Impact)

The Project is not located within an airport land use plan or within two miles of a public airport. Therefore, no impact would result.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

Construction and operation of the Project would not modify transportation on SR 255, and therefore would not interfere with an adopted emergency response plan or emergency evacuation plan. Temporary lane closures to SR 255 during construction would not be required and emergency response or evacuation would thus not be impeded. No impact would result.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less than Significant Impact)

Please see Wildfire Section 7.20 (b).

7.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			X	
i. Result in substantial erosion or siltation on- or off-site?			X	
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
iv. Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

The Project Area does not include any streams or tributaries and is not adjacent to Humboldt Bay, which is located on the opposite side of SR 255. During wet periods, some wetland areas (both impacted and those to be created by the Project) within the Project Area are hydrologically connected to Humboldt Bay through a series of drainage ditches under SR 255. Delineated wetlands would be impacted (see Section 4.4 [b/c] – Biological Resources). An existing ditch (approximately 390 square feet [0.009 acres]) would also be impacted. Impacts to wetlands and the small ditch would require compensatory mitigation, different from CEQA mitigation, as described under the Project's HMMP, also discussed in Section 4.4 (c) (Biological Resources).

The Project has obtained a CWA Section 401 Water Quality Certification from the NCRWQCB (Water Quality Certification No. ECM PIN CW-861900; WDID 1B190178WNHU) and a CWA Section 404 permit from the USACE (Permit No. 2018-00047N).

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less Than Significant)

Construction and operational activities, such as site clearing, grading, excavation, material stockpiling, placement of trail base, and related construction activities could leave soils exposed to rain or surface water runoff that may carry soil contaminants (e.g., nutrients or other pollutants) into wetlands and ditches near the site, degrade water quality, and potentially violate water quality standards for specific chemicals, dissolved oxygen, suspended sediment, or nutrients. This impact would be potentially significant. However, the Project has obtained and must comply with permit

conditions under Section 401 and Section 404 of the CWA and administered by NCRWQCB and USACE, respectively, acting to prevent or essentially reduce the potential for Project construction and operations to violate any water quality standards or waste discharge requirements. Specific permit conditions with which the Project must comply, as related to water quality, include:

- Adherence to an in-water work window of June 15 to October 15, as well as a prohibition against work in flowing or standing surface waters
- Prohibition to withdraw surface waters
- Prohibition for use of herbicides and pesticides without prior authorization from the NCRWQCB
- Requirements to use 100% biodegradable erosion and sediment control products
- Implementation of BMPs for sediment and turbidity control, which must be in place prior to ground disturbance
- Prohibition of discharge of waste, including debris, soil, silt, sand, bar slash, sawdust, cement or concrete washing, oil, petroleum products, or other organic or earthen materials from any construction or associated activity into regulated waters, including wetlands
- Proper waste disposal and recycling in compliance with applicable State and federal laws and regulations
- Vegetation removal shall be limited to the minimum necessary to complete the Project
- Fueling, lubrication, maintenance, storage, and staging of vehicles and equipment shall not result in discharge to regulated waters or dry portions of wetlands
- At no time shall any vehicle or equipment that leaks any substance that may impact water quality be allowed

During construction, any water sourced from dewatering activities would be pumped into settling tanks or dewatering bags and used for dust control purposes. Water sourced from dewatering would not be illegally discharged to wetlands or cause polluted runoff.

As a condition of the Project's Coastal Development Permit, the Project would submit for review and approval of the Planning Director a plan for temporary storage and disposal of construction debris. The plan would demonstrate that: a) no construction materials, debris, or waste shall be placed or stored during construction where it may be subject to entering wetlands; b) final disposal locations for debris from construction activities are in upland areas and not impacting ESHA; and c) all debris from construction activities are removed within 30 days following completion of construction. The plan would include a site plan showing all proposed locations for stockpiling construction materials, debris, or construction waste; description of the manner by which the material would be removed from the construction-site and identification of all debris disposal sites that would be used; and a schedule for removal of all debris.

Also, as a condition of the Project's Coastal Development Permit, the Project would be required to submit for review and approval of the Planning Director a plan to reduce impacts to water quality from the use and management of hazardous materials associated with construction activities on-site. The plan would be prepared by a licensed engineer with experience in hazardous material management. The plan would provide for the following: a) equipment fueling would occur only in designated fueling areas; b) oil absorbent pads would be on-site at all times during construction. All equipment used during construction would be free of oil and fuel leaks at all times; c) provisions for preparing and pouring cement in a manner that would prevent discharges into wetlands; d) provisions for handling cleanup and disposal of any hazardous or non-hazardous materials used during Project construction (e.g., asphalt, equipment fuel and lubricants, etc.); e) schedule for maintenance of containment measures on a regular basis for the duration of the Project; f) provisions for the containment of rinsate from cleaning equipment (e.g., cement mixing equipment), and methods and locations for disposal off-site; g) a site map detailing the location(s) for hazardous material storage, equipment fueling and maintenance, and concrete wash-out facilities; and h) reporting protocols to appropriate public and emergency services agencies in the event of a spill. No changes to the approved plan would occur without the consent of the Planning Director.

SWRCB Order No. 2009-0009 applies to public and private construction projects that include one or more acres of soil disturbance. Because the proposed Project is anticipated to disturb over one acre of land, compliance with Order No. 2009-0009 would be required. Therefore, if construction and operation activities associated with the Project are not

properly managed, applicable water quality standards and waste discharge requirements could be violated. In compliance with the National Pollution Discharge Elimination System (NPDES) requirements, a NOI would be prepared and submitted to the NCRWQCB prior to undertaking construction, providing notification and intent to comply with the State of California Construction General Permit. In addition, a SWPPP would be prepared for pollution prevention and control prior to initiating site construction activities. The SWPPP would identify and specify the use of erosion sediment control BMPs for control of pollutants in stormwater runoff during construction related activities, and would be designed to address water erosion control, sediment control, off-site tracking control, wind erosion control, non-stormwater management control, waste management, and materials pollution control. A sampling and monitoring program would be included in the SWPPP that meets the requirements of the NCRWQCB to ensure the BMPs are effective. A Qualified SWPPP Practitioner would oversee implementation of the Plan during all elements of Project implementation, including visual inspections, sampling and analysis, and ensuring overall compliance.

The Project's vegetation removal, excavation, grading and other earthwork activities are generally limited to the trail prism footprint. Appropriate stormwater BMPs, including erosion, sediment and non-stormwater controls, would be implemented in accordance with the SWRCB's Construction General Permit to protect water quality at all times through construction. Implementation of BMPs and erosion control measures would reduce potential water quality impacts during Project construction activities to a less-than-significant level by requiring measures to control erosion and sedimentation of receiving water bodies.

For operational stormwater, the Project would obtain coverage under SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006.

Given the Project would adhere to the permit conditions established in NCRWQCB CWA Section 401 Water Quality Certification No. ECM PIN CW-861900; WDID 1B190178WNHU and USACE CWA Section 404 Permit No. 2018-00047N, which include the requirement to implement the Project's HMMP to achieve required compensatory mitigation for Project-related impacts to wetlands and a small ditch, the Project's SWPPP, and Construction General Permits for construction and operational stormwater, any potential impact to water quality would be less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (No Impact)

Groundwater monitoring occurred in the Project Area spanning winter months of 2018 and 2019 at eight monitoring wells, in support of wetland creation design development (GHD 2019). Depth to groundwater in monitored wells ranged from ground surface to nearly 20 feet below ground surface. Given construction would occur in summer and fall months when surface and groundwater conditions are much drier, groundwater would be deeper than elevations observed in 2018 and 2019.

The Project is located in the Eureka Plain Groundwater Basin 1-099 (DWR 2020) and is not listed as a basin in Critical Conditions of Overdraft (DWR 2016). Contractor-supplied water would be used during construction for dust suppression on local roadways and work areas. Use of groundwater is not anticipated for construction of the Project, although some limited dewatering of excavations may be necessary. Similarly, the Project would not decrease groundwater supplies or interfere with groundwater management. During construction, isolated and short-duration groundwater dewatering may occur as needed. Dewatering would be small in scale and limited to shallow groundwater only. No impact would result.

Following construction, the Project would not utilize groundwater and would not result in an increase in population or employment that would indirectly increase groundwater demand. Therefore, the Project would not create a deficit in aquifer volume or a lowering of water levels. Additionally, the amount of impervious surface created by the Project is minimal when compared to the remaining adjacent undeveloped surfaces, thereby not affecting groundwater recharge. The Project is not expected to result in any change in the use or recharge of any groundwater source. There would be no operational impact to groundwater.

c.i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site? (Less Than Significant)

BMPS would be implemented during construction to avoid impacts to water quality, including those related to siltation (see Hydrology and Water Quality Section (a), above). The required SWPPP, CWA Section 401, and CWA Section 404 permits would also be implemented, including measures to prevent erosion-related impacts during construction. Substantial on- or off-site erosion and siltation would not result, and the potential construction-related impact with regard to erosion and siltation would be less than significant.

The Project would add approximately 30,500 square feet (0.70 acres) of impervious Class I paved trail surface, 10 feet in width and bordered by pervious surface on either side. Because the narrow shared use pathway would be bordered by pervious surface, any new runoff resulting from the shared use pathway would quickly infiltrate, avoiding a risk of substantial erosion resulting from stormwater events. The shared use pathway design would avoid steep slopes or other design features that could contribute to slope instability, future erosion, and risk of siltation. The operational impact would also be less than significant.

c.ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Less Than Significant)

The Project Area is not located in the Federal Emergency Management Agency (FEMA) 100-year flood zone (Humboldt County 2021a). In locations where the trail's fill prism would encroach into an existing drainage ditch, the drainage ditch may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position. To avoid any potential flooding related impacts related to the Project in its entirety, cross drains or culverts under the shared use pathway would be located at low spots in the topography to convey surface drainage across the trail prism.

The vicinity of the shared use pathway near Carlson Drive was specifically reviewed to evaluate drainage conditions. The open area is in the Caltrans ROW, west of SR 255, and extending from Carlson Drive approximately 350 ft to the south. The contributing watershed in the area includes the southbound lanes of SR 255, Carlson Drive, the open highway shoulder area west of the highway pavement, and adjacent private properties. Drainage generally flows to the open highway shoulder area, where it flows in a southerly direction and is conveyed under SR 255 (in an easterly direction) through an existing 30-inch culvert. Review of the topographic survey and available utility mapping, combined with a site visit to observe existing drainage patterns and facilities, concluded that the proposed shared use pathway and wetland creation area near Carlson Drive would not impact highway drainage facilities in the area, nor would it impact drainage on adjacent properties.

Following completion of the shared use pathway, a similar drainage pattern would be maintained near Carlson Drive, with drainage flowing to the open highway shoulder area, and then in a southerly direction to the existing 30-inch culvert and avoiding increases in on- or off-site flooding. The primary change following completion of the Project would be that the new shared use pathway would split the open highway shoulder area into two distinct drainage areas (west and east of the shared use pathway), both of which would drain independently to the south. The area east of the shared use pathway (between the shared use pathway and highway) would continue to drain directly to the existing 30-inch culvert. The area west of the shared use pathway (between the trail and the western edge of the Caltrans ROW) would drain in a southerly direction, through a wetland creation area (e.g., a depressed area with wetland plantings), then under the shared use pathway by way of a concrete boardwalk (e.g., similar to a low pedestrian bridge) and into the existing 30-inch culvert. This change would not result in an increase in on- or off-site flooding near Carlson Drive.

The potential impact to on- and off-site flooding resulting from a drainage pattern would be less than significant.

c.iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Less Than Significant)

Grading would occur during summer and fall months when conditions are driest, to minimize the risk of rainfall during the construction period and thus stormwater runoff when graded soils are exposed. As discussed above in Hydrology and Water Quality Section (a), requirements of the SWPPP, CWA Section 401, and CWA Section 404 permits would also be implemented, including measures to prevent polluted stormwater runoff during construction.

Operationally, the Project does not include elements that would significantly alter topography and rates of stormwater runoff. The Project would add approximately 30,500 square feet (0.70 acres) of impervious Class I paved trail surface, 10 feet in width and bordered by pervious surface on either side. Because the narrow shared use pathway would be bordered by pervious surface, new runoff resulting from the shared use pathway would quickly infiltrate, avoiding a risk of substantial erosion resulting from stormwater events. For operational stormwater, the Project would obtain coverage under SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006. The shared use pathway would be used by non-motorized users only; thus, polluted runoff containing oil, gas, and other hazardous substances would not occur, consistent with existing conditions. The potential impact would be less than significant.

c, iv) Impede or redirect flood flows? (Less Than Significant)

The Project Area is not located in the FEMA 100-year flood zone (Humboldt County 2021a). The Project maintains existing drainage patterns and does not include any changes in to drainage structures (e.g. highway culverts or bridges) that could impede or redirect flood flows. Any potential impact on the impediment or redirection of flood flows would be less than significant

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (Less Than Significant)

The Project Area is not located in the FEMA 100-year flood zone (Humboldt County 2021a); thus, a flood hazard would not result from the Project. No impact related to flood hazards would result.

The Project Area is not located near a larger isolated body of water that may be affected by a seiche. No impact from a seiche would result.

The Project Area is entirely located in a tsunami hazard zone (Humboldt County 2021b). Due to the known seismic activity in the Pacific Rim, a tsunami could impact Humboldt Bay. It is expected that the impact of a tsunami on Humboldt Bay would primarily occur along the North and south spits and the King Salmon and Fields Landing areas, which are located directly across from the opening to Humboldt Bay. As a Project benefit, the Project would create a new tsunami evacuation route. The Project would not result in any new structures or hazardous materials that could be released into the environment in the event a tsunami. The Project Area includes adequate signage to notify the public of tsunami hazards and evacuation routes. Because there are existing tsunami evacuation plans for the area (including tsunami sirens), and the Project includes additional tsunami hazard signage, the tsunami risk is anticipated to be less than significant. The Project is therefore not expected to expose people to significant risk, loss, injury or death from tsunami inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (No Impact)

The relevant water quality control plan is the NCRWQCB's Basin Plan, which establishes thresholds for key water resource protection objectives for both surface waters and groundwater. The Project would obtain coverage under SWRCB Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities, which would include a SWPPP, in addition to CWA Section 401 and CWA Section 404 permits. These regulatory requirements and associated requisite monitoring would ensure a conflict with the Basin Plan does not occur. No impact would result.

7.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

a) Physically divide an established community? (No Impact)

The Project would involve construction and operation of a multi-purpose Class I Bikeway along the west side of SR 255 beginning near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating approximately 250 feet north of the Carlson Avenue intersection (Post Mile 4.24). The shared use pathway would not divide any existing neighborhood or community, rather it would enhance community connectivity. No impact would result.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (No Impact)

The proposed Project would be located within the existing Caltrans ROW. According to Humboldt County's Web GIS, the entirety of the Project is located within the Coastal Zone. The Project is designated as being within the primary permit jurisdiction of the County. Therefore, the only land use plan applicable to the Project is the Humboldt Bay Area Plan, with the Humboldt County General Plan being advisory. A Coastal Development Permit from the County would be acquired prior to commencing construction. The Project would adhere to all requirements of the Permit.

Applicable policies adopted for the purpose of avoiding or mitigating environmental effects can be found throughout the Humboldt Bay Area Plan and Humboldt County General Plan. A review of the Humboldt Bay Area Plan and Humboldt County General Plan elements, and the policies and standards within, did not identify any inconsistencies with the proposed Project. Specifically, the Project is consistent with the following goals included in the Humboldt Bay Area Plan:

> *3.15 RECREATIONAL AND VISITOR SERVING AREAS*
>
> **** 30213. (Part) Lower cost visitor and recreation facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*
>
> **** 30222. The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal dependent industry.*
>
> **** 30223. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*
>
> **** 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

Therefore, the Project would be consistent with all applicable land use plans and policies. A less than significant impact would result.

Agencies that regulate the filling of wetlands include the USACE and the NCRWQCB. Since the proposed Project would affect USACE and NCRWQCB "jurisdictional wetlands," the County has obtained the necessary permit(s) to comply with respective regulations including a CWA Section 404, and Section 401 Water Quality Certification. By implementing permit requirements and mitigation measures identified in the Biological Resources section above, the Project would not conflict with any applicable federal and State wetland regulations. Additionally, the proposed shared use pathway would not permanently alter the existing land uses, their designations, or their zoning, and would not

introduce new land uses or land use designations or zoning; therefore, no conflict with applicable land use plans, policies, or regulation(s) would occur. No impact would result.

7.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

a, b) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (Less than Significant)

The Project would require minor use of rock, gravel, sand, and other similar materials, but is not expected to have any significant impact on locally available minerals or mineral resources valuable to the region or the State. Additionally, the Project Area is also not designated by the Humboldt County General Plan or other local land use plan as having locally important mineral resources within the Project Area (Humboldt County 2017). The impact would be less than significant.

7.13 Noise

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Result in generation of excessive groundborne vibration or noise levels?			X	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less than Significant)

Current noise conditions on and near the Project Area consist of local traffic along New Navy Base Road, as well as the adjacent local roadways along the proposed alignment. The nearest noise-sensitive residential land uses are located approximately 30 feet west of the nearest Project construction activity (wetland creation). The nearest school is located in approximately 0.1 mile west. Additional industrial and commercial land uses are located in Samoa approximately 2 miles south of the Project Area.

The proposed Project is located within the jurisdiction of the Humboldt Bay Area Plan. However, the Humboldt Bay Area Plan does not provide noise thresholds. Therefore, the Humboldt County General Plan noise policies are applied in this Section.

Construction

Construction of the Project would result in a temporary noise increase associated with the use of construction equipment for the Project for approximately 80 working days. As the Project is linear in nature, the noise associated with construction activities would move along the alignment as work is conducted, resulting in intermittent increases at each of the adjacent sensitive receptors during the construction phase that would shift as construction progresses. Construction activities would be limited to daytime work hours between 7:00 a.m. to 7:00 p.m., Monday through Friday with occasional work on Saturdays. Furthermore, Humboldt County has not established construction-related noise standards. As the construction phase would be temporary and construction activities would be intermittent and limited to between 7:00 a.m. and 7:00 p.m., potential noise impacts generated during the construction phase would be less than significant.

Operation

The Humboldt County General Plan includes Standard N-S1, which specifies that the Land Use/Noise Compatibility Standards (Table 7.13-1 below) shall be used as a guide to ensure compatibility of land uses. Development may occur in areas identified as “normally unacceptable” if mitigation measures can reduce indoor noise levels to “Maximum Interior Noise Levels” and outdoor noise levels to the maximum “Normally Acceptable” value for the given Land Use Category.

For measuring noise levels and setting noise standards, the County uses Table 13-C (Table 7.13-1 below) of the Humboldt County General Plan, which stipulates that 60 Community Noise Equivalent Level (CNEL) is the upper acceptable limit for residential units (outside measurement), and 85 CNEL is the upper acceptable limit for "public ROW" land uses. CNEL is a measure that describes the average noise exposure over a period of time.

Table 7.13-1 Humboldt County Land Use Noise Compatibility Standards

Land Use Category	Maximum Interior Noise Level	Clearly Acceptable Noise Standard (CNEL)	Normally Acceptable Noise Level (CNEL)	Normally Unacceptable Noise Level (CNEL)	Clearly Unacceptable Noise Level (CNEL)
Residential Single Family, Duplex, Mobile Homes	45	50-55	56-60	61-75	76+
Residential Multiple Family, Dormitories, Etc.	45	50-55	56-60	61-75	76+
Transient Lodging	45	50-65	66-70	71-80	81+
School Classrooms, Libraries, Churches	45	50-60	61-65	66-75	76+
Hospitals, Nursing Homes	45	50-60	61-65	66-75	76+
Auditoriums, Concert Halls, Music Shells	35	-	50-60	61-70	71+
Sports Arenas, Outdoor Spectator Sports	-	50-60	61-65	66-75	76+
Playgrounds, Neighborhood Parks	-	50-55	56-65	66-75	76+
Golf Courses, Riding Stables, Water Rec., Cemeteries	-	50-60	61-70	71-80	80+
Office Buildings, Personal Business & Professional	50	50-65	66-75	76-80	81+
Commercial: Retail, Movie Theaters, Restaurants	50	50-65	66-75	76-80	81+
Commercial: Wholesale, Some Retail, Ind, Mfg., Util.	-	50-70	71-80	81-85	86+
Manufacturing, Communications (Noise Sensitive)	-	50-55	56-70	71-80	81+
Livestock Farming, Animal Breeding	-	50-60	61-75	76-80	81+
Agriculture (except livestock), Mining, Fishing	-	50-75	76+	-	-
Public Right of Way	-	50-75	76-85	86+	-
Extensive Natural Recreation Areas	-	50-60	61-75	76-85	86+

Source: Humboldt County General Plan 2017

Once the Project is constructed, recreational users would not generate a significant amount of noise. Noise associated with the operation of the shared use pathway would generally consist of typical human speech, sporadic dog barks, and use of non-motorized modes of transportation including bicycles, scooters, and skateboards. The use of motors, pumps, or other mechanical appurtenance capable of creating a stationary noise source would not occur. Therefore, operation would not result in noise levels exceeding the County's noise standards for residential units or public ROW land uses. No impact would result.

b) Result in generation of excessive groundborne vibration or noise levels? (Less than Significant)

Humboldt County does not establish vibration limits to minimize the potential for cosmetic damage to buildings. However, Caltrans recommends a vibration limit of 0.5 inches/second peak particle velocity (PPV) for buildings structurally sound and designed to modern engineering standards, 0.3 inches/second PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 inches/second PPV for ancient buildings or buildings that are documented to be structurally weakened. No known buildings that are documented to be structurally weakened or ancient adjoin the Project Area. Therefore, the 0.5 inches/second PPV limit would apply when considering the potential for groundborne vibration levels to result in a significant vibration impact.

The noise and vibration evaluation assessed typical vibration levels that could be expected from construction equipment at a distance of 25 feet, inclusive of required equipment and methods for all four potential construction options. Project construction activities, such as drilling, the use of jackhammers, and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. In particular, any of the deep foundation piling options could generate substantial vibration in the immediate vicinity.

Table 7.13-2 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. High-power or vibratory tools and rolling stock equipment (e.g., tracked vehicles, compactors), may generate substantial vibration in the immediate vicinity. Vibratory rollers typically generate vibration levels of 0.210 inches/second PPV at a distance of 25 feet. Vibration levels are highest close to the source and attenuate with increasing distance at a rate of $\left({}^{D_{ref}}/_{D}\right)^{1.1}$, where D_{ref} is 25 feet and D is the distance from the source to the receptor, in feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

Table 7.13-2 Typical Vibration Levels for Construction Equipment Used During Project Construction

Equipment	PPV at 25 ft. (in/sec)	Approximate Lv at 25 ft. (VdB)
Vibratory Roller	0.210	94
Large Bulldozer	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: Transit Noise and Vibration Impact Assessment, United States Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.

Project-related activities would not involve the use of explosives or other intensive construction techniques that could generate significant ground borne vibration or noise. No pile driving is anticipated; however, the Project may utilize a vibratory roller, large bulldozer, and jackhammer. Noise impacts from ground borne noise to humans are anticipated to be minor.

Vibration impacts to residences are anticipated to be minor as the closest residences are located at least 50 feet away and often at a much higher grade than the shared use pathway surface. A residence at a distance of approximately 25 feet away from a vibratory roller, as shown in Table 7.13-2, would be exposed to vibration levels up to 0.21 inches/second PPV, which is substantially less than the applicable 0.5 inches/second PPV limit for modern construction. Minor vibration adjacent to mechanized equipment and road/trail treatments during construction work would be generated only on a short-term basis. Therefore, groundborne vibration and noise would have a less than significant impact.

Following construction, operation of the Project would not result in substantial sources of groundborne vibration or groundborne noise. Project operation would not generate vibration, except in instances where larger repairs to the shared use pathway might be required. These conditions would be short-term and temporary (taking from one to several weeks to complete depending on the extent of damage or other circumstances); therefore, no operational impact would result.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)

The Project Area is located approximately 3.85 miles west of Murray Field Airport and approximately 5 miles north of the Samoa Field Airport. The Project is not located within an airport land use plan. Therefore, the Project would not expose people residing or working in the Project Area to excessive noise levels. No impact would result.

7.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

The Project would not be growth-inducing and would not result in new homes or businesses directly or indirectly. No new roads, extension of utilities, or other infrastructure would be installed or constructed that would indirectly allow for additional residential units or commercial uses to be constructed. Further, the Project does not include any residential units that would directly induce population growth. Maintenance of the shared use pathway is anticipated to be performed by local Caltrans staff. No new employment opportunities would be directly or indirectly induced by implementation of the Project. Therefore, no impact to population growth would result.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

No housing currently exists within the perimeter of the proposed shared use pathway, therefore no people or housing units would be displaced necessitating the construction of replacement housing. No impact would result.

7.15 Public Services

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire Protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services? (No Impact)

As a non-motorized transportation facility, the Project would not necessitate any related new or altered public service facilities. The Project would solely be used for recreational purposes. Given the nature of the proposed pathway, the Project would not result in a significant adverse effect on the service rations for the California Highway Patrol (CHP), sheriff, police, or fire departments. The proposed Project may result in a slight increase in motorized and non-motorized traffic in the vicinity, as the shared use pathway is anticipated to draw users for recreational and transportation purposes. However, the Project would facilitate an increase in bicycle, foot, and other non-motorized travel in the vicinity as well. The Project is not expected to substantially increase the need for patrols by local law enforcement or emergency services. The Project may ultimately have the beneficial effect of reducing the need for patrol by encouraging more public use and discouraging unwanted activity in the area. No impact with respect to fire and law enforcement would result.

As stated above in Section 7.14 (Population and Housing), the Project would not directly or indirectly induce population growth. The student population within the community is anticipated to remain the same as existing. No new or expanded schools would be required and no impact to schools would result.

The Project would present a new passive recreational opportunity by increasing connectivity within the community and encouraging residents in the vicinity to utilize the Class I Bikeway for non-motorized travel. The Project would not result in the increased use of existing parks or other public facilities as it would not induce population growth. As the Project would provide an additional recreational opportunity in the community and would not increase the population, it is anticipated that there would be sufficient service ratios with regard to parks. No expansion of recreational facilities would be required. No impacts to parks would result. Overall, no impact related to public services would occur.

7.16 Recreation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?			X	

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (Less than Significant)

The proposed Project would not lead to an increase in the use of recreational facilities that would contribute to the physical deterioration of other recreational facilities. The proposed shared use pathway would increase non-motorized transportation in the area making it convenient and safer for users to travel along the SR 255 corridor. The Project alignment does not connect into any existing recreational facilities that could then result in an increased use of those facilities.

The proposed shared use pathway is a recreational facility that could encourage the construction of other recreational facilities, predominantly other connecting trails or related amenities. Such future projects would be subject to CEQA review and other environmental approvals, as applicable, once proposed. For the Project as proposed, a less than significant impact would result.

b) Include or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (Less than Significant)

The Project would create a recreational facility where there was none prior (i.e., within the specified Project Area). The potential adverse physical effects on the environment that would result from the construction of the shared use pathway I are described in the various sections contained within Section 7 (Environmental Impact Analysis). All potentially significant adverse impacts would be mitigated to a less-than-significant level.

As discussed above, the proposed shared use pathway would be a recreational facility that could encourage the construction of other recreational facilities, predominantly other connecting trails or related amenities. Future connecting and related trail and recreational facility projects with the potential to cause significant environmental impacts would be subject to CEQA review and other environmental approvals, as applicable, once proposed., For the Project as proposed, a less than significant impact would result.

7.17 Transportation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				X
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (Less than Significant)

The Project would provide a shared use pathway along the west side of SR 255 in order to provide a non-motorized alternative to SR 255, link neighborhoods, and enhance access for users. Construction would result in vehicle trips by construction workers and haul-truck trips for material off-haul and deliveries via SR 255 from the north and US 101 from the south. Construction-related traffic would be temporary, would vary on a daily basis, and would be distributed over the course of a work day and work week. The number of construction-related vehicles traveling to and from the Project Area would vary on a daily basis. It is anticipated that up to 30 haul truck round trips would occur on a peak day. In addition, it is anticipated that construction crew trips would require up to eight round trips per day. Therefore, for the purposes of analysis, on any one day during construction, up to 38 vehicular round trips could occur.

In accordance with Caltrans requirements, the construction contractor would be required to obtain an encroachment permit from Caltrans for any portion of work completed within the SR 255 ROW or for access to the Project Area from the State accessed-controlled ROW. The construction contractor's encroachment permit application would include a proposed temporary traffic control plan, and if necessary would include plans for re-routing of vehicles, bicycles, and pedestrians. Traffic controls would be required in accordance with the County and Caltrans standards, and contractors would be required to comply with the general conditions of the encroachment permit. Therefore, through compliance with local requirements, construction activities would not result in substantial adverse effects or conflicts with the local roadway system. The temporary construction impact on the circulation system would be less than significant.

Once complete, the proposed Project is not expected to significantly increase vehicle traffic on local streets, as it is not intended to increase the area's population or redirect traffic patterns. The Project would support increased non-motorized travel to and from the area by shared use pathway users. The Project would not conflict with effective circulation system performance or intersection level of service standards. Additionally, the Humboldt County Regional Bicycle Plan identifies SR 255 (New Navy Base Road) through Manila, inclusive of the Project Area, as an area planned for installation of a multi-use trail, therefore the Project is consistent with this plan (HCAG 2018). Based on the above, the Project: (1) would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system; (2) would take into account all modes of transportation, including mass transit and non-motorized travel; and (3) would take into account other components of the transportation system, such as intersections, streets, pedestrian pathways, and bicycle pathways. Therefore, a less than significant impact would result.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (No Impact)

Pursuant to SB 743 and the current CEQA Guidelines, evaluation of a project's potential transportation impact requires consideration of vehicle miles traveled (VMT), which refers to the amount and distance of automobile travel attributable to a project. Transportation projects that reduce or have no impact on VMT are presumed to cause a less than significant transportation impact (OPR 2018). For roadway capacity projects, lead agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. The purpose of the proposed Project is to construct a multi-use shared use pathway. The Project would not add additional motor vehicle capacity to the roadway network and would not lead to additional vehicle travel. There would be no impact.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Less than Significant)

The Project would not change the geometry of the street or roadway network. Therefore, no potentially hazardous roadway design features would be introduced by the Project. The shared use pathway would be routed along the west side of SR 255, so there would be no crossing of the highway by bicyclists or pedestrians. The proposed shared use pathway includes new crossings at Lupin Avenue and Carlson Drive; however, traffic is minimal within this area. The shared use pathway would be demarcated at this crossing by features such as: differentiated pavement coloring, crosswalk markings, intersection lighting, and intersection signage for motorists and shared use pathway users.

Roadway crossings would be ADA-accessible and include warning signage and markings on the shared use pathway. In addition, directional/wayfinding signage would be installed at regular intervals to inform shared use pathway users of nearby connections to surface streets and nearby destinations.

In compliance with Caltrans standards for a Class I Bikeway, segments of the shared use pathway adjacent to roadways must be separated by at least five feet. The pathway’s edge of shoulder would be at least 30 feet from the edge of traveled way along SR 255 (i.e., outside the clear recovery zone for an expressway), with the exception of areas near the three intersections and crosswalks.

The proposed shared use pathway may have potential conflicts between users who are stationary (such as birdwatchers) and bicyclists due to the difference in these activities. However, since the proposed shared use pathway would have striping, signage, and unpaved shoulders on both sides which could be used by birdwatchers and other uses who want to get out of the main travel lanes, substantial safety related conflicts between shared use pathway users and stationary individuals would be avoided.

Based on the information above, the proposed Project would not substantially increase hazards due to a design feature; therefore, the impact is less than significant.

d) Result in inadequate emergency access? (Less than Significant)

The proposed shared use pathway would be adjacent to existing streets and SR 255. Emergency access to the Project Area already exists from these streets and SR 255, and would continue to exist under the proposed Project during both construction and operation. Bollards would be placed at shared use pathway intersections and entrances to prevent all but emergency and maintenance vehicles from entering. Since the shared use pathway corridor is already served by emergency and law enforcement personnel, the shared use pathway would not slow or hinder emergency response, would not require additional emergency services, and would maintain emergency access to all shared use pathway segments; therefore, a less than significant impact would result.

Following construction, all properties along the Project alignment would continue to have emergency access. No operational impact on emergency access would result.

7.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)?				X
b) Cause a substantial adverse change in the significance of a tribal cultural resource that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.				X

Please see Section 4.4 (Tribal Consultation) for a summary of tribal consultation. Tribal cultural resources were not identified during tribal consultation.

a,b) Cause a substantial adverse change in the significance of a tribal cultural resource? (No Impact)

During agency consultation, one recorded archaeological resource of concern to the Blue Lake Rancheria was identified and discussed with tribal representatives. Tribal cultural resources were not identified. The Blue Lake Rancheria THPO's request for inadvertent discovery protocol and for a meeting to discuss the inadvertent discovery protocol is included as Mitigation Measure CR-1. No additional requests were made from the consulted tribes. Therefore, no impact to tribal cultural resources would result.

7.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (Less than Significant)

The proposed Project does not involve the use or construction of any facilities that would require new water, wastewater, electrical, natural gas, or telecommunications utilities. Existing water lines near the area of disturbance are shown on the construction plans and will be flagged and protected during construction. The Project would be designed to maintain existing drainage patterns and would typically have a two percent or less cross slope to allow surface water to flow off the shared use pathway surface. In cases where the trail's fill prism encroaches into the existing drainage ditch, the drainage ditch may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position. Cross drains or culverts under the shared use pathway or boardwalk crossings would be located at low spots in the topography to convey surface drainage across the trail prism. The construction of these improvements has been evaluated throughout this IS/MND. No stormwater drainage improvements beyond these mentioned would be required. A less than significant impact would result.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)

The proposed Project would not create an increased demand for domestic water service. The Project would require relatively small quantities of water during the construction phase (e.g., for dust control and concrete/asphalt applications). The Project's water demands would not be substantial and can be met by existing entitlements and resources. Therefore, the Project would not result in the need for the construction of new water facilities, or the expansion of existing facilities. There would be no impact.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)

The Project does not involve sewerage facilities or wastewater treatment and would not impact existing municipal sewerage infrastructure or result in a demand increase on existing wastewater treatment capacity. No impact would result.

d, e) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (Less than Significant)

The solid waste provider in the area is the Humboldt Waste Management Authority (HWMA). The Project is not expected to generate a significant increase of services for solid waste disposal needs. The proposed shared use pathway would generate limited solid waste during construction and even less waste during operation. Construction solid waste would include the one-time temporary generation of construction waste associated with the proposed development of the shared use pathway. Recyclable construction materials (e.g., scrap metal, wood, concrete, glass) could be shipped to local businesses for reuse, with non-recyclable materials sent to the HWMA transfer station in Eureka or Samoa, California.

The Project may include waste receptacles, spaces for recycling bins, and pet waste stations. Solid waste collected as a part of the Project would be disposed of by the HWMA. HWMA trucks solid waste produced in the County to State licensed landfills located in Anderson, California and Medford, Oregon in compliance with local, State, and federal regulations pertaining to solid waste disposal. These facilities have sufficient capacity to serve the Project's solid waste disposal needs; therefore, a less than significant impact is anticipated

7.20 Wildfire

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slop instability, or drainage changes?				X

The Project Area is not located in or near a State Responsibility Area (SRA) or on lands classified as very high fire severity zones. The Project Area is located approximately 5 miles from the nearest SRA and approximately 8 miles from lands classified as a very high fire hazard severity zone (Humboldt County 2021c, 2021d).

a) Substantially impair an adopted emergency response plan or emergency evacuation plan (No Impact)

A review of the Humboldt County Emergency Operations Plan (Humboldt County 2015) and the Tsunami Inundation Map for Emergency Planning – County of Humboldt (CGS 2021) indicates that the proposed shared use pathway would not impair emergency response activities nor established evacuation routes. As an objective of the Project, the tsunami evacuation route would be enhanced. The Project would not block or alter any roads or pedestrian ways within the Project Area. No impact would result.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less than Significant)

The shared use pathway would be located in the Caltrans ROW along SR 255 within a fairly flat topographical area. Some grassland and other vegetation are present along the alignment. The vegetated portions could be susceptible to wildfire during Project construction or operation, as a result of accidental ignition. During construction, all hazardous materials and construction equipment would be appropriately used and stored pursuant to all required State and local regulations. During operation, the Project would not house any pollutants within the Project Area that may be released if a wildfire occurred. Furthermore, the Project does not include any structures built for human occupancy. Most shared use pathway users would be within the Project Area for a short period of time given the purpose is for passive recreational use. Due to the temporary nature of construction, the minimal amount of pollutants anticipated to be stored during the construction phase, the fact that the Project is located within an area of “moderate” fire risk, and that the Project does not provide any structures to be used for human occupancy, it is not anticipated to exacerbate wildfire risks and thereby expose users to pollutants. A less than significant impact would result.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)

Development of the shared use pathway would not result in a need to expand infrastructure to the Project Area or in the immediate vicinity of the Project. New roads for fire defense, expanded water sources, new power lines, or the development of other utilities would not be required. No impact would result.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes? (No Impact)

The Project Area is located within a low slope area of topography and no surface waters are located within the Project footprint. If a wildfire were to occur, post-fire slope instability would be unlikely. Furthermore, the drainage of the Project Area is not proposed to change as a result of the Project. Therefore, no impact would result.

7.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Does the project:				
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?			X	

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less than Significant Impact with Mitigation)

As evaluated in this IS/MND, the Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

Mitigation measures are listed herein to reduce impacts related to air quality, biological resources, cultural resources, and hazards and hazardous materials. With implementation of the required mitigation measures, impacts would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (Less than Significant)

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. As discussed in Section 6.11 (Land Use and Planning), the Project is consistent with the goals and policies of the Humboldt County General Plan and Humboldt Bay Area Plan. The establishment of a multi-use pathway in the Manila community would promote non-motorized transportation, recreation and coastal access opportunities for the public, which is a goal of the County.

Table 6.21-1 provides a list of past, present, and reasonably foreseeable future projects within and near the Project Area in the communities of Samoa and Manila, including a brief description of the projects and their anticipated construction schedules (if known). Single-family homes and other similar small-scale uses were not included because of their negligible cumulative effects. Efforts to identify cumulative projects included outreach to the Humboldt County Planning Department, Caltrans, Humboldt County Department of Public Works, Manila Community Services District (CSD), and the Humboldt Bay Harbor, Recreation, and Conservation District. Identified projects are summarized in Table 6.21-1.

Table 6.21-1 Projects Considered for Cumulative Impacts

Project Name and Location	Project Description	Estimated Construction Schedule	Relevancy to the Project's Potential Cumulative Impacts
Harbor District Mariculture Development Program *Located approx. 3 miles south in Samoa, in Humboldt Bay*	Various Harbor District-led projects to support commercial fisheries in Humboldt Bay.	Ongoing	Not directly relevant due to distance. Additionally, the Project does not involve waters or habitats of Humboldt Bay.
Nordic Aquafarms proposed aquaculture facility *Located approx. 3 miles south in Samoa*	Land-based private aquaculture facility with a discharge to the Pacific Ocean and water intake via Humboldt Bay.	Starting demolition in 2022, continuing construction through 2026.	Not directly relevant due to distance. Additionally, the Project does not involve waters or habitats of Humboldt Bay and/or the Pacific Ocean.
Peninsula Community Services District Samoa Peninsula Wastewater Treatment Facility *Located approx. 2 miles south in Samoa, in Humboldt Bay*	Construction of the new facility would collect and treat wastewater from Samoa and Fairhaven, CA. After treatment, effluent would be discharged via the RMT II ocean outfall into the Pacific.	Construction would commence no sooner than 2022 and possibly later, pending funding and permitting approvals	Not directly relevant due to distance. Additionally, the community of Manila would not be serviced by the wastewater treatment facility. The Project does not involve the waters or habitats of the Pacific Ocean.
Speculative fiber optic off-shore cable landing project *Landing location in Samoa, CA and roadside subsurface cable along both sides of SR 255*	An off-shore fiber optic cable would cross the sea floor and land in or near Samoa, CA.	Estimated 2027	Applicable. The subsurface fiber optic cable would also be located in the Caltrans right of way. The cable would be located adjacent to the edge of the highway and thus would not spatially conflict with the Project.
Samoa Town Improvements, including new housing *Located approx. 2 miles south in Samoa*	A Coastal Development Permit has been issued by Humboldt County for components of the Samoa Town Master Plan, including demolition of buildings, remodeling the Cookhouse, constructing a campground and cabins, upgrades to the maritime museum, and other improvements.	Construction would occur in 2021	Not directly applicable due to distance.
Speculative future off-shore wind projects *Pacific Ocean west of Samoa and Manila, exact locations unknown*	Future off-shore wind projects may require land-based infrastructure in or near Samoa, CA.	Unknown	Not directly applicable due to distance.
Renewable Energy Port *Located approx. 2 miles south in Samoa*	Future large-scale wind energy support facility proposed by the Humboldt District.	Unknown	Not directly applicable due to distance.

Project Name and Location	Project Description	Estimated Construction Schedule	Relevancy to the Project's Potential Cumulative Impacts
Manila CSD Drainage Improvement Project *Located near the Project in Manila*	Grading, bioswales, rain garden at the Manila Community Center, wetland enhancement, and culvert upgrades to improve drainage throughout Manila.	Future, year unknown; dependent upon unsecured grant funding.	Applicable. The drainage improvements would be located near the Project and would involve ground disturbance.
Manila CSD Recreation Improvement Projects *Located near the Project in Manila*	Minor grading to enhance the existing community park and recreation facilities in Manila.	Future, year unknown; dependent upon unsecured grant funding.	Applicable. The drainage improvements would be located near the Project and would involve ground disturbance.
Manila CSD Drinking Water Improvement Project *Located near the Project in Manila*	New, larger water storage tank, pumps, and control house. New water line crossing under SR 255 at Carlson Drive. Ground disturbance limited to existing disturbed areas.	Future, year unknown; dependent upon unsecured grant funding.	Applicable. The water improvements would be located near the Project and would involve ground disturbance.
Manila CSD Wastewater Improvement Project *Located near the Project in Manila*	Miscellaneous upgrades to the wastewater septic tank effluent pumping system, including pump replacements. Minimal ground disturbance needed.	Future, year unknown; dependent upon unsecured grant funding	Applicable. The wastewater improvements would be located near the Project and would involve ground disturbance.
Friends of the Dunes Barr Property Enhancements *Trailhead to be located at 365 Lupin Avenue, Manila*	Trail improvement and habitat restoration project.	Future, year unknown.	Applicable. The trailhead would be located within proximity to the Project.
Peninsula Drive Pedestrian Improvements *Near the Manila Community Center*	Cross walk and pedestrian improvements.	Recently completed.	Applicable. The pedestrian improvements provide connectivity to the Project.

Of the projects considered in Table 6.21-1, the fiber optic cable, Manila CSD projects, Friends of the Dunes Barr Property Enhancements, and Peninsula Drive Pedestrian Improvements are applicable for consideration of potential cumulative effects.

– The fiber optic cable would also be located in the Caltrans ROW through Manila. However, the cable would be located directly adjacent to or even under the SR 255 shoulder and thus, would not spatially conflict with the Project. The majority of the fiber optic cable would be constructed using horizontal directional drilling, which would minimize ground disturbance and grading. The fiber optic cable project would presumably implement standard BMPs for erosion control, water quality protection, avoidance of sensitive habitat, and other environmental minimization measures as a function of that project's regulatory authorizations. Any potential cumulative adverse impact would remain less than significant.
– The four projects proposed by the Manila CSD would also be located within proximity and involve varying levels of grading and/or ground disturbance. All proposed activities would be fully permitted and thus, include standard measures for environmental protection. Improvements to drainage and recreational facilities would result in benefit to the environmental when combined with the Project by improving biological, hydrology and water quality, and recreational conditions in Manila. Improvements to water and wastewater infrastructure would not be environmentally impactful. All four projects remain speculative, pending acquisition of required grant funds. Any potential cumulative adverse impact would remain less than significant.

– The Friends of the Dunes Barr Property Enhancements, which include a proposed trailhead on Lupin Avenue, near the proposed Project, would result in a cumulative environmental benefit to biological and recreational resources. A cumulative adverse environmental impact would not result.
– The recently completed Peninsula Drive Pedestrian Improvements would provide connectivity from the Project to residences along Peninsula Drive as well as the Manila Community Center. The pedestrian improvements did not result in any significant environmental impact. Together, the two projects would result in a cumulative environmental benefit to transportation and recreational resources. By reducing reliance on automobiles for mobility within the community of Manila, potential impacts to air quality, GHGs, and energy would also be reduced. A cumulative adverse environmental impact would not result.

The impacts associated with the proposed Project analyzed in this IS/MND would not add appreciably to any existing or foreseeable future significant cumulative impact, such as visual quality, cultural resources, biological, traffic impacts, or air quality degradation. Incremental impacts, if any, would be negligible and undetectable. Any applicable cumulative impacts to which this Project would contribute would be mitigated to a less-than-significant level. Incremental impacts, if any, would be very small, and the cumulative impact would be less than significant. Because the proposed Project would not result in significant impacts after mitigation, and because the proposed Project is a shared use pathway project rather than a development project that could add to existing and future population growth and development in the area, the proposed Project would not contribute to any significant cumulative impacts which may occur in the area in the future. Therefore, the impact would be less than significant.

c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less than Significant)

The Project has been planned and designed to avoid significant environmental impacts. As discussed in the analysis throughout Section 6 of this IS/MND, the Project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings. The Project would also enhance the tsunami evacuation route for the community of Manila, which would benefit human safety. The impact would be less than significant.

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9. Report Preparers

9.1 Lead Agency

Hank Seemann, Deputy Director, Humboldt County Department of Public Works

9.2 GHD

Andrea Hilton, Environmental Planner

Charles Smith, AICP, LEED AP, Senior Environmental Planner

Josh Wolf, Professional Engineer

Chryss Meier, Air Quality Planner

Kerry McNamee, Environmental Planner

Haley Cahill, Environmental Planner

Genevieve Rozhon, Wildlife Biologist

Elizabeth Meisman, Wildlife Biologist

Appendices

Appendix A

CalEEMod Modeling Information and Results

Date: 7/19/2021 3:14 PM

Manila SR 255 Shared Use Path Project - Humboldt County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Manila SR 255 Shared Use Path Project

Humboldt County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.00	Acre	1.00	43,560.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	103
Climate Zone	1			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project would disturb over 1 acre

Construction Phase - Project-Specific Phases and Durations

Off-road Equipment - Project-specific equipment and use

Grading - Grading: 1,900 cy Import, 7,200 cy Export

Demolition - 70 tons of demo'd pavement

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	2.00	25.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	15.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	PhaseEndDate	5/13/2022	5/6/2022

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tblConstructionPhase	PhaseEndDate	5/18/2022	7/8/2022
tblConstructionPhase	PhaseEndDate	5/16/2022	6/3/2022
tblConstructionPhase	PhaseStartDate	5/17/2022	6/4/2022
tblConstructionPhase	PhaseStartDate	5/14/2022	5/7/2022
tblGrading	MaterialExported	0.00	7,200.00
tblGrading	MaterialImported	0.00	1,900.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0275	0.3114	0.3588	8.3000e-004	0.0132	0.0119	0.0252	3.4500e-003	0.0111	0.0145	0.0000	75.1319	75.1319	0.0132	4.5100e-003	76.8060
Maximum	**0.0275**	**0.3114**	**0.3588**	**8.3000e-004**	**0.0132**	**0.0119**	**0.0252**	**3.4500e-003**	**0.0111**	**0.0145**	**0.0000**	**75.1319**	**75.1319**	**0.0132**	**4.5100e-003**	**76.8060**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	1. Demolition	Demolition	5/2/2022	5/6/2022	5	5	
2	2. Site Preparation	Site Preparation	5/7/2022	6/3/2022	5	20	
3	3. Grading	Grading	6/4/2022	7/8/2022	5	25	
4	4. Trenching (Open Cut)	Trenching	6/19/2022	6/21/2022	5	2	
5	5. Concrete Sidewalk, Retaining Wall, and Boardwalk	Site Preparation	6/22/2022	7/12/2022	5	15	
6	6. Paving	Paving	7/13/2022	7/26/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
1. Demolition	Concrete/Industrial Saws	1	2.00	81	0.73
1. Demolition	Excavators	1	6.00	158	0.38
1. Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
2. Site Preparation	Excavators	1	8.00	158	0.38
2. Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
2. Site Preparation	Generator Sets	1	4.00	84	0.74
2. Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
3. Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
3. Grading	Excavators	2	8.00	158	0.38
4. Trenching (Open Cut)	Tractors/Loaders/Backhoes	1	4.00	97	0.37
4. Trenching (Open Cut)	Excavators	1	4.00	158	0.38
5. Concrete Sidewalk, Retaining Wall, and Boardwalk	Tractors/Loaders/Backhoes	1	4.00	97	0.37

Manila SR 255 Shared Use Path Project - Humboldt County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5. Concrete Sidewalk, Retaining Wall, and Boardwalk	Excavators	1	4.00	158	0.38
5. Concrete Sidewalk, Retaining Wall, and Boardwalk	Generator Sets	1	2.00	84	0.74
6. Paving	Pavers	1	8.00	130	0.42
6. Paving	Rollers	2	8.00	80	0.38
6. Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
6. Paving	Paving Equipment	1	8.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
1. Demolition	3	8.00	0.00	7.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
2. Site Preparation	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
3. Grading	4	10.00	0.00	900.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
4. Trenching (Open Cut)	2	5.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
5. Concrete Sidewalk, Retaining Wall, and	3	8.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
6. Paving	5	13.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Manila SR 255 Shared Use Path Project - Humboldt County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 1. Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1000e-004	8.2200e-003	0.0126	2.0000e-005		4.2000e-004	4.2000e-004		4.0000e-004	4.0000e-004	0.0000	1.6990	1.6990	4.6000e-004	0.0000	1.7104
Total	**9.1000e-004**	**8.2200e-003**	**0.0126**	**2.0000e-005**	**7.5000e-004**	**4.2000e-004**	**1.1700e-003**	**1.1000e-004**	**4.0000e-004**	**5.1000e-004**	**0.0000**	**1.6990**	**1.6990**	**4.6000e-004**	**0.0000**	**1.7104**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	7.0000e-004	1.1000e-004	0.0000	6.0000e-005	1.0000e-005	6.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2143	0.2143	0.0000	3.0000e-005	0.2244
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.0600e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2050	0.2050	1.0000e-005	1.0000e-005	0.2076
Total	**1.7000e-004**	**8.1000e-004**	**1.1700e-003**	**0.0000**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**8.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**0.4194**	**0.4194**	**1.0000e-005**	**4.0000e-005**	**0.4320**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 2. Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0200e-003	0.0585	0.0873	1.4000e-004		2.8400e-003	2.8400e-003		2.6700e-003	2.6700e-003	0.0000	11.9281	11.9281	3.0800e-003	0.0000	12.0051
Total	**6.0200e-003**	**0.0585**	**0.0873**	**1.4000e-004**	**0.0000**	**2.8400e-003**	**2.8400e-003**	**0.0000**	**2.6700e-003**	**2.6700e-003**	**0.0000**	**11.9281**	**11.9281**	**3.0800e-003**	**0.0000**	**12.0051**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.5000e-004	5.7000e-004	5.3100e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0250	1.0250	4.0000e-005	4.0000e-005	1.0380
Total	**7.5000e-004**	**5.7000e-004**	**5.3100e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0250**	**1.0250**	**4.0000e-005**	**4.0000e-005**	**1.0380**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 3. Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.1000e-004	0.0000	5.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2000e-003	0.0865	0.1377	2.1000e-004		4.4100e-003	4.4100e-003		4.0600e-003	4.0600e-003	0.0000	18.2288	18.2288	5.9000e-003	0.0000	18.3762
Total	**9.2000e-003**	**0.0865**	**0.1377**	**2.1000e-004**	**5.1000e-004**	**4.4100e-003**	**4.9200e-003**	**8.0000e-005**	**4.0600e-003**	**4.1400e-003**	**0.0000**	**18.2288**	**18.2288**	**5.9000e-003**	**0.0000**	**18.3762**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9900e-003	0.0904	0.0140	2.9000e-004	7.4300e-003	8.2000e-004	8.2500e-003	2.0500e-003	7.9000e-004	2.8300e-003	0.0000	27.5582	27.5582	8.0000e-005	4.3300e-003	28.8509
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	7.2000e-004	6.6400e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2813	1.2813	5.0000e-005	5.0000e-005	1.2975
Total	**2.9200e-003**	**0.0911**	**0.0207**	**3.0000e-004**	**8.9300e-003**	**8.3000e-004**	**9.7600e-003**	**2.4500e-003**	**8.0000e-004**	**3.2400e-003**	**0.0000**	**28.8394**	**28.8394**	**1.3000e-004**	**4.3800e-003**	**30.1483**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 4. Trenching (Open Cut) - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-004	1.7300e-003	2.7500e-003	0.0000		9.0000e-005	9.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.3640	0.3640	1.2000e-004	0.0000	0.3670
Total	**1.8000e-004**	**1.7300e-003**	**2.7500e-003**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.3640**	**0.3640**	**1.2000e-004**	**0.0000**	**0.3670**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0513	0.0513	0.0000	0.0000	0.0519
Total	**4.0000e-005**	**3.0000e-005**	**2.7000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0513**	**0.0513**	**0.0000**	**0.0000**	**0.0519**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 5. Concrete Sidewalk, Retaining Wall, and Boardwalk - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-003	0.0185	0.0276	4.0000e-005		9.4000e-004	9.4000e-004		8.8000e-004	8.8000e-004	0.0000	3.7941	3.7941	9.3000e-004	0.0000	3.8175
Total	**2.0000e-003**	**0.0185**	**0.0276**	**4.0000e-005**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**8.8000e-004**	**8.8000e-004**	**0.0000**	**3.7941**	**3.7941**	**9.3000e-004**	**0.0000**	**3.8175**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	3.4000e-004	3.1900e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6150	0.6150	2.0000e-005	2.0000e-005	0.6228
Total	**4.5000e-004**	**3.4000e-004**	**3.1900e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6150**	**0.6150**	**2.0000e-005**	**2.0000e-005**	**0.6228**

Manila SR 255 Shared Use Path Project - Humboldt County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 6. Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4000e-003	0.0447	0.0568	9.0000e-005		2.3600e-003	2.3600e-003		2.1700e-003	2.1700e-003	0.0000	7.5015	7.5015	2.4300e-003	0.0000	7.5622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4000e-003**	**0.0447**	**0.0568**	**9.0000e-005**		**2.3600e-003**	**2.3600e-003**		**2.1700e-003**	**2.1700e-003**	**0.0000**	**7.5015**	**7.5015**	**2.4300e-003**	**0.0000**	**7.5622**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.7000e-004	3.4500e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.8000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6663	0.6663	3.0000e-005	3.0000e-005	0.6747
Total	**4.9000e-004**	**3.7000e-004**	**3.4500e-003**	**1.0000e-005**	**7.8000e-004**	**1.0000e-005**	**7.8000e-004**	**2.1000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6663**	**0.6663**	**3.0000e-005**	**3.0000e-005**	**0.6747**

Appendix B

Natural Environment Study
(Including Wetland Delineation)

Manila Highway 255 Bike Path Project *NES*



Natural Environment Study
Manila Highway 255 Bike Path Project
Community of Manila, Humboldt County, California
01-HUM-CA-255-3.64–4.14
RPSTPL-5904(143)
January 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

COUNTY OF HUMBOLDT
The Home of the Redwoods

Suggested citation:
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Cover photo: A section of the proposed Manila Bike Path Project, July 2017.

Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
and Humboldt County Department of Public Works

Prepared By: Emily King Teraoka Date: 3 January 2019

Emily Teraoka
(707) 822-9607
850 G Street, Arcata, CA 95521
Stillwater Sciences

Local Agency Approved By: Hank Seemann Date: 1/14/2019

Hank Seemann, Deputy Director
Humboldt County Public Works Department
(707) 445-7741

Caltrans Approved By: Christa R. Unger Date: 1/8/2019

Christa R. Unger, Environmental Planner
Local Assistance, District 1, Caltrans
(707) 441-5604

Caltrans SEP Approved By: Brandon Larsen - Acting Date: 1/8/19

Brandon Larsen, Senior Environmental Planner
Local Assistance, District 1, Caltrans
(707) 445-6410

SUMMARY

The Manila Bike Path Project (Project) is a collaborative effort between Humboldt County, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District to provide a bike path (also known as a shared-use path or multi-use trail) along the west side of State Route 255 (CA-255). The Project is intended to improve safety for non-motorized and motorized travelers in Manila and facilitate the use of active modes of transportation by removing the existing gap in non-motorized travel pathways between the Pacific, Lupin, and Carlson neighborhoods. Additional benefits of the Project will include heightened driver awareness of the community, enhanced coastal access, and increased opportunities for recreation and nature study.

The Project will involve the clearing and grubbing of vegetation within the footprint of the bike path. Construction staging areas will be located within the Project footprint, within paved or graveled areas, or in designated previously disturbed areas. Although the Project is being designed to avoid U.S. Army Corps of Engineers (USACE)- and California Coastal Commission (CCC)-jurisdictional waters and wetlands to the extent possible, it is anticipated that 2,895 square meters (m^2) (31,165 square feet [ft^2]) of USACE- and CCC-jurisdictional waters and wetlands will be impacted. Implementation of avoidance and minimization efforts will reduce these potential impacts; wetlands will be created on-site at a ratio of 1:1 to ensure no net loss of USACE- and CCC-jurisdictional waters and wetlands.

A protocol-level botanical survey is recommended in a portion of the Biological Survey Area (BSA[1]) (i.e., the 2018 BSA) prior to construction to assess whether special-status plant species occur and may be affected. The Project is being designed to minimize impacts on sensitive natural communities (i.e., coastal scrub, willow scrub, wetland dune swales, and freshwater marsh). However, it is anticipated that 2,895 m^2 (31,165 ft^2) of sensitive natural communities will be impacted. All sensitive natural communities that will be impacted are within the boundaries of the potential USACE- and CCC-jurisdictional waters or wetlands. No upland Environmentally Sensitive Habitat Area (ESHA) will be impacted by the Project. The onsite wetlands establishment will also compensate for impacts on sensitive natural communities.

There is the potential that the Project may affect northern red-legged frogs. Adverse effects including injury or mortality could result from being run over by heavy equipment during vegetation clearing and later phases of the work such as placement of the path's base rock and finished surface. Implementation of avoidance and minimization efforts will reduce the potential impacts on northern red-legged frogs.

Suitable nesting habitat for several Migratory Bird Treaty Act- (MBTA) protected nesting bird species is present in the BSA and it can be assumed that MBTA-protected nesting birds are present during the nesting season (15 March to 15 August). Project implementation will take place during the nesting season for these birds. Adverse impacts on active nests, eggs, or nestlings could occur by direct contact during vegetation clearing activities. Indirect adverse impacts could occur due to construction-related noise disturbance of active nests, which could inhibit egg brooding and feeding of nestlings, which could indirectly result in injury or mortality of eggs and young. However, implementation of avoidance and minimization efforts will reduce the potential impacts on MBTA-protected nesting birds.

[1] The BSA is the boundary of the biological field studies. The terms "2017 BSA" and "2018 BSA" refer to the area evaluated in each respective year. The term "BSA" (with no date) refers to both areas combined.

Several invasive plant species were observed in the BSA in the developed, landscaped, and nonnative perennial grassland habitats. Implementation of avoidance and minimization efforts will reduce the risk of spreading invasive plant species to adjacent sensitive natural communities. There are several invasive animal species within and adjacent to the BSA. The Project will have no influence on the proliferation or range expansion of these species.

With the implementation of the avoidance and minimization measures described in this document, the Project will have no effect on any state or federally listed species, designated critical habitat, or essential fish habitat.

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List of Abbreviated Terms

A	Absent
BGEPA	Bald and Golden Eagle Protection Act of 1940
BMP	Best Management Practice
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCA	California Coastal Act of 1976
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act of 1970
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH	Critical Habitat
cm	centimeter(s)
CNDDB	California Natural Diversity Database
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DOT	U.S. Department of Transportation
EO	Executive Order
FESA	Federal Endangered Species Act of 1973
ESHA	Environmentally Sensitive Habitat Area
FC	Federal Candidate
FE	Federal Endangered
FGDC	Federal Geographic Data Committee
FP	Fully Protected
FPE	Federal Proposed Endangered
FPT	Federally Proposed Threatened
FT	Federal Threatened
ft	foot/feet
ft^2	square feet
GIS	Geographic Information System
GPS	Global Positioning System
HCWMA	Humboldt County Weed Management Area
HP	Habitat Present
in	inch(es)
km	kilometer(s)
LCP	Local Coastal Program
m	meter(s)
m^2	square meters
mi	mile(s)
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act of 1976
NCDC	National Climatic Data Center

NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
P	Present
PM	post mile
ppt	parts per thousand
Project	Manila Bike Path Project
RGL	Regulatory Guidance Letter
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SCT	State Candidate Threatened
SE	State Endangered
SFP	CDFW Fully Protected Species
SSC	Species of Special Concern
ST	State Threatened
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDR	Waste Discharge Requirement
WMVC	Western Mountains, Valleys, and Coast Regions

1 INTRODUCTION

The Manila Bike Path Project (Project) is a collaborative effort between Humboldt County, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District to provide a bike path (also known as a shared-use path or multi-use trail) along the west side of State Route 255 (CA-255). The Project includes intersection improvements along Pacific Avenue and Peninsula Drive and installation of streetlights at the Dean Street/Pacific Avenue intersection. The Project also includes creating wetlands on-site (Appendix E). The bike path has been designed in accordance with the Class I standard defined in Chapter 1000 of the Highway Design Manual (Caltrans 2016) and will consist of a paved path with shoulders on either side that is situated at least 1.5 meters (m) (5 feet [ft]) from the edge of the standard shoulder along the west side of CA-255. The project also includes the establishment of wetlands in onsite upland areas adjacent to the proposed bike path and in open space along SR 255 between Post Mile 3.45 and 3.58.

1.1 Project History

The Project is intended to improve safety for non-motorized and motorized travelers in Manila and facilitate the use of active modes of transportation by removing the existing gap in non-motorized travel pathways between the Pacific, Lupin, and Carlson neighborhoods. Additional benefits of the Project will include heightened driver awareness of the community, enhanced coastal access, and increased opportunities for recreation and nature study. The trail is needed because CA-255 between Eureka and Arcata is an incomplete transportation facility that was designed primarily to support motorized vehicles.

1.2 Project Description

The Project is in unincorporated Humboldt County along CA-255 (a western alternate to U.S. Route 101 [US-101]), between the intersection with Dean Street/Pacific Avenue (Post Mile [PM] 3.64) and the intersection with Carlson Drive (PM 4.14) in the community of Manila, California (Figure 1). In 2018, additional survey areas were added to the to the north and south of the Project footprint to incorporate design modifications, a trail extension, and a potential wetland creation area. The Project is in Section 34 of Township 6 North and Section 3 of Township 5 North, Range 1 West of the Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The northern and southern boundaries of the Project are located at latitude 40°51'20.32"N and longitude 124° 9'43.39"W and latitude 40°50'41.69"N and longitude 124°10'0.27"W, respectively. Project elevations range from approximately 5 (m) (17 ft) to 7 m (25 ft) above mean sea level. The Project can be accessed from Eureka by taking the CA-255 exit from US-101, crossing the Samoa Bridge, and heading north along CA-255 for approximately 2.6 kilometers (km) (1.6 miles [mi]). From Arcata, the Project can be accessed by taking the CA-255 exit from US-101 and heading west towards Manila for 7.4 km (4.6 mi) (Figure 1). The Project is in the "appeal" jurisdiction of the Coastal Zone; this area falls under the County of Humboldt's Local Coastal Program (LCP), with primary permitting jurisdiction with the county. Coastal Development Permits (CDPs) may be appealed to the California Coastal Commission (CCC).

1.2.1 Construction schedule

Construction is anticipated to occur between April and October, except for vegetation clearing, which may occur between 16 August and 14 March, outside of the bird nesting season. Work near wetlands would only occur during the dry season between May and October.

1.2.2 Construction staging, activities, and equipment

Construction staging areas will be located within the Project footprint, within paved or graveled areas, or in designated previously disturbed areas.

Construction would primarily include removal of trees and vegetation, excavation and grading, trail paving, and signage, along the Project alignment. All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices (BMPs).

Trail construction would include the following activities:

- Clearing and grubbing – to clear trees, vegetation and topsoil from the proposed trail footprint
- Excavation – primarily at shallow excavations to maintain trail grades
- Embankment – fill to maintain trail grades through low areas
- Aggregate Base – for trail shoulders and to support asphalt and concrete paving
- Concrete curbs, gutters, sidewalks and curb ramps
- Asphaltic Concrete Paving – for trail surface
- Bollards and railings
- Intersection lighting
- Trail striping and signage.

Equipment required for trail construction would include: tracked excavators, backhoes, graders, bulldozers, dump trucks, rollers, paving machines, drill rig, water trucks, and pick-up trucks. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for construction.

1.2.3 Dewatering

If needed, temporary dewatering would be conducted to provide a dry work area. Dewatering would involve pumping water out of a ditch, trench, or excavation. Water would typically be pumped into settling tanks or into a dewatering bag. Following the settling process provided by a tank or filter, the water would be used for dust control and compaction. Discharge water from settling tanks or dewatering bags would not be discharged into wetlands or any water bodies.

1.2.4 Site restoration and demobilization

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas along the project alignment would be restored to pre-construction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, rock, and other plantings/vegetation.



Figure 1. Project location map.

1.2.5 Maintenance and operation

The trail would be used for non-motorized transportation and recreation, including but not limited to walking, bicycling, running, skateboarding, roller skating, dog-walking, and nature study. Following construction, general operation and maintenance activities associated with the proposed trail would include annual inspections, trash/debris removal, vegetation management, repaving, and painting. In the event of storm damage, more significant repairs to the trail facilities may be needed on occasion.

Motorized access would be limited to light maintenance and emergency service vehicles. Access would be gained at trail/roadway crossings equipped with secured, but removable bollards to prevent unintended vehicular access.

1.3 Project Impact Area

The Project has been designed to minimize impacts on wetlands, special-status species, and sensitive vegetation communities to the extent possible. Construction staging areas will be located within the Project footprint, within paved or graveled areas, or in designated previously disturbed areas. Figure 2 shows the Project Impact Area.

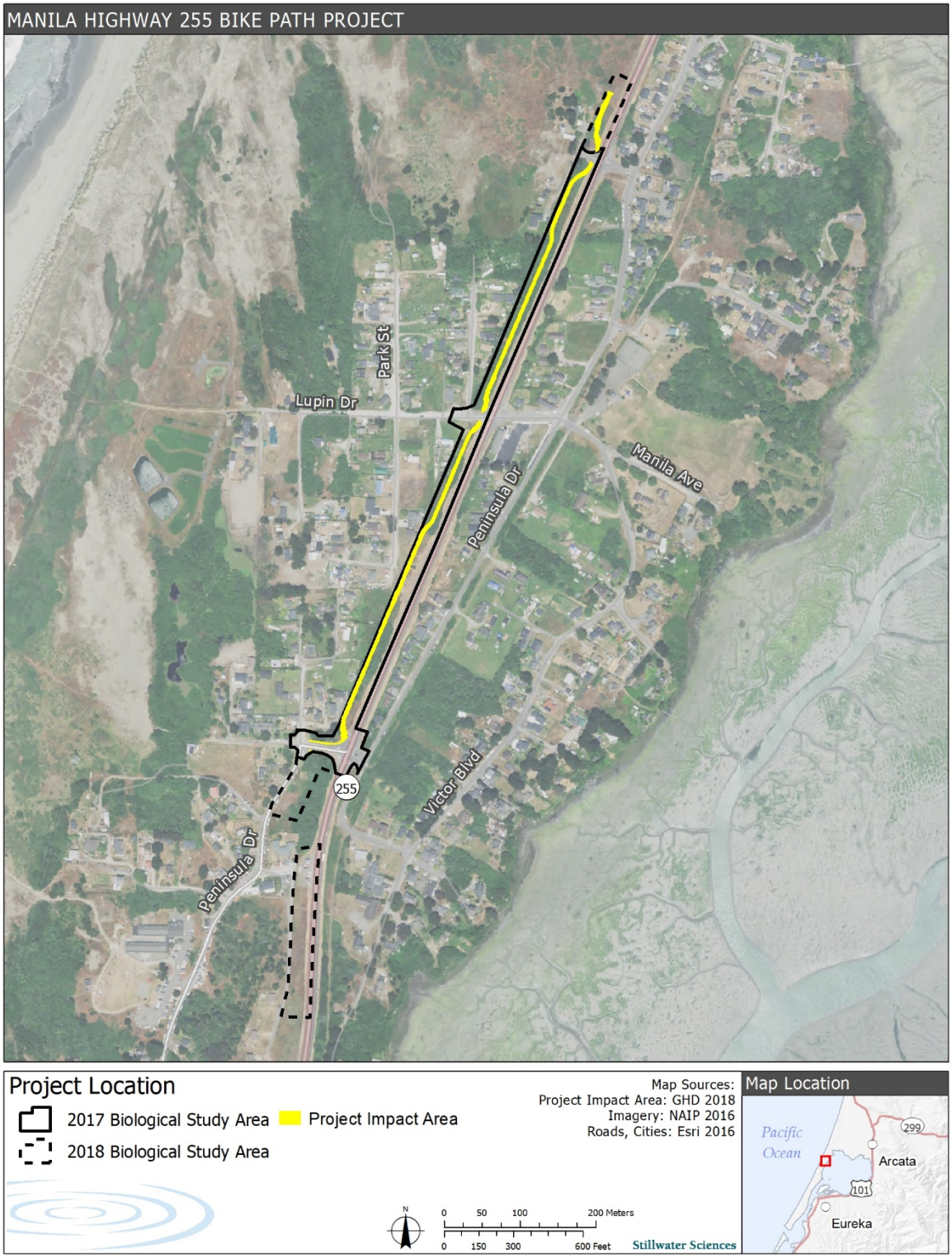


Figure 2. Project Impact Area.

2 STUDY METHODS

On January 22, 2015, GHD conducted environmental biological constraints mapping for the Project to identify potential environmentally sensitive habitat along the proposed route to help guide route selection and planning-level design, and to inform Project planners of the potential environmental habitat impacts associated with the Project. The results were summarized in the *Manila Highway 255 (Lupine Ave to Pacific Ave) Bike/Pedestrian Improvements – Environmental Constraints Assessment* (GHD, Inc. 2015). Based on these preliminary findings, a formal wetland delineation (Biological Survey Area [BSA[2]]), protocol-level floristic survey (2017 BSA), and habitat assessment (BSA) were conducted in 2017 and 2018 to conform with regulatory requirements of the Project. On 1–2 August 2017 and 17–18 October 2018 Stillwater Sciences conducted a wetland delineation of potential jurisdictional waters and wetlands for the Project in the 2017 and 2018 BSA. The wetland delineation results are available in the *Preliminary Wetland Delineation for the Manila Highway 255 Bike Path Project Report* (Appendix A) and are summarized in this report. A protocol-level botanical survey and habitat assessment for the Project were conducted on 26 May and 31 July 2017 by Stillwater Sciences in the 2017 BSA. A habitat assessment was conducted on 17–18 October 2018 by Stillwater Sciences in the 2018 BSA. As a protocol-level botanical survey was not conducted in the 2018 BSA, results from 2018 vegetation mapping will be combined with scoping of potential special-status plant species to determine the best window for floristic surveys prior to construction.

2.1 Regulatory Requirements

Clean Water Act (CWA): Provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

- Section 404: United States Army Corps of Engineers (USACE) Jurisdiction over fill materials in essentially all water bodies, including wetlands. All federal agencies are to avoid impacts on wetlands whenever there is a practicable alternative. Section 404 established a permit program administered by USACE regulating the discharge of dredged or fill material into Waters of the U.S. (including wetlands).
- Section 401: requires that an applicant for a federal license or permit that allows activities resulting in a discharge to Waters of the U.S., must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Boards (RWQCB) administer the certification program in California. The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have fewer adverse impacts.

Federal Endangered Species Act of 1973 (FESA): Provides guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend.

- Section 7: requires federal agencies, in consultation with and with the assistance of the Secretary of the Interior or the Secretary of Commerce, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) share responsibilities for administering the Act. Regulations governing interagency cooperation under Section 7 are

[2] The BSA is the boundary of the biological field studies. The terms "2017 BSA" and "2018 BSA" refer to the area evaluated in each respective year. The term "BSA" (with no date) refers to both areas combined.

found at 50 CFR Part 402. The opinion issued after consultation includes a statement authorizing take that may occur incidental to an otherwise legal activity.

- Section 9: lists those actions that are prohibited under the FESA. Take of a species listed in accordance with the FESA is prohibited. There are two processes (Sections 7 and 10) whereby take is allowed when it is incidental to an otherwise legal activity.
- Section 10: provides a means whereby a non-federal action with a potential to result in the take of a listed species could be allowed under an incidental take permit. Application procedures are found at 50 CFR Parts 13 and 17 for species under the jurisdiction of USFWS and 50 CFR Parts 217, 220, and 222 for species under the jurisdiction of NMFS.

National Environmental Policy Act of 1969 (NEPA): requires all federal agencies to consider environmental factors through a systematic interdisciplinary approach before committing to a course of action. The NEPA process is an overall framework for the environmental evaluation of federal actions.

California Environmental Quality Act of 1970 (CEQA): requires public agencies to regulate activities that may affect the quality of the environment so that major consideration is given to preventing damage to the environment.

California Native Plant Protection Act (CNPPA): requires all state agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of the CNPPA prohibit the taking of listed plants from the wild and require notifying California Department of Fish and Wildlife (CDFW) at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. Caltrans is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

California Endangered Species Act (CESA): (Fish and Game Code § 2050 et seq.) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state and federal listed species, compliance with the Federal Endangered Species Act (FESA) may satisfy CESA if CDFW determines that the federal incidental take authorization is "consistent" with CESA under Fish & Game Code § 2080.1. Any projects that will result in a "take" of a state-only listed species requires an incidental take permit from CDFW.

Title 14, California Code of Regulations (Sections 670.2 and 670.5): lists animals designated as threatened or endangered in California. California “Species of Special Concern” (SSC) is a category conferred by CDFW on those species that are indicators of regional habitat changes or considered potential future protected species. SSC do not have any special legal status, but are intended by CDFW for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

Coastal Zone Management Act of 1972: requires that federal development activities and development requiring federal permits or funding affecting land or water areas or resources within the coastal zone are consistent with the provisions of the act and approved Coastal Zone Management Plans. In California, outside of San Francisco Bay, the coastal zone management program is implemented and enforced by the California Coastal Commission (see below).

California Coastal Act of 1976 (PRC Sections 30000 et seq) (CCA): enacted by the State Legislature in 1976 to provide long-term protection of California's coastline for the benefit of current and future generations. CCA policies constitute the standards used by the CCC in its coastal development permit decisions and for the review of LCPs prepared by local governments and submitted to the CCC for approval. These policies are also used by the CCC to review federal activities that affect the coastal zone. Among other things, the policies require:

- Protection and expansion of public access to the shoreline;
- Protection, enhancement, and restoration of environmentally sensitive habitats;
- Protection of productive agricultural lands, commercial fisheries, and archaeological resources; and
- Protection of the scenic beauty of coastal landscapes and seascapes.

Section 30107.5 of the CCA defines an "environmentally sensitive area" as "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." An important CCA policy is the protection, enhancement, and restoration of environmentally sensitive areas, including intertidal and nearshore waters, wetlands, bays and estuaries, riparian habitat, certain wood and grasslands, streams, lakes, and habitat for rare or endangered plants or animals.

Humboldt Bay Area Plan of the Humboldt County Local Coastal Program: The Project is located within the Humboldt Bay Area of the Humboldt County LCP (Humboldt County 2014). The Humboldt Bay Area LCP identifies land uses and standards by which development will be evaluated within the Coastal Zone as defined by the CCA. The indicated uses and standards adopted by Humboldt County, and certified by the CCC, are in conformance and satisfy the policies and requirements for coastal land use contained in the CCA and other related legislation. Section 3.30 of the LCP describes the Natural Resources Protection Policies and Standards. The Humboldt Bay Area LCP defines Environmentally Sensitive Habitat Area (ESHA) as *"any area in which plant or animal life or their habitats are either rare, including locally rare, or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."* (Chapter 4, page 31)

Chapter 3 of the Humboldt Bay Area LCP identifies the following environmentally sensitive habitats within the Humboldt Bay Planning Area:

1. Wetlands and estuaries, including Humboldt Bay and the mouth of the Mad River
2. Vegetated dunes along the North Spit to the Mad River and along the South Spit
3. Rivers, creeks, gulches, sloughs and associated riparian habitats, including Mad River Slough, Ryan Slough, Eureka Slough, Freshwater Slough, Liscom Slough, Fay Slough, Elk River, Salmon Creek, and other streams
4. Critical habitats for rare and endangered species listed on state or federal lists

Humboldt County General Plan and Zoning Codes: existing County biological resources policies are contained in Section 10-3 of the General Plan (Humboldt County 2017). The County does not have any tree ordinances that would affect this Project.

Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668 et seq.): protects bald and golden eagles and their nests from harm or trade in parts of these species. The 1972 amendments

increased penalties for violating provisions of the BGEPA or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.

Porter-Cologne Water Quality Act: regulates point source and waste discharges to protect the quality of all waters of the State. This regulatory law can be applied to isolated waters of the State (non-404/401 waters). The RWQCB is increasingly requiring Waste Discharge Requirement (WDR) permits for impacts on waters of the State.

Migratory Bird Treaty Act (MBTA): This treaty with Canada, Mexico, and Japan makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests occupied by migratory birds during the breeding season. California Fish and Game Code also protects resident and migratory birds.

Executive Order 11990 – Protection of Wetlands: established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. An additional requirement is to provide early public involvement in projects affecting wetlands.

E**xecutive Order 13112 – Invasive Species:** On February 3, 1999, President Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued 10 August 1999 directs the use of the state’s invasive species list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project. Under the EO, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA): established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising: (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated 10 March 1983; and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Marine Mammal Protection Act (MMPA): establishes a federal responsibility to conserve marine mammals, with management vested in the Department of Commerce (National Marine Fisheries Service) for cetaceans and pinnipeds other than walrus. The Department of the Interior (U.S. Fish and Wildlife Service) is responsible for all other marine mammals, including sea otter, walrus, polar bear, dugong, and manatee. The Act generally assigns identical responsibilities to the Secretaries of the two departments. The MMPA is the main regulatory vehicle that protects marine mammal species and their habitats in an effort to main sustainable populations. In doing

so, the statute outlines prohibitions, required permits, criminal and civil penalties, and international aspects in addressing marine mammals. The act requires consultation on any action that may adversely affect marine mammals and provides a mechanism for an "incidental" take of species not listed under the federal Endangered Species Act.

2.2 Studies Required

The BSA includes the Project footprint (i.e., Project Impact Area), potential Project wetland establishment area, and surrounding area potentially impacted by the Project, including a buffer to accommodate any changes to Project limits and Project design that may occur during Project development (Figure 1). To evaluate the presence of special-status plant and wildlife species, sensitive natural communities, USACE- and CCC-jurisdictional waters and wetlands, and upland ESHAs within the BSA, the following surveys or assessments were conducted:

- Vegetation mapping and habitat characterization
- Special-status plant surveys (2017 BSA only)
- Special-status wildlife species assessment
- Wetland delineation

Special-status plant species are defined as those listed, proposed, or under review as threatened or endangered under FESA and/or CESA; designated as rare under the CNPPA; and/or taxa that meet the criteria for listing as described in Section 15380 of the CEQA Guidelines including species listed on CDFW's *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017, 2018a); plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4; and/or considered a locally significant species (i.e., rare or uncommon in the county or region). Special-status wildlife species are defined as those listed as endangered or threatened, or are proposed/candidates for listing under FESA and/or CESA; designated by CDFW as a Species of Special Concern; designated by CDFW as Fully Protected under the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515); and/or migratory birds with active nests protected by the California Fish and Game Code (Section 3503). Sensitive natural communities are defined as those natural community types (i.e., legacy natural communities in CDFW's California Natural Diversity Database [CNDDB], vegetation alliances and/or associations) with a state ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable) on CDFW's *California Sensitive Natural Communities List* (CDFW 2018b) or in the CNDDB (CDFW 2017, 2018b).

2.2.1 Establishing a list of special-status species and sensitive natural communities within the Biological Study Area

To establish a list of special-status plant and wildlife species and sensitive natural communities that could occur in the BSA, the following resources were queried:

- USFWS list of federally listed and proposed endangered and threatened species and designated critical habitat (USFWS 2017, 2018a)
- NMFS online database of listed species and designated critical habitat (NMFS 2018)
- CDFW's CNDDB (CDFW 2017, 2018b)
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2017, 2018b)

The database queries were based on a search of the USGS 7.5-minute quadrangle in which the Project is located (Eureka) and the surrounding quadrangles (Arcata South, Arcata North, Fields

Landing, Tyee City, Cannibal Island, and McWhinney Creek). These quadrangles are collectively referred to as the Project Region. The special-status species and sensitive natural communities identified from these database queries are described in Section 3.5 below. The 2018 database query outputs are provided in Appendix B.

In addition to the USFWS, NMFS, and CDFW special-status species and sensitive natural communities identified during the queries above, the following were considered:

- Wildlife species protected under the MMPA
- Bird species protected under the under the MBTA

The potential for special-status species to occur in the BSA was determined by: (1) reviewing the current distribution of each species and whether it overlapped with the BSA; (2) reviewing the documented occurrence information from CNDDB and other information sources (including eBird [2017], an online program that the birding community uses to report bird sightings); (3) comparing the habitat associations of each species with habitat quality and conditions in and adjacent to the BSA, based on existing information (e.g., elevation, aerial imagery; GHD, Inc. 2015); and (4) using professional judgement to evaluate habitat quality and the relevance of occurrence data, or the lack thereof.

This review and analysis resulted in the following categories for a special-status species to occur in the BSA:

- Absent: the BSA are outside the species' current distributional or elevation range and/or the species' required habitat is lacking from the BSA.
- Habitat Present: the species' known distribution or elevation range overlaps with the BSA and/or the species' required habitat occurs in the BSA.
- Present: the species has been documented in the BSA.
- Critical Habitat: the Project footprint is located within a designated critical habitat unit; however, the appropriate habitat may not be present in the BSA.

Plant and wildlife species that were considered to have no potential to occur (i.e., absent) in the BSA were not assessed further.

Special-status plant surveys, vegetation mapping, and/or habitat characterization in the BSA were conducted and are described further in the following sections. A comprehensive wildlife survey was not conducted; however, the information from the vegetation mapping, special-status plant surveys, and wetland delineation was used to evaluate whether habitat for each special-status wildlife and fish species is present in the BSA.

2.2.2 Special-status plant surveys

Prior to the special-status plant surveys (2017 BSA only) and the vegetation mapping and habitat characterization surveys (BSA), a pre-field review was conducted to: (1) review key identifying characteristics and life history stages (e.g., bloom time) of the special-status plant species and sensitive natural communities with potential to occur; (2) review known locations of special-status plant species and sensitive natural communities within or adjacent to the BSA; and (3) prepare and plan for field surveys. Due to the Project schedule, a special-status plant survey was not conducted in the 2018 BSA. A survey following these methods will be conducted prior to the start of Project construction.

The timing of life history stages for each special-status plant species and sensitive natural community with habitat present was reviewed to determine the survey period(s) that would coincide with the phenological stage (e.g., flowering or fruiting) during which the special-status species would be most easily identified in the field. A spring survey (i.e., May) and a summer survey (i.e., July) captured bloom periods of all special-status plants with the potential to occur in the 2017 BSA.

To acquire a search image for the targeted plant species and to familiarize the surveyors with the natural variation and key characteristics of each species with potential to occur, information was obtained through: (1) a review of CNPS (2017) and CDFW (2017) data; (2) a review of photographs on CalPhotos (University of California, Berkeley 2017); and (3) a review of key characteristics using *The Jepson Manual* (Baldwin et al. 2012) and the online *Jepson eFlora* (Jepson Flora Project 2018).

Information on known occurrences of special-status plant species and sensitive natural communities in or adjacent to the 2017 BSA were compiled and plotted on a Geographic Information System (GIS) map and printed onto field maps. Field surveys followed the methods of the *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996) and *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFG 2009a, CDFW 2018c). Specifically, surveys were comprehensive for vascular plants such that "every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status" (CDFG 2009a, CDFW 2018c). If identification was not possible in the field, the plants were collected for identification in the laboratory using the "1 in 20" rule (Wagner 1991) or, if potentially a special-status plant, according to the botanists' current CDFW plant voucher collection permit guidelines (e.g., not more than five individuals or two percent of the population, whichever is less, for one voucher sheet). Plants were identified following the taxonomy of the *Jepson eFlora* (Jepson Flora Project 2018).

If a population of a special-status plant species was identified, the location and population boundaries were recorded with a handheld GPS unit and a CNDDB data form was completed. Information collected for each population included the following:

- numbers of individuals
- phenology
- habitat description (e.g., plant communities, dominant species, associated species, substrates/soils, aspects/slopes)
- relative condition of the population (i.e., a qualitative assessment of site quality based upon evident threats [excellent, good, fair, or poor])
- recognizable risk factors

In addition, for any population of special-status plant species identified, photographs were taken to document diagnostic floral characteristics, growth forms, and habitat characteristics of special-status species. The digital data were post-processed and corrected, then incorporated into a GIS database.

2.2.3 Vegetation and habitat characterization

In the 2017 BSA, the vegetation mapping and habitat characterization surveys were conducted concurrent with the survey for special-status plant species. In the 2018 BSA, the vegetation

mapping and habitat characterization survey was conducted outside of the blooming window for many of the special-status plants with some likelihood to occur in the region. All plants observed were identified to species following the methods described in Section 2.2.2. Dominant vegetation, plant associates, and overall health of the stand were noted. Boundaries of each preliminary vegetation alliance were delineated on field maps. Each preliminary vegetation alliance was keyed using the vegetation composition data and the online edition of *A Manual of California Vegetation* (CNPS 2018b) to determine final vegetation alliances. The GIS database was updated with the final vegetation alliance names and digitized into a GIS shapefile. The finalized vegetation alliance names were checked against CDFW's *California Sensitive Natural Communities List* (CDFW 2018b) to determine if any of these types are considered sensitive natural communities. Any sensitive natural communities identified within the BSA are considered ESHAs.

2.2.4 Wetland delineation

A wetland delineation of potential jurisdictional waters and wetlands within the BSA was conducted by qualified personnel in accordance with the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual, USACE 1987); *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement; USACE 2010); USACE *Regulatory Guidance Letter (RGL) No. 05-05* (USACE 2005); and *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (OHWM Guide; Mersel and Lichvar 2014). The delineation included any feature that could potentially meet the definition of a water protected under the Clean Water Act (and thus be subject to USACE jurisdiction), the Porter-Cologne Act (RWQCB jurisdiction), and the Coastal Act or the Humboldt County Local Coastal Program (LCP)[3] (collectively, CCC/LCP jurisdiction). Detailed discussion of methods used for the wetland delineation in the BSA are provided in the *Preliminary wetland delineation for the Manila Highway 255 Bike Path Project, Manila, California* (Appendix A).

2.3 Personnel and Survey Dates

Protocol-level botanical surveys (which includes vegetation mapping) were conducted in the 2017 BSA on 26 May and 31 July 2017 and habitat assessment and vegetation mapping surveys were conducted in the 2018 BSA on 17–18 October 2018 by Stillwater Sciences qualified botanist Emmalien Craydon and ecologist Emily Teraoka. Both surveyors have: (1) experience conducting floristic surveys; (2) knowledge of plant taxonomy and plant community ecology and classification; (3) familiarity with the plant species of the area; (4) familiarity with appropriate state and federal statutes related to plants and plant collecting; and (5) experience with analyzing impacts of a project on native plant species and natural communities. Stillwater Sciences senior wildlife biologists, Dennis Halligan and Christine Champe, conducted the special-status wildlife assessment. Delineations of jurisdictional Waters of the U.S. were conducted on 1–2 August 2017 in the 2017 BSA and 17–18 October 2018 in the 2018 BSA by certified wetland delineators Emmalien Craydon and Emily Teraoka.

[3] The Project is in the "appeal" jurisdiction of the Coastal Zone; this area falls under the County of Humboldt's LCP, with primary permitting jurisdiction with the county. Coastal Development Permits may be appealed to the CCC.

2.4 Agency Coordination and Professional Contacts

An official Endangered Species Act species list was obtained from NMFS on 5 November 2018 and a USFWS species list was obtained from the Arcata Fish and Wildlife Office on 6 November 2018 (Appendix B). The wetland features in the 2017 BSA were verified by the San Francisco Regulatory Branch of the USACE on 7 March 2018 (USACE 2018). An additional jurisdictional determination request will be sent to the USACE from Humboldt County for wetland features delineated in the 2018 BSA.

2.5 Limitations that May Influence Results

A focused wildlife survey was not conducted in the BSA. Northern red-legged frogs were assumed present (see Section 3) based on observations of suitable habitat during the wetland delineation. Nearby CNDDB records, along with the established range of the species and local knowledge of the species' presence in similar nearby habitats, were considered sufficient to assume presence. The avoidance and protection measures for northern red-legged frogs noted in Section 4.3.1 sufficiently address any potential Project impact on this species.

A protocol-level botanical survey has not been conducted in the 2018 BSA; however, floristic surveys will be conducted in the 2018 BSA prior to the start of Project construction to determine if any special-status plant are present. A survey conducted in June would capture all special-status plants with the potential to occur in the 2018 BSA

3 RESULTS: ENVIRONMENTAL SETTING

3.1 Description of the Existing Biological and Physical Conditions

The proposed Project is located along CA-255 in the community of Manila, which is located along the North Spit of Humboldt Bay on the Samoa Peninsula. The 2017 BSA is between the CA-255 intersection with Dean Street/Pacific Avenue (PM 3.64) and the intersection with Carlson Drive (PM 4.14), a 2.2-hectare (ha) (5.5-acre [ac]) area that parallels approximately 0.9 km (0.5 mi) of CA-255 along its western side as well as a portion along its eastern side at the CA-255/Dean Street intersection (Figure 1). In 2018, the Project was extended to the north and south of the 2017 BSA. Private parcels of the residential community of Manila bound the BSA to the west and east for the portion of the Project along the east side of CA-255. The Project is in the CA-255 and Humboldt County right-of-way (ROW), which are actively managed by Caltrans and the County, respectively, in accordance to their standard road maintenance practices. As such, conditions in the BSA may change from those described in this report.

Based on the NWI *Wetlands Mapper* (USFWS 2018b) and historical aerial photographs (Shuster 1947), portions of the BSA were formerly part of a large wetland complex that existed prior to the construction of CA-255 and development of the community of Manila

Work would be confined to the existing ROW, which spans manmade drainage ditches, palustrine wetlands located in deflation plains (low depression in which sand has been scoured to the level of the water table), upland ESHA, and upland habitats.

3.2 Study Area

The BSA is the boundary of the biological field studies (Figure 1), which consists of the area directly and/or indirectly impacted by construction-related activities including the Project Impact Area and surrounding areas.

3.3 Physical Conditions

3.3.1 Climate

Local climate conditions are moist, cool, and influenced by the conditions of the Pacific Ocean, with wet cool winters and cool summers with frequent fog and strong winds. Rainfall occurs primarily between October through April, with an average annual rainfall of 102 centimeters (cm) (40 inches [in]) (NCDC 2018). The average monthly temperature range is approximately 41–56ºF in winter and approximately 52–63ºF in the summer (NCDC 2018).

3.3.2 Hydrology

The Project is located along the North Spit of Humboldt Bay on the Samoa Peninsula and is bounded by Humboldt Bay to the east and the Pacific Ocean to the west (Figure 1). The Project is located within the Eureka Plain Hydrologic Unit and the Eureka Plain Groundwater Basin. This basin includes two primary water-bearing formations, the Pliocene Hookton Formation and the Holocene Dune Sand, the former of which includes the Survey Area (CDWR 2004). These formations contain an aquifer, a freshwater lens that overlies the ocean water (Evenson 1959), which is recharged almost wholly from local precipitation (Fuller 1975).

A network of surface water drainage ditches borders CA-255 in the 2017 BSA and a small portion of the 2018 BSA. These drainages connect via culverts to eventually drain to Humboldt Bay. Humboldt Bay is a protected deep-water harbor with port facilities designed to serve cargo and other vessels as well as three marinas that serve hundreds of small to mid-size boats and pleasure crafts (Humboldt Bay Harbor, Recreation, and Conservation District 2018). Commercial oyster production operations that produce more than half of all oysters farmed in California are located in Humboldt Bay (Pomeroy et al. 2010).

3.3.3 Soils

Soil mapped units in the BSA included Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes and Samoa-Clambeach complex, 0 to 50 percent slopes (U.S. Department of Agriculture Natural Resources Conservation Science [NRCS] 2018a) (Figure 3).

Urban land-Anthraltic Xerorthents association (0 to 2% slopes) is comprised of 80% urban land, industrial and 20% anthralitic xerorthents and similar soils. This association is found from 0 to 3 m (0 to 10 ft) above mean sea level with a mean annual precipitation of 104–109 cm (41–43 in), a mean annual air temperature of 50–55ºF, and a frost-free period of 275–330 days (NRCS 2018b). Anthraltic Xerorthents is located on backslopes of fluviomarine terraces with a parent material of coarse-loamy fluviomarine deposit or coarse-loamy dredge spoils. A typical profile consists of gravelly loamy fine sand within the upper 0–15 cm (0–6 in) with sandy loam, gravelly sand, and sand forming the horizons below. It has a drainage class of moderately well drained (NRCS 2018b).

Samoa-Clambeach complex (0 to 50% slopes) is typically comprised of 65% Samoa series, 30% Clambeach series, and 5% minor components. The complex is found in areas with elevations that range from 0 to 21 m (0 to 70 ft) above mean sea level and with a mean annual precipitation of 89–203 cm (35–80 in), a mean annual air temperature of 50–55ºF, and a frost-free period of 275–330 days (NRCS 2018a). The Samoa series is primarily located along the shoulder, backslope, and summit of dunes. A typical profile consists of slightly decomposed plant material in the upper 0–3 cm (0–1 in) (Oi horizon) with sand forming all other horizons below. It has a drainage class of somewhat excessively drained. Samoa soils have a udic moisture regime which may develop redoximorphic features from brief and localized saturated conditions around root channels during the winter months, rather than from the presence of free water throughout the soil profile (NRCS 2016a). The Clambeach series is associated with deflation basins along toeslopes and is very poorly drained. Clambeach soils have an aquic moisture regime with endosaturation typically characterized by a water table depth ranging from 0 to 10 cm (0 to 4 in) in January–March up to greater than 183 cm (72 in) in June–November and depth to redoximorphic features of 0 to 10 cm (0 to 4 in) (NRCS 2016b). This series has a soil profile comprised entirely of sand in all horizons and is listed as a hydric soil in the region (NRCS 2018b).

Wetland soil test pits in the BSA closely resembled the hydric soil Clambeach series (Appendix A). Data points commonly contained sandy clay loam (near and within drainage ditches), sandy loam, and sand.

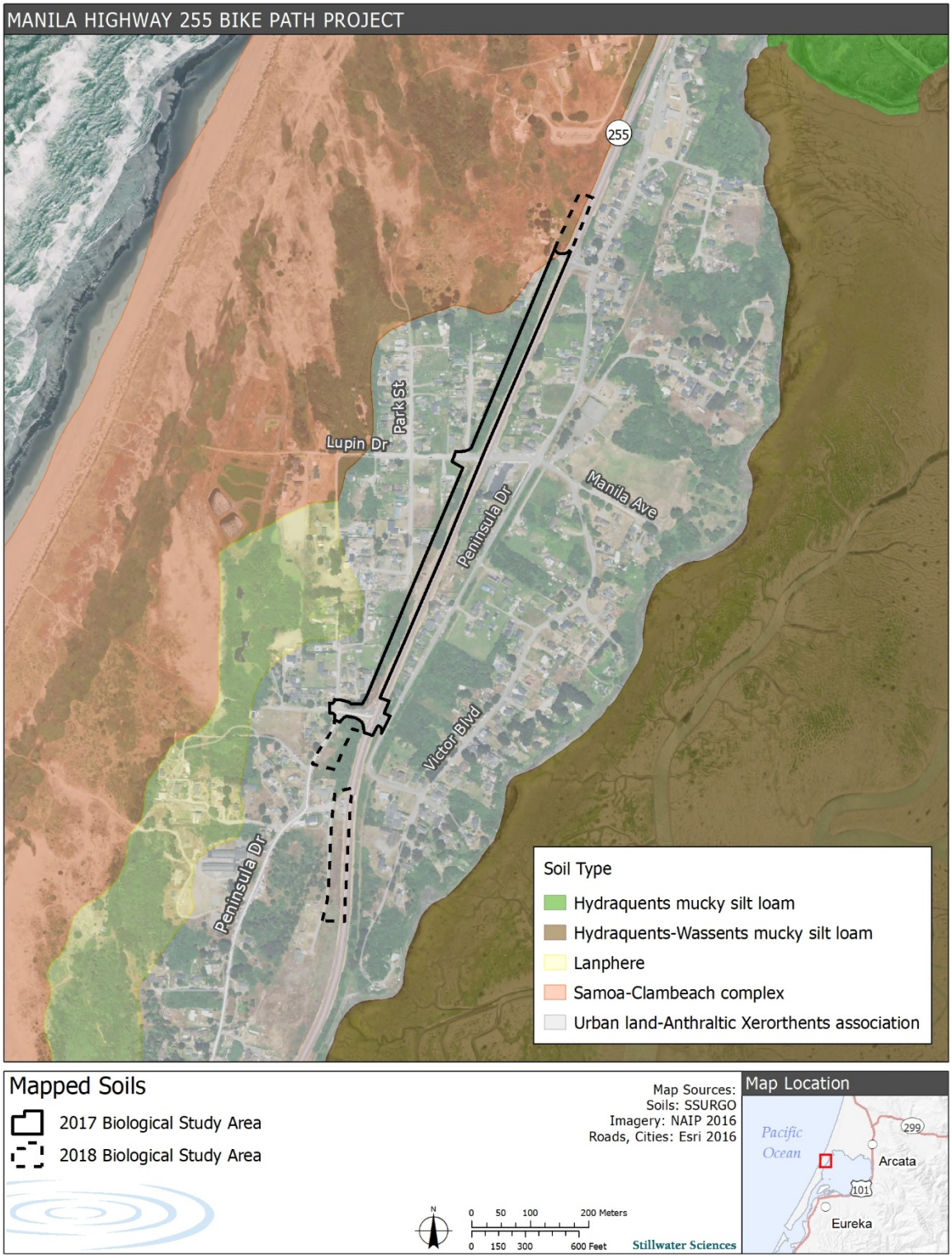


Figure 3. Mapped soil units in the BSA.

3.4 Biological Conditions in the Biological Study Area

3.4.1 Vegetation

3.4.1.1 Nonnative perennial grassland/ruderal herbaceous

This habitat is a mix of nonnative perennial grasses with various forb species and most closely resembles *Anthoxanthum odoratum* (sweet vernal grass) Semi-Natural Alliance (sweet vernal grass meadows) and a dense, fairly monotypic stand of *Ammophila arenaria* (European beach grass) Semi-Natural Alliance (European beach grass swards). These vegetation types cover most of the upland habitat in the ROW, immediately bordering the highway and all potential jurisdictional waters and wetlands in the BSA (Appendices A and C). Disturbance levels varied and included human disturbance (e.g., trails, litter/debris), widespread nonnative plant establishment, and routine clearance and maintenance activities within the County and State ROW.

The dominant species throughout this habitat, sweet vernal grass, is a nonnative grass from Eurasia with a moderate weed rating by California Invasive Plant Council (Cal-IPC). Additional grasses with low cover in this habitat include *Briza maxima* (large quaking grass), *Avena barbata* (slender wild oat), *Bromus diandrus* (ripgut grass), *Bromus carinatus* (California brome), *Festuca bromoides* (brome fescue), and *Holcus lanatus* (common velvet grass). Numerous forb species include natives such as *Juncus patens* (spreading rush), *Juncus breweri* (salt rush), *Lupinus bicolor* (miniature lupine), *Epilobium ciliatum* (fringed willowherb), *Eschscholzia californica* (California poppy), *Symphyotrichum chilense* (Pacific aster), *Cardionema ramosissimum* (sandcarpet), and *Solidago spathulata* (coast goldenrod); as well as nonnatives including *Oenothera glazioviana* (redsepal evening primrose), *Hypochaeris radicata* (rough cat's-ear), *Leontodon saxatilis* (hairy hawkbit), *Trifolium repen*s (white clover), *Plantago lanceolata* (English plantain), *Geranium dissectum* (cutleaf geranium), *Rumex crispus* (curly dock), *Cichorium intybus* (chicory), *Rumex acetosella* (sheep sorrel), *Daucus carota* (Queen Anne's lace), *Cerastium fontanum* subsp. *vulgare* (common mouse-ear chickweed), *Raphanus sativ*us (cultivated radish), *Armeria maritima* subsp. *californica* (thrift seapink), and *Lotus corniculatus* (bird's foot-trefoil). Many of these nonnative forb species are rated by Cal-IPC (Appendix D). Sprouts and seedlings of *Salix hookeriana* (coastal willow) were observed where this grassland habitat bordered willow scrub. Sporadic patches of nonnative plant species were identified throughout this habitat and included *Lupinus arboreus* (yellow bush lupine), *Carpobrotus edulis* (freeway iceplant), and *Vinca major* (greater periwinkle). In one stand, four small *Pinus contorta* subsp. *contorta* (shore pine) individuals were documented.

The southernmost extent of the 2018 BSA includes a dense stand of European beach grass (Figure C-1, Appendix C). Throughout this semi-natural alliance sparse cover by emergent shrubs including *Baccharis pilularis* (coyote brush), yellow bush lupine, and *Morella californica* (wax myrtle) was observed. Low cover of sweet vernal grass, large quaking grass, sheep sorrel, cultivated radish, and *Rubus ursinus* (California blackberry) was documented throughout the stand.

3.4.1.2 Coastal scrub

Small isolated patches of coastal scrub habitat are located in the BSA (Appendix C). Vegetation is best characterized by the *Rubus ursinus* Shrubland Alliance (coastal brambles); a sensitive natural community with a state rank of S3 on CDFW's *California Sensitive Natural Communities List* (CDFW 2018b). California blackberry is a native vine in the Rosaceae family. Coastal brambles commonly occur along coastal bluffs, headlands, exposed slopes, and gaps in forest

stands (CNPS 2018b). Several mapped locations of coastal brambles in the BSA were highly disturbed and were not considered high-quality occurrences due to the presence of nonnative and Cal-IPC rated plant species (e.g., *Hedera helix* [English ivy], greater periwinkle, *Lonicera japonica* [Japanese honeysuckle], *Acacia dealbata* [silver wattle], and *Convolvulus arvensis* [bindweed]), codominant cover by nonnative sweet vernal grass, as well as road debris and litter. These locations are noted as disturbed in Figure C-3 of Appendix C.

3.4.1.3 Willow scrub

Willow scrub occurs within old deflation plains throughout the BSA that are no longer connected to an active dune complex since the historic development of the community of Manila and CA-255 (Appendices A and C). The *Salix hookeriana* Shrubland Alliance (coastal dune willow thickets) best characterize this vegetation (CNPS 2018b). Coastal willow is a California native shrub to small tree in the Salicaceae family. This hydrophytic plant colonizes disturbed areas near the ocean with standing water that seasonally floods and the alliance is the most common willow scrub found along the northwestern coastal belt of California (CNPS 2018b). Coastal dune willow thickets are a sensitive natural community with a state rank of S3 (CDFW 2018b). All mapped locations are entirely within the potential jurisdictional waters and wetlands.

Additional species associated with willow scrub in the BSA include *Salix lasiandra* var. *lasiandra* (Pacific willow), *Salix sitchensis* (Sitka willow), *Lonicera involucrata* (twinberry), California blackberry, *Rubus spectabilis* (salmon berry), *Rubus armeniacus* (Himalayan blackberry), *Scirpus microcarpus* (small-fruited bulrush), *Equisetum arvense* (field horsetail), *Polystichum munitum* (western sword fern), *Juncus lescurii* (San Francisco rush), and *Carex obnupta* (slough sedge). In addition, some shore pine individuals were interspersed within this alliance.

3.4.1.4 Dune swales

Vegetation within dune swales of the 2017 BSA is best characterized by the *Carex obnupta* Herbaceous Alliance (slough sedge swards) and *Juncus breweri* Herbaceous Alliance (salt rush swales) (CNPS 2018b, Appendix C). Throughout the 2017 BSA this vegetation is located adjacent to willow scrub and is associated with old deflation plains. This habitat was not observed in the 2018 BSA. Both alliances are sensitive natural communities with a state rank of S3 or S2?[4], respectively (CDFW 2018b), located within the potential jurisdictional waters and wetland boundaries. Slough sedge is a native perennial rhizomatous herb in the Cyperaceae family. It occurs in seasonally flooded swales in old deflation plains and sand dune complexes, shallowly inundated woods, meadows, roadside ditches, coastal swamps, lakeshores, marshes, and riverbanks with mucky soils with high organic content (CNPS 2018b). Salt rush is a native perennial rhizomatous herb in the Juncaceae family that grows in dune swales and develops on transitional or seasonally wet depressions. Additional plant species identified in this habitat included sweet vernal grass, California brome, and California blackberry.

3.4.1.5 Dune mat

Abronia latifolia - Ambrosia chamissonis Herbaceous Alliance (dune mat) was observed from a single isolated occurrence in the 2018 BSA (Appendix C). It is associated with coastal dunes,

[4] ? = Denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank. This herbaceous alliance is applicable to both *Juncus breweri* and *Juncus lescurii* (CNPS 2017).

coastal strand, and coastal scrub habitat (CNPS 2018b). Although neither *Abronia latifolia* (yellow sand-verbena) or *Ambrosia chamissonis* (beach bur-sage) were observed at this mapped location, alliance memberships rules only require non-woody dune plants are characteristically present (CNPS 2018b). This alliance included a mixture of native dune vegetation with high cover by nonnatives including *Amaryllis belladonna* (naked ladies), sweet vernal grass, large quaking grass, sheep sorrel, and yellow bush lupine. Native plant species, each with 5–15% cover, included: *Arctostaphylos uva-ursi* (kinnikinnick), *Eriogonum latifolium* (seaside wild buckwheat), coast goldenrod, sandcarpet, and *Poa douglasii* (sand dune blue grass). Although listed with a state rank of S3 (CDFW 2018b), this mapped location was characterized as low-quality habitat due to the high disturbance level and disconnect from an active dune complex. Furthermore, the plant composition did not conform with any of the sensitive associations included under this alliance (CDFW 2018b).

3.4.1.6 Developed and landscaped

Developed and landscaped vegetation throughout the BSA included individual or small groups of nonnative trees (e.g., silver wattle, *Eucalyptus* sp.), residential managed areas, and dense stands of escaped ornamentals including *Iris pseudacorus* (pale yellow iris), *Escallonia rubra* (red claws), naked ladies, and bindweed (Figures C-1–C-4 in Appendix C).

Pinus radiata (Monterey pine), a nonnative to Humboldt County's coast, and a few individuals of native *Pinus muricata* (bishop pine), were included in this habitat type. These species were identified along the western border of the 2017 BSA, some rooted within the adjacent private parcels (Figures C-2 and C-4 in Appendix C). Most of the plant species within this habitat type are rated by Cal-IPC (Appendix D).

3.4.1.7 Freshwater marsh

Freshwater marsh vegetation occurs within several drainage ditches in the 2017 BSA (Figures C-1–C-3 in Appendix C). At these locations *Oenanthe sarmentosa* (water parsley) and small-fruited bulrush are dominant in the herbaceous layer along with the less prevalent herbaceous species such as *Juncus* spp. (various rushes), *Cardamine oligosperma* (western bittercress), *Potentilla anserina* subsp. *pacifica* (Pacific silverweed), and *Ranunculus repens* (creeping buttercup). The *Oenanthe sarmentosa* Herbaceous Alliance (water parsley marsh) and *Scirpus microcarpus* Herbaceous Alliance (small-fruited bulrush marsh) (CNPS 2018b) best define this vegetation. Water parsley is a branched, sprawling perennial native herb in the Apiaceae family. It occurs in wet, mucky soil or shallow, brackish or freshwater marshes (CNPS 2017). Small-fruited bulrush is a perennial native rhizomatous herb in the Cyperaceae family. It is found in seasonally flooded marshes, stream sides, and roadside ditches with soils that are poorly aerated and have a high organic content (CNPS 2018b). Both alliances are sensitive natural communities with state ranks of S2? and S2, respectively (CDFW 2018b). These alliances are entirely within the potential jurisdictional waters and wetland boundaries in the 2017 BSA. This habitat was not observed in the 2018 BSA.

3.4.2 Common animal species

Common animal species in and adjacent to the 2017 BSA are those that can survive, and in some cases thrive, in a residential environment. These include ravens, crows, Steller's jays, turkey vultures, red-shouldered hawks, common garter snakes, Pacific chorus frogs, opossums, skunks, raccoons, and blacktail deer.

The habitat in the BSA has been fragmented by residential and infrastructure developments. In addition, fencing along the BSA limits the ability of large species (e.g., deer) to move freely. However, animal species (e.g. opossums, raccoons, and skunks) do have opportunities to move between the dunes and Humboldt Bay in non-fenced areas and along vegetated corridors in the area, although they are subject to being hit by vehicles if they attempt to cross CA-255. These species are accustomed to living in these developed conditions. Given the constriction of the Manila area between the Pacific Ocean and Humboldt Bay, and the habitat fragmentation caused by residential development along CA-255, animals that require large home ranges of undisturbed habitat do not likely occur.

3.4.3 Aquatic resources

There are no waters within the BSA that contain fish habitat or could support fish. However, there is potential for common and special-status amphibians to occupy wet habitats in the BSA.

3.4.4 Preliminary Waters of the U.S.

There is a total of 0.05 ha (0.13 ac) of potentially USACE-jurisdictional waters and 1.04 ha (2.57 ac) of potentially USACE-jurisdictional wetlands adjacent to these waters in the BSA (Appendix A). Two USACE-jurisdictional wetland types occur: (1) seasonally flooded palustrine emergent wetlands, and (2) seasonally flooded palustrine broad-leaved deciduous scrub-shrub wetlands (hereinafter called palustrine emergent wetlands and palustrine scrub-shrub wetlands, respectively). Federal Geographic Data Committee (FGDC) defines the palustrine system as all nontidal wetlands dominated by trees, shrubs, persistent emergent plants, and emergent mosses or lichens (i.e., non-vascular plants), and all similar wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per thousand (ppt) (FGDC 2013). Seasonally flooded conditions are those where surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years during which the depth to substrate saturation may vary (FGDC 2013). Emergent wetlands are characterized by erect, rooted herbaceous hydrophytes, excluding mosses and lichens, that are the tallest life form, have at least 30% areal coverage, and are present for most of the growing season in most years (FGDC 2013). Broad-leaved deciduous scrub-shrub wetlands are characterized by woody plants of this leaf type that are less than 6 m (20 ft) tall and are the dominant life form with at least 30% areal coverage (FGDC 2013).

The potential USACE-jurisdictional wetlands form a complex of palustrine scrub-shrub and palustrine emergent wetlands. Dominant vegetation in the palustrine emergent wetland areas varies from herbaceous emergent dune swale species (e.g., slough sedge and salt rush [Section 3.4.1.4]) to freshwater emergent species (e.g., small-fruited bulrush and water parsley [Section 3.4.1.6]). Palustrine scrub-shrub wetlands are primarily comprised of deciduous woody shrubs and trees (e.g., coastal and Pacific willows [Section 3.4.1.3]) with a fairly dense understory of herbaceous hydrophytes and/or woody vines (e.g., slough sedge and California blackberry) (Appendix A).

3.4.5 Coastal Commission wetlands

In addition to all potential USACE-jurisdictional waters of the U.S., an additional 0.05 ha (0.20 ac) of potential CCC-jurisdictional one-parameter wetlands was identified in the 2017 BSA (Appendix A). No additional one-parameter wetlands were identified in the 2018 BSA. Boundaries for these wetlands were delineated from data points with at least one positive primary wetland parameter located within the Coastal Zone. One-parameter wetlands in the 2017 BSA

lacked both hydric soils and wetland hydrology; vegetation was dominated by native hydrophytic vegetation (e.g., coastal willow). Uplands were characterized by data points that lacked all three wetland parameters of hydric soils, hydrophytic vegetation, and wetland hydrology (Appendix A). Vegetation at these upland locations was dominated by naturalized grasses and forbs described in Section 3.4.5.

3.4.6 Invasive species

All Cal-IPC rated plant species identified in the BSA are provided in Table 1. Many of these species are also listed in the *Invasive Weeds of Humboldt County*, second edition (Humboldt County Weed Management Area [HCWMA] 2010) (Table 1). This county-wide list includes yellow bush lupine, which is not listed by Cal-IPC, however, it is noted as a common invasive plant to coastal sand dune habitat in Humboldt County (HCWMA 2010). Most of these species were observed in the developed and landscaped vegetation and the nonnative perennial grassland habitats discussed in Section 3.4.1.1 and 3.4.1.5. The invasive plant species that have the greatest possibility of negatively affecting the ecology of natural communities within the BSA are those species with a high or moderate Cal-IPC rating and/or are listed as invasive in Humboldt County (HCWMA 2010).

There are several invasive animal species within and adjacent to the BSA. These include domestic dogs and cats, horses, goats, pigs, European starlings, and Eurasian collared doves. The Project will have no influence on the proliferation or range expansion of these species.

Table 1. Plants identified in the BSA during botanical surveys that have a Cal-IPC rating of low, moderate, or high and/or listed as an invasive weed in Humboldt County (HCWMA 2010).

Scientific name	Common name	Cal-IPC rating	Invasive weed in Humboldt County[1]
Acacia dealbata	silver wattle	Moderate	no
Agrostis stolonifera	creeping bent	Limited	no
Ammophila arenaria	European beach grass	High	yes
Anthoxanthum odoratum	sweet vernal grass	Moderate	no
Avena barbata	slender wild oat	Moderate	no
Briza maxima	rattlesnake grass	Limited	no
Bromus diandrus	ripgut grass	Moderate	no
Bromus hordeaceus	soft chess	Limited	no
Carpobrotus edulis	freeway iceplant	High	yes
Conium maculatum	poison hemlock	Moderate	yes
Cortaderia jubata	purple pampas grass	High	yes
Crocosmia ×crocosmiiflora	montbretia	Limited	no
Cynodon dactylon	Bermuda grass	Moderate	no
Eucalyptus spp.	red/blue gum	Limited	no
Festuca arundinacea	tall fescue	Moderate	no
Foeniculum vulgare	fennel	High	yes
Geranium dissectum	cutleaf geranium	Limited	no
Hedera helix	English ivy	High	yes
Holcus lanatus	common velvet grass	Moderate	no
Hordeum murinum	wall barley	Moderate	no
Hypochaeris radicata	rough cat's-ear	Moderate	no
Iris pseudacorus	paleyellow iris	Limited	no
Lupinus arboreus	yellow bush lupine	Not listed	yes

Scientific name	Common name	Cal-IPC rating	Invasive weed in Humboldt County[1]
Parentucellia viscosa	yellow glandweed	Limited	no
Plantago lanceolata	English plantain	Limited	no
Pyracantha angustifolia	slender or woolly firethorn	Limited	no
Ranunculus repens	creeping buttercup	Limited	no
Raphanus sativus	cultivated radish	Limited	no
Rubus armeniacus	Himalayan blackberry	High	yes
Rumex acetosella	sheep sorrel	Moderate	no
Rumex crispus	curly dock	Limited	no
Vinca major	greater periwinkle	Moderate	yes
Zantedeschia aethiopica	calla-lily	Limited	no

[1] Source: HCWMA 2010

3.5 Regional Species and Habitats and Natural Communities of Concern

Table 2 lists special-status plants and wildlife and sensitive natural communities identified from the database queries for the Project Region discussed in Section 2.2.1. Suitable habitat for most of these species does not occur in the BSA and/or the BSA is outside of the known range for these species.

In addition to the species identified Table 2, the BSA contains habitat that is likely at least seasonally occupied by birds protected by the California Fish and Game Code Section 3503. As such, take, possess, or needlessly destroy the nest or eggs of any bird. Minimization measures specific to nesting birds and their nests are described in Section 4.3.4.3.

Table 2. Listed or proposed special-status species, natural communities, and critical habitat potentially occurring or known to occur in the Project Region.

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Plants						
pink sand-verbena	*Abronia umbellata* var. *breviflora*	CRPR 1B.1	Coastal dunes. 0–10 m (0–35 ft); June–October.	HP	Isolated patches of coastal dune habitat (e.g., dune mat, dune swales, European beach grass semi-natural alliance)	No effect
sea-watch	*Angelica lucida*	CRPR 4.2	Coastal bluff scrub, coastal dunes, coastal scrub, coastal salt marshes and swamps. 0–150 m (0–490 ft); May–September.	HP	Isolated patches of coastal dune habitat	No effect
coastal marsh milk-vetch	*Astragalus pycnostachyus* var. *pycnostachyus*	CRPR 1B.2	Mesic coastal dunes, coastal scrub, streamsides in coastal salt marshes and swamps. 0–30 m (0–100 ft); (April) June–October.	HP	Isolated patches of coastal dune habitat, coastal scrub present	No effect
Rattan's milk-vetch	*Astragalus rattanii* var. *rattanii*	CRPR 4.3	Gravelly streambanks in chaparral, cismontane woodland, lower montane coniferous forest. 30–825 m (95–2,705 ft); April–July.	A	No suitable habitat present and outside elevation range	No effect
false gray horsehair lichen	*Bryoria pseudocapillaris*	CRPR 3.2	Usually on conifers in coastal dunes in San Luis Obispo County and north coast coniferous forest along the immediate coast. 0–90 m (0–295 ft); n/a (lichen).	HP	Limited habitat present, some conifers in the 2017 BSA composed of small patches or single individuals. None connected to active dune complex.	No effect
twisted horsehair lichen	*Bryoria spiralifera*	CRPR 1B.1	Usually on conifers in north coast coniferous forest at immediate coast. 0–30 m (0–100 ft). n/a (lichen)	HP	Limited habitat present, some conifers in the 2017 BSA composed of small patches or single individuals. None connected to active dune complex.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
seaside bittercress	*Cardamine angulata*	CRPR 2B.1	Wet areas and streambanks in lower montane coniferous forest and north coast coniferous forest. 25–915 m (80–3,000 ft); (January) March–July.	A	No suitable habitat present and outside elevation range	No effect
northern clustered sedge	*Carex arcta*	CRPR 2B.2	Bogs and fens and mesic north coast coniferous forest. 60–1,400 m (195–4,595 ft); June–September.	A	No suitable habitat present and outside elevation range	No effect
bristle-stalked sedge	*Carex leptalea*	CRPR 2B.2	Bogs and fens, mesic meadows and seeps, and marshes and swamps. 0–700 m (0–2,295 ft); March–July.	A	No suitable habitat present	No effect
Lyngbye's sedge	*Carex lyngbyei*	CRPR 2B.2	Brackish or freshwater marshes and swamps. 0–10 m (0–35 ft); April–August.	A	No suitable habitat present; drainages in the 2017 BSA are not suitable for this species	No effect
northern meadow sedge	*Carex praticola*	CRPR 2B.2	Mesic meadows and seeps. 0–3,200 m (0–10,500 ft); May–July.	A	No suitable habitat present	No effect
Humboldt Bay owl's-clover	*Castilleja ambigua* var. *humboldtiensis*	CRPR 1B.2	Coastal salt marshes and swamps. 0–3 m (0–10 ft); April–August.	A	No suitable habitat present	No effect
Oregon coast paintbrush	*Castilleja litoralis*	CRPR 2B.2	Sandy coastal bluff scrub, coastal dunes, and coastal scrub. 15–100 m (45–330 ft); June.	HP	Isolated patches of coastal dune and coastal scrub habitat	No effect
Point Reyes bird's-beak	*Chloropyron maritimum* subsp. *palustre*	CRPR 4.3	Streambanks, sometimes seeps, sometimes roadsides in north coast coniferous forest, and riparian forest. 10–220 m (30–720 ft); February–June.	A	No suitable habitat present	No effect
round-headed Chinese-houses	*Collinsia corymbosa*	CRPR 1B.2	Coastal dunes. 0–20 m (0–65 ft); April–June.	HP	Isolated patches of coastal dune habitat	No effect
Menzies' wallflower	*Erysimum menziesii*	FE, SE, CRPR 1B.1	Coastal dunes. 0–35 m (0–115 ft) March–September.	HP	Isolated patches of coastal dune habitat	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
coast fawn lily	*Erythronium revolutum*	CRPR 2B.2	Mesic streambanks in bogs and fens, broadleafed upland forest, and north coast coniferous forest. 0–1,600 m (0–5,250 ft); March–July (August).	A	No suitable habitat present	No effect
minute pocket moss	*Fissidens pauperculus*	CRPR 1B.2	Damp coastal soil in north coast coniferous forest. 10–1,024 m (30–3,360 ft). n/a (moss)	A	No suitable habitat present	No effect
Pacific gilia	*Gilia capitata* subsp. *pacifica*	CRPR 1B.1	Coastal bluff scrub, openings in chaparral, coastal prairie, and valley and foothill grassland. 5–1,665 m (15–5,465 ft); April–August.	HP	Isolated patches of coastal scrub habitat	No effect
dark-eyed gilia	*Gilia millefoliata*	CRPR 1B.2	Coastal dunes. 2–30 m (5–100 ft); April–July.	HP	Isolated patches of coastal dune habitat	No effect
American glehnia	*Glehnia littoralis* subsp. *leiocarpa*	CRPR 4.2	Coastal dunes. 0–20 m (0–65 ft); May–August.	HP	Isolated patches of coastal dune habitat	No effect
short-leaved evax	*Hesperevax sparsiflora* var. *brevifolia*	CRPR 1B.2	Sandy coastal bluff scrub, coastal dunes, and coastal prairie. 0–215 m (0–705 ft); March–June.	HP	Isolated patches of coastal dune habitat	No effect
perennial goldfields	*Lasthenia californica* subsp. *macrantha*	CRPR 1B.2	Coastal bluff scrub, coastal dunes, and coastal scrub. 5–520 m (15–1,705 ft); January–November.	HP	Isolated patches of coastal dune and coastal scrub habitat	No effect
seaside pea	*Lathyrus japonicus*	CRPR 2B.1	Coastal dunes. 1–30 m (0–100 ft); May–August.	HP	Isolated patches of coastal dune habitat	No effect
marsh pea	*Lathyrus palustris*	CRPR 2B.2	Mesic in bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marshes and swamps, and north coast coniferous forest. 1–100 m (0–330 ft); March–August.	HP	Isolated patches of coastal scrub habitat; freshwater marsh limited to constructed drainage ditches	No effect
beach layia	*Layia carnosa*	FE, SE, CRPR 1B.1	Coastal dunes and sandy coastal scrub. 0–60 m (0–195 ft); March–July.	HP	Isolated patches of coastal dune and coastal scrub habitat	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Kellogg's lily	*Lilium kelloggii*	CRPR 4.3	Openings and roadsides in lower montane coniferous forest and north coast coniferous forest. 3–1,300 m (5–4,265 ft); May–August.	A	No suitable habitat present	No effect
western lily	*Lilium occidentale*	FE, SE, CRPR 1B.1	Bogs and fens, coastal bluff scrub, coastal prairie, coastal scrub, freshwater marshes and swamps, and openings in north coast coniferous forest. 2–185 m (5–605 ft); June–July.	HP	Isolated patches of coastal scrub habitat, freshwater marsh limited to constructed drainage ditches	No effect
heart-leaved twayblade	*Listera cordata*	CRPR 4.2	Bogs and fens, lower montane coniferous forest, and north coast coniferous forest. 5–1,370 m (15–4,495 ft); February–July.	A	No suitable habitat present	No effect
running-pine	*Lycopodium clavatum*	CRPR 4.1	Often edges, openings, and roadsides in mesic lower montane coniferous forest, marshes and swamps, and mesic north coast coniferous forest. 45–1,225 m (145–4,020 ft); June–August (September).	A	Outside known elevation range	No effect
leafy-stemmed mitrewort	*Mitellastra caulescens*	CRPR 4.2	Mesic, sometimes roadsides in broadleafed upland forest, lower montane coniferous forest, meadows and seeps, and north coast coniferous forest. 5–1,700 m (15–5,575 ft); (March) April–October.	A	No suitable habitat present	No effect
ghost-pipe	*Monotropa uniflora*	CRPR 2B.2	Broadleafed upland forest and north coast coniferous forest. 10–550 m (30–1,805 ft); June–August (September).	A	No suitable habitat present	No effect
Howell's montia	*Montia howellii*	CRPR2B.2	Vernally mesic, sometimes roadsides in meadows and seeps, north coast coniferous forest, and vernal pools. 0–835 m (0–2,740 ft); (February) March–May.	A	No suitable habitat present	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Wolf's evening-primrose	*Oenothera wolfii*	CRPR 1B.1	Sandy, usually mesic in coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forest. 3–800 m (5–2,625 ft); May–October.	HP	Isolated patches of coastal dune and coastal scrub habitat	No effect
California pinefoot	*Pityopus californicus*	CRPR 4.2	Mesic broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest, and upper montane coniferous forest. 15–2,225 m (45–7,300 ft); (March–April) May–August.	A	No suitable habitat present	No effect
nodding semaphore grass	*Pleuropogon refractus*	CRPR 4.2	Mesic in lower montane coniferous forest, meadows and seeps, north coast coniferous forest, and riparian forest. 0–1,600 m (0–5,250 ft); (March) April–August.	A	No suitable habitat present	No effect
dwarf alkali grass	*Puccinellia pumila*	CRPR 2B.2	Coastal salt marshes and swamps. 1–10 m (0–35 ft); July.	A	No suitable habitat present	No effect
trailing black currant	*Ribes laxiflorum*	CRPR 4.3	Sometimes roadsides in north coast coniferous forest. 5–1,395 m (15–4,575 ft); March–July (August).	A	No suitable habitat present	No effect
maple-leaved checkerbloom	*Sidalcea malachroides*	CRPR 4.2	Often in disturbed areas in broadleafed upland forest, coastal prairie, coastal scrub, north coast coniferous forest, and riparian woodland. 0–730 m (0–2,395 ft); (March) April–August.	HP	Isolated patches of coastal scrub habitat	No effect
Siskiyou checkerbloom	*Sidalcea malviflora* subsp. *patula*	CRPR 1B.2	Often roadcuts in coastal bluff scrub, coastal prairie, north coast coniferous forest. 15–880 m (45–2,885 ft); May–August	A	No suitable habitat present	No effect
coast checkerbloom	*Sidalcea oregana* subsp. *eximia*	CRPR 1B.2	Lower montane coniferous forest, meadows and seeps, and north coast coniferous forest. 5–1,340 m (15–4,395 ft); June–August.	A	No suitable habitat present	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Scouler's catchfly	*Silene scouleri* subsp. *scouleri*	CRPR 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 0–600 m (0–1,699 ft); (March-May) June–Aug (Sep)	HP	Disturbed perennial grassland presnt	No effect
western sand-spurrey	*Spergularia canadensis* var. *occidentalis*	CRPR 2B.1	Coastal salt marshes and swamps. 0–3 m (0–10 ft); June–August.	A	No suitable habitat present	No effect
cylindrical trichodon	*Trichodon cylindricus*	CRPR 2B.2	In sandy exposed soil, roadbanks in broadleafed upland forest, meadows and seeps, and upper montane coniferous forest. 50–2,002 m (160–6,570 ft). n/a (moss)	A	No suitable habitat present and outside elevation range	No effect
Methuselah's beard lichen	*Usnea longissima*	CRPR 4.2	On tree branches, usually on old growth hardwoods and conifers in broadleafed upland forest and north coast coniferous forest. 50–1,460 m (160–4,790 ft); n/a (lichen)	A	No suitable habitat present and outside elevation range	No effect
alpine marsh violet	*Viola palustris*	CRPR 2B.2	Coastal bogs and fens and mesic coastal scrub. 0–150 m (0–490 ft); March–August.	HP	Isolated patches of coastal scrub habitat	No effect
Natural Communities queried from CNDDB (CDFW 2017, 2018a)						
Coastal terrace prairie	N/A	S2.1	Holland (1986) description: A dense, tall grassland (up to l m [3 ft] tall) dominated by both sod and tussock-forming perennial grasses. Most stands are quite patchy and variable in composition, reflecting local differences in available soil moisture capacity. Sandy loams on marine terraces near the coast (below 213–305 m (700–1,000 ft) within the zone of coastal fog incursion.	A	Not documented in the BSA	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
northern coastal salt marsh	N/A	S3.2	Holland (1986) description: Highly productive, herbaceous and suffrutescent, salt-tolerant hydrophytes forming moderate to dense cover and up to 1 m (3 ft) tall. Most species are active in summer, dormant in winter. Usually segregated horizontally with *Spartina* nearer the open water, *Salicornia* at mid-littoral elevations, and a richer mixture closer to high ground.	A	Not documented in the BSA	No effect
northern foredune grassland	N/A	S1.1	Holland (1986) description: A sparse grassland (10%–50% total cover) of the upper strand and foredunes dominated by *Elymus mollis* and *Poa douglasii*, with *Ambrosia chamissonis*, *Abronia latifolia*, *Calystegia soldanella*, and *Cakile* species in varying proportions. Site factors include nutrient-poor, circumneutral, well drained arkosic sands exposed to incessant onshore breezes; therefore, easily eroded and transported.	A	Not documented in the BSA	No effect
Sitka spruce forest	N/A	S1.1	Holland (1986) description: Dense forest dominated by coniferous evergreen trees up to 35m tall, but shorter and wind-pruned on exposed headlands. Dense understory of broadleaved trees, shrubs, and perennial herbs including several species of ferns. Site factors include moist, well-drained soils of seaward slopes and coastal headlands with strong sea winds, fog, and small annual temperature fluctuation.	A	Not documented in the BSA	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Fish						
North American green sturgeon (Southern Distinct Population Segment [DPS])	*Acipenser medirostris*	FT, SSC	Distribution in California: San Francisco, San Pablo, Suisun, and Humboldt bays; Sacramento-San Joaquin Delta, Sacramento and Klamath rivers Habitat associations: Large mainstem rivers with cool water and cobble, clean sand, or bedrock for spawning. Bays and river estuaries.	A	No habitat present in the BSA, including designated critical habitat.	No effect
eulachon (Southern DPS)	*Thaleichthys pacificus*	FT	Distribution in California: Alaska to Mad River, Humboldt County Habitat associations: Uses the estuaries and lowest portions of the rivers to spawn. Most of their life is spent in the ocean.	A	BSA is outside current distribution and no habitat is present, including designated critical habitat.	No effect
tidewater goby	*Eucyclogobius newberryi*	FE, SSC	Distribution in California: Tillas Slough (mouth of the Smith River, Del Norte County) to Agua Hedionda Lagoon (northern San Diego County) Habitat associations: Coastal lagoons and the uppermost zone of brackish large estuaries; prefer sandy substrate for spawning, but can be found on silt and rocky mud substrates; can occur in water up to 4.6 m (15 ft) deep in lagoons and within a wide range of salinity (0–42 ppt)	A	No habitat present in the BSA, including designated critical habitat.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
longfin smelt	*Spirnichus thaleichthys*	FC, ST	Distribution in California: San Francisco estuary from Rio Vista or Medford Island in the Delta as far downstream as South Bay; concentrated in Suisun, San Pablo, and North San Francisco bays; populations in Humboldt Bay, Eel River estuary, and Klamath River estuary Habitat associations: Adults in large bays, estuaries, and nearshore coastal areas; migrate into freshwater rivers to spawn; salinities of 15–30 ppt	A	No habitat present in the BSA.	No effect
coho salmon (southern Oregon/ northern California Evolutionary Significant Unit [ESU])	*Oncorhynchus kisutch*	FT, ST	Distribution in California: Punta Gorda north to the Oregon border Habitat associations: Spawn in coastal streams and large mainstem rivers (i.e., Klamath/Trinity Rivers) in riffles and pool tails-outs and rear in pools >1m (3 ft) deep with overhead cover with high levels oxygen and temperatures of 10–15°C (50–59°F)	A	No habitat present in the BSA, including designated critical habitat.	No effect
steelhead (Northern California DPS)	*Oncorhynchus mykiss*	FT, SSC	Distribution in California: Russian River north to Redwood Creek (Humboldt County) Habitat associations: Inhabits small coastal streams to large mainstem rivers with gravel-bottomed, fast-flowing habitat for spawning.	A	No habitat present in the BSA, including designated critical habitat.	No effect
Chinook salmon (California coastal ESU)	*Oncorhynchus tshawytscha*	FT	Distribution in California: Russian River (Sonoma County) north to Redwood Creek (Humboldt County) Habitat associations: Coastal streams; spawns in gravel riffles	A	No habitat present in the BSA, including designated critical habitat.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Amphibians						
northern red-legged frog	*Rana aurora*	SSC	Distribution in California: From Mills Creek in Mendocino County to Oregon border Habitat associations: Humid forests, woodlands, grasslands, and stream sides usually near dense cover. Generally near permanent water, but can be found far from water in damp woods and meadows during non-breeding season.	HP	High likelihood of occurrence within or adjacent to the BSA. Suitable breeding habitat is present within the BSA and individuals can travel over land during wet conditions. Species documented within 4 km (2.5 mi) of BSA (CDFW 2017, 2018a).	Less than significant with avoidance and minimization efforts
foothill yellow-legged frog	*Rana boylii*	SCT, SSC	Distribution in California: Southern Central Valley, Sierra foothills and north coast of California Habitat associations: Associated with partially shaded, shallow streams, and riffles with rocky substrate. Some cobble-sized substrate required for egg laying.	A	No habitat present in the BSA.	No effect
Pacific tailed frog	*Ascaphus truei*	SSC	Distribution in California: Pacific coast from northern California to British Columbia Habitat associations: Associated with montane perennial streams in hardwood conifer, redwood, Douglas-fir, and ponderosa pine habitats. Tadpoles require water temperatures below 15°C (59°F).	A	No habitat present in the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
southern torrent salamander	*Rhyacotriton variegatus*	SSC	Distribution in California: Pacific Northwest coastal regions from northern California to northern Oregon Habitat associations: Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Seeps and small streams in coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats.	A	No habitat present in the BSA.	No effect
Reptiles						
western pond turtle	*Actinemys marmorata*	SSC	Distribution in California: From the Oregon border along the coast ranges to the Mexican border, and west of the crest of the Cascades and Sierras Habitat associations: Ponds, marshes, rivers, streams, and irrigation ditches with abundant vegetation, and either rocky or muddy bottoms, in woodland forest and grasslands. Below 1,829 m (6,000 ft) elevation. Basking sites are located on logs, rocks, cattail mats, and exposed banks and egg-laying sites are located on suitable upland habitats (grassy open fields) up to 500 m (1,640 ft) from water.	A	No habitat present in the BSA.	No effect
green turtle	*Chelonia mydas*	FT	Distribution in California: Warm waters of the Pacific coast, primarily from San Diego south. Uncommon along the California coast; does not nest in California. Habitat associations: Uses convergence zones in the open ocean and benthic feeding grounds in coastal areas; nests on sandy ocean beaches.	A	No habitat present in the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
leatherback sea turtle	*Dermochelys coriacea*	FE	Distribution in California: Temperate and cool waters of the Pacific coast; most sightings in California are from boats out at sea; have been observed in open ocean near San Diego, Santa Barbara, Ventura, San Mateo, and Santa Cruz counties; does not nest in California Habitat associations: Pelagic, though also forages near coastal waters.	A	No habitat present in the BSA.	No effect
olive Ridley sea turtle	*Lepidochelys olivacea*	FT	Distribution in California: Warm waters of the Pacific coast, primarily from southern California south; does not nest in California Habitat associations: Well out to sea in pelagic zone as well as coastal areas, including bays and estuaries; nests on sandy ocean beaches.	A	No habitat present in the BSA.	No effect
Birds						
short-tailed albatross	*Phoebastris albatrus*	FE	Distribution in California: Pacific Ocean (nests on grassy terraces on isolated islands in Japan) Habitat associations: Feeds in north Pacific.	A	No habitat present in the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
bald eagle	*Haliaeetus leucocephalus*	FD, BGEPA, SE, SFP	Distribution in California: Permanent resident and uncommon winter migrant, nests primarily in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties Habitat associations: Associated with advanced-successional conifer forest within 1.6 k (1 mi) of aquatic habitat for foraging (i.e., large bodies of open water or rivers). Uses snags or other perches adjacent to water while foraging. Typically nests and roosts (sometimes colonially in the winter) in large, dominant live trees or snags with a commanding view of foraging habitat.	A	The BSA lacks suitable foraging, roosting, or nesting habitat; however, species may fly over the 2017 BSA. Foraging habitat is present in Humboldt Bay to the east of the 2017 BSA. Documented observation on ebird.org in April 2017 in the Ma-le'l Dunes about 1.5 km (0.9 mi) north of the 2017 BSA (eBird 2017).	No effect
California Ridgway's rail	*Rallus obsoletus obsoletus*	FE, SE, SFP	Distribution in California: Predominantly in the marshes of the San Francisco estuary Habitat associations: Salt and brackish water marshes, typically dominated by pickleweed (*Salicornia virginica*) and Pacific cordgrass (*Spartina foliosa*)	A	Outside of species' range	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
western snowy plover	*Charadrius alexandrinus nivosus*	FT (Pacific coastal population), SSC	Distribution in California: Nests in locations along the California coast, including the Eel River in Humboldt County, and in the interior of the state in the Central Valley, Klamath Basin, Modoc Plateau, and Great Basin, Mojave, and Colorado deserts; winters primarily along coast. Habitat associations: Barren to sparsely vegetated beaches, barrier beaches, salt-evaporation pond levees, and shores of alkali lakes; also nests on gravel bars in rivers with wide floodplains; needs sandy, gravelly, or friable soils for nesting. Forages for invertebrates within the inter-tidal zone and along edges of salt marshes, ponds, and lagoons.	A	The BSA lacks nesting and foraging habitat for the species. Critical habitat is not present in the 2017 BSA, but is present in the Project Region (approximately 11.3 km [7 mi] to the north and to the south of the 2017 BSA).	No effect
marbled murrelet	*Brachyramphus marmoratus*	FT, SE	Distribution in California: Associated with coastal waters and coniferous forests in and around Del Norte and Humboldt counties, and in lesser numbers near San Mateo and Santa Cruz counties; winters throughout this range, and in small numbers in southern California. Habitat associations: Most time spent on the ocean; forages on fish and nests inland in old-growth conifers with suitable platforms, especially redwoods near coastal areas.	A	The BSA lacks nesting and foraging habitat for the species. Critical habitat is not present in the 2017 BSA, but is present in the Project Region (approximately 22.5 km [14 mi] south of the 2017 BSA).	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
western yellow-billed cuckoo	*Coccyzus americanus*	FT, SE	Distribution in California: Breeds in limited portions of the Sacramento River and the South Fork Kern River; small populations may nest in Butte, Yuba, Sutter, San Bernardino, Riverside, Inyo, Los Angeles, and Imperial counties Habitat associations: Associated with valley foothill and desert riparian habitats, particularly willow and cottonwood forest along rivers and floodplains. Nests and forages within large stands (>20 ha [50 ac]) of open woodland with an understory of dense, scrubby vegetation.	A	No open riparian woodland habitat present within the BSA. Although a recent (2015) non-nesting observation occurred about 6 km (4 mi) from the BSA at the Arcata Marsh (eBird 2017), the species is rare and there is no foraging or nesting habitat present in the BSA. Critical habitat is present in the Project Region, but is over 24 km (15 mi) south of the BSA.	No effect
northern spotted owl	*Strix occidentalis caurina*	FT, ST	Distribution in California: Northwestern California south to Marin County, and southeast to the Pit River area of Shasta County Habitat associations: Typically nests in mature and old-growth coniferous forest with dense multi-layered structure; forages over forest floors strewn with woody debris, as well as edge habitat adjacent to open areas.	A	The BSA lacks suitable nesting and foraging habitat. Critical habitat for this species is located outside of the Project Region.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
willow flycatcher	*Empidonax traillii*	SE	Distribution in California: Found in the western side of the Sierra Nevada from 600 to 2,440 m (2,000 to 8,000 ft) in elevation from Tulare County north during the breeding season (winters in Central and South America). Common spring and particularly fall migrant in riparian habitats at lower elevations, including the north coast of California (Ralph and Hollinger 2003 and Rosseau and Ralph 2012). Habitat associations: Associated with dense brushy thickets within riparian woodland often dominated by willows and/or alder, near permanent standing water. Typically breeds in high-elevation wet meadows and montane riparian habitats (with a significant shrub component within or near a taller overstory).	A	Nesting and breeding habitat are not present in the BSA.	No effect
bank swallow	*Riparia riparia*	ST	Distribution in California: Summer resident; occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather River and lower American River, and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou counties; small populations near the coast from San Francisco to Monterey counties Habitat associations: Nests in vertical bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam. Forages over lakes, ponds, rivers, and streams.	A	Although there are several observations at the Arcata Marsh, approximately 6 km (4 mi) northeast of the 2017 BSA (eBird 2017), there is no suitable habitat within the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
Mammals						
Fisher (west coast DPS)	*Pekania pennanti*	ST	Distribution in California: Mountains of southern Oregon, northern California, and southern Sierra Nevada Habitat associations: Dense mature coniferous or mixed forests	A	No habitat present in the BSA.	No effect
white-footed vole	*Arborimus albipes*	SSC	Distribution in California: Humboldt and Del Norte counties Habitat associations: Humid mature coastal redwood, Douglas-fir, and riparian forests, especially areas near small streams with dense alder and shrubs.	A	No habitat present in the BSA.	No effect
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	Distribution in California: Throughout California, found in all but subalpine and alpine habitats, details of distribution not well known Habitat associations: Most abundant in mesic habitats; also found in oak woodlands, desert, vegetated drainages, caves or cave-like structures (including basal hollows in large trees, mines, tunnels, and buildings).	A	No habitat present in the BSA.	No effect
Steller sea-lion	*Eumetopias jubatus*	SSC	Distribution in California: Coastal waters of California Habitat associations: Colder waters; haul outs and rookeries usually consist of beaches, ledges, or rocky reefs.	A	No habitat present in the 2017 BSA. Critical habitat is not present in the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
sei whale	*Balaenoptera borealis*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean waters far from the coastline.	A	No habitat present in the BSA.	No effect
blue whale	*Balaenoptera musculus*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean offshore waters; can also be found in coastal waters.	A	No habitat present in the BSA.	No effect
North Pacific right whale	*Eubalaena japonica*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean waters	A	No habitat present in the BSA.	No effect
fin whale	*Balaenoptera physalus*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean waters.	A	No habitat present in the BSA.	No effect
humpback whale	*Megaptera novaeangliae*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean waters.	A	No habitat present in the BSA.	No effect
sperm whale	*Physeter microcephalus*	FE	Distribution in California: Pacific Ocean Habitat associations: Deep ocean waters.	A	No habitat present in the BSA.	No effect

Common name	Scientific name	Status[1]	General habitat description[2]	Potential habitat present/ absent in BSA[3]	Rationale	Effect determination for the 2017 BSA[4]
killer whale (Southern Resident DPS)	*Orcinus orca*	FE	Distribution in California: Pacific Ocean Habitat associations: Coastal waters and bays.	A	No habitat present in the BSA.	No effect

[1] Status:
Federal:
Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC); Federal Delisted (FD); Bald and Golden Eagle Protection Act (BGEPA)
State:
State Endangered (SE); State Threatened (ST); State Species of Special Concern (SSC); State Candidate Threatened (SCT); State Fully Protected (SFP)
California Rare Plant Rank (CRPR):
1B Plants rare, threatened, or endangered in California and elsewhere
2B Plants rare, threatened, or endangered in California, but more common elsewhere
4 Plants of limited distribution - a watch list
CRPR Threat Ranks:
0.1 Seriously threatened in California (high degree/immediacy of threat)
0.2 Moderately threatened in California (moderate degree/immediacy of threat)
0.3 Not very threatened in California (low degree/immediacy of threats or no current threats known)
State Ranks for Sensitive Natural Communities:
S1 Critically Imperiled: Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state
S2 Imperiled: At high risk of extinction or elimination due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state
S3 Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state
0.1 Very threatened
0.2 Threatened
(?) Denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank

[2] For plant species, elevation and blooming period are given.

[3] Key A Absent: no habitat present and no further work needed.
HP Habitat Present: habitat is or may be present.
P Present: the species is present.
CH Critical Habitat: Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

[4] Special-status plant surveys were not conducted within the 2018 BSA and therefore an effect determination could not be applied at these locations.

4 RESULTS: BIOLOGICAL RESOURCES, DISCUSSION OF IMPACTS, AND MITIGATION

This section describes impacts on natural communities of special concern and special-status species that occur or have the potential to occur within the BSA.

4.1 Habitats and Natural Communities of Special Concern

Habitat and natural communities are considered to be of special concern based on: (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status wildlife that may occur in the BSA. CCC and USACE wetlands and waters, ESHA, and sensitive natural communities were identified within the BSA (Figure C-5–C-8 in Appendix C). Waters and wetlands under the jurisdictional of the USACE are discussed in more detail within the Preliminary Wetland Delineation Report (Appendix A).

4.1.1 Discussion of Waters of the U.S.

Potential USACE-jurisdictional waters in the BSA include three intermittently flowing drainage ditches that drain into the Humboldt Bay (a traditional navigable water) via a network of culverts. Three associated culvert crossings also were identified along CA-255 in the BSA that convey seasonal surface water to nearby wetland features that drain into Humboldt Bay to the east and south (Appendix A). These drainage ditches are assumed to have been excavated during the development of the highway. Both constructed drainage ditches have varying vegetative cover, ranging from bare ground with some overhead shrub and tree canopy to high cover by herbaceous hydrophytic vegetation (Section 3.4.1.6). The potential USACE-jurisdictional wetlands adjacent to waters in the BSA form a wetland complex composed of palustrine scrub-shrub and palustrine emergent wetlands.

4.1.1.1 Survey results

The BSA contains 0.05 ha (0.13 ac) of potentially USACE-jurisdictional waters and 1.04 ha (2.57 ac) of potentially USACE-jurisdictional wetlands adjacent to these waters (Table 3).

Table 3. Preliminary USACE-jurisdictional waters of the U.S., including wetlands in the BSA.

Description	Area
Waters[1]	
Intermittently flowing drainage ditches (W-1–W-3)	0.05 ha (0.13 ac)
Wetlands[1]	
Seasonally flooded palustrine persistent emergent wetlands	0.13 ha (0.33 ac)
Seasonally flooded palustrine broad-leaved deciduous scrub-shrub wetlands	0.91 ha (2.24 ac)

[1] Subject to Section 404 of the CWA, and SWRCB, CDFW, and CCC/LCP jurisdiction.

Most of the potential USACE-jurisdictional waters of the U.S. are also considered sensitive natural communities including: *Salix hookeriana* shrub alliance (S3), *Carex obnupta* herbaceous alliance (S3), *Oenanthe sarmentosa* herbaceous alliance (S2?), *Juncus breweri* herbaceous

alliance (S2?), and *Scirpus microcarpus* herbaceous alliance (S2) (see Section 3.4.1 for vegetation summaries).

4.1.1.2 Project impacts

The Project will involve the clearing and grubbing of vegetation within the footprint of the bike path. Although the Project is being designed to avoid USACE-jurisdictional waters and wetlands to the extent possible, impacts on USACE-jurisdictional waters and wetlands are anticipated (Table 4; Appendix A). Implementation of the avoidance and minimization measures (BIO-1 and BIO-2) will reduce the potential impacts on USACE-jurisdictional waters and wetlands.

Table 4. Anticipated impacts on USACE-jurisdictional waters of the U.S., including wetlands, in the BSA.

Description	Impact area
Waters[1]	
Intermittently flowing drainage ditches	14 m^2 (155 ft^2)
Wetlands[1]	
Seasonally flooded palustrine persistent emergent wetlands	469 m^2 (5,050 ft^2)
Seasonally flooded palustrine broad-leaved deciduous scrub-shrub wetlands	2,165 m^2 (23,300 ft^2)

[1] Subject to Section 404 of the CWA, and SWRCB, CDFW, and CCC/LCP jurisdiction.

4.1.1.3 Avoidance and minimization efforts

Impacts on USACE-jurisdictional waters and wetlands will be minimized by implementing the following avoidance and minimization measures:

BIO-1. Project activities will be restricted to the Project footprint. A qualified biologist will identify and mark all wetlands in the BSA adjacent to the Project footprint prior to any construction activities.

BIO-2. A silt fence will be installed between the trail construction footprint and wetland features to reduce sediment or runoff from leaving the Project work area and entering adjacent wetlands.

4.1.1.4 Wetland Establishment

Wetlands will be established on-site at a ratio of 1:1 to compensate for impacts on USACE-jurisdictional waters and wetlands (Appendix E). Palustrine emergent wetlands and one-parameter coastal willow wetlands will be established on-site and in-kind. Palustrine scrub-shrub wetlands will be established on-site, and mostly in-kind. Palustrine scrub-shrub wetlands will not be established within 5 m (5 ft) of the existing highway shoulder or within 5 m (15 ft) of the proposed trail to reduce the potential for vegetation encroaching on the facilities and thus reducing the need for regular vegetation maintenance. No existing wetlands or sensitive natural communities were identified within the potential wetland creation areas during the surveys conducted in the 2018 BSA in October 2018.

4.1.1.5 Cumulative impacts

No reasonably foreseeable projects have been identified in the BSA that would contribute to cumulative impacts on USACE-jurisdictional waters and wetlands. Therefore, the proposed Project, which includes wetland establishment, when combined with other reasonably foreseeable projects, is not anticipated to have a significant cumulative impact on USACE-jurisdictional waters and wetlands.

4.1.2 Discussion of Coastal Commission/Local Coastal Program wetlands

In conjunction with the wetland delineation survey, additional waters of the State that may be subject to the jurisdiction of the State Water Resources Control Board, CCC, Humboldt County, and/or CDFW were delineated in the BSA.

4.1.2.1 Survey results

All potentially jurisdictional waters of the U.S. are also considered to be waters of the State under SWRCB, CDFW, and CCC/LCP jurisdiction (Table 3). Additionally, there is a total of 0.08 ha (0.20 ac) of wetlands that are only subject to CCC/LCP jurisdiction. (Figure 6 in Appendix A). These one-parameter wetlands are composed of willow scrub (Section 3.4.1.3).

4.1.2.2 Project impacts

The Project will involve the clearing and grubbing of vegetation within the footprint of the bike path. Although the Project is being designed to avoid CCC/LCP-jurisdictional wetlands to the extent possible, 247 m^2 (2,660 ft^2) of CCC/LCP-jurisdictional wetlands are anticipated to be impacted (Appendix C). Implementation of avoidance and minimization measures (BIO-1 and BIO-2) will reduce the potential impacts on CCC/LCP-jurisdictional wetlands.

4.1.2.3 Avoidance and minimization efforts

Impacts on CCC/LCP-jurisdictional wetlands will be minimized by implementing avoidance and minimization measures BIO-1 and BIO-2 (Section 4.1.1.3).

4.1.2.4 One-Parameter Wetland Establishment

One-parameter wetlands will be established on-site at a ratio of 1:1 to compensate for impacts on CCC/LCP-jurisdictional waters and wetlands (Appendix E). Palustrine emergent wetlands and one-parameter coastal willow wetlands will be created on site and in-kind (Appendix E). No existing wetlands or sensitive natural communities were identified within the potential creation areas during the surveys conducted in the 2018 BSA.

4.1.2.5 Cumulative impacts

No reasonably foreseeable projects have been identified in the BSA that would contribute to cumulative impacts on CCC/LCP-jurisdictional waters and wetlands. Therefore, the proposed Project with included avoidance and minimization efforts, when combined with other reasonably foreseeable projects, is not anticipated to have a significant cumulative impact on CCC/LCP-jurisdictional waters and wetlands.

4.1.3 Discussion of sensitive natural communities

Seven sensitive natural communities with a state ranking of S2 or S3 on CDFW's *California Sensitive Natural Communities List* (CDFW 2018b) were documented within the BSA. Based on the vegetation alliances observed during the field surveys, no sensitive natural communities documented from CDFW's CNDDB query (i.e., coastal terrace prairie, northern coastal salt marsh, northern foredune grassland, or Sitka spruce forest) (Table 2) were identified in the BSA. Except for the coastal bramble and dune mat alliances, all sensitive natural communities identified in the BSA are within the boundaries of the potential jurisdictional waters or wetlands. Most of the coastal bramble occurrences in the BSA were highly disturbed and not considered ESHA (Section 2.1) due to prevalence of nonnative species, high level of human impact (e.g., litter, escaped ornamentals), and regular maintenance within the ROW; these were labeled as disturbed on Figure C-3 of Appendix C. A single mapped area totaling 0.02 ha (0.06 ac) within the BSA was classified to the *Abronia latifolia - Ambrosia chamissonis* Herbaceous Alliance (Figure C-4, Appendix C). This is mapped as disturbed and is not considered ESHA due to its prevalence of nonnative vegetation (e.g., slender wild oat, sheep sorrel, and yellow bush lupine), disconnect to an active dune complex, and entirely bound by nonnative habitats (i.e., semi-natural alliances) and CA-255 (Figure C-4 of Appendix C) (see Section 3.4.1.2).

4.1.3.1 Survey results

A total of 1.20 ha (2. 96 ac) of sensitive natural communities are present in the BSA. Most of these are associated with potential jurisdictional waters and wetlands. Coastal brambles associated with undisturbed upland habitat total 0.02 ha (0.05 ac) within the BSA. These two occurrences are considered a sensitive natural community as well as upland ESHA. Table 5 summarizes all sensitive natural communities in the BSA, excluding those that were considered of low quality (i.e., highly disturbed) as shown in Appendix C.

Table 5. Sensitive natural communities in the BSA.

Alliance (CNPS 2018b)	Common name	CA rarity[1]	Total area in BSA ha (ac)
Carex obnupta herbaceous	Slough sedge swards	S3	0.07 (0.16)
Juncus breweri herbaceous	Salt rush swales	S2?	0.04 (0.11)
Oenanthe sarmentosa herbaceous	Water-parsley marsh	S2?	0.02 (0.05)
Rubus ursinus shrubland[2]	Coastal brambles	S3	0.02 (0.05)
Salix hookeriana shrubland	Coastal dune willow thickets	S3	1.03 (2.55)
Scirpus microcarpus herbaceous	Small-fruited bulrush marsh	S2	0.01 (0.04)

[1] State Ranks for sensitive natural communities (CDFW 2018b):
S2 Imperiled: At high risk of extinction or elimination due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state
S3 Vulnerable: Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state
(?) Denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank

[2] Locations with high-disturbance were not considered high-quality occurrences (see Section 4.1.3) and are not included.

4.1.3.2 Project impacts

Although the Project is being designed to minimize impacts, it is anticipated that 2,895 m^2 (31,165 ft^2) of sensitive natural communities will be impacted (Figures C-5–C-8 in Appendix C). Table 6 summarizes anticipated impacts on sensitive natural communities. All sensitive natural communities that will be impacted are within the boundaries of the potential USACE- and CCC/LCP-jurisdictional waters or wetlands (described in Section 4.1.1.2 and 4.1.2.2). No upland ESHA will be impacted by the Project. Implementation of avoidance and minimization measures (BIO-1–BIO-5) will reduce the potential impacts on sensitive natural communities.

Table 6. Anticipated impacts on sensitive natural communities in the BSA.

Alliance (CNPS 2018b)	Common name	Impact area
Carex obnupta herbaceous	Slough sedge swards	297 m^2 (3,200 ft^2)
Juncus breweri herbaceous	Salt rush swales	163 m^2 (1,750 ft^2)
Oenanthe sarmentosa herbaceous	Water-parsley marsh	no impact
Rubus ursinus shrubland	Coastal brambles	no impact
Salix hookeriana shrubland	Coastal dune willow thickets	2,426 m^2 (26,115 ft^2)
Scirpus microcarpus herbaceous	Small-fruited bulrush marsh	9 m^2 (100 ft^2)

4.1.3.3 Avoidance and minimization efforts

Impacts on sensitive natural communities will be minimized by implementing the following avoidance and minimization measures:

BIO-3. Prior to beginning work on the Project, all crew and team members that work on site will attend an environmental awareness training conducted by a qualified biologist detailing the measures to be implemented to protect sensitive resources.

BIO-4. Ground disturbance and vegetation clearing and/or trimming will be confined to the minimum amount necessary to facilitate Project implementation.

BIO-5. Project activities will be restricted to the Project footprint. A qualified biologist will identify and mark all sensitive natural communities in the BSA adjacent to the Project footprint prior to any construction activities.

BIO-6. Measures to prevent the spread of invasive plant species will be implemented, including, where appropriate, inspecting equipment for soil, seeds and vegetative matter, cleaning equipment, utilizing weed-free materials and native seed mixes for revegetation, and proper disposal of soil and vegetation.

4.1.3.4 Wetland Establishment

Wetlands will be established on-site at a ratio of 1:1 to compensate for impacts on USACE- and CCC-jurisdictional waters and wetlands (Appendix E). This will mitigate for impacts on sensitive natural communities.

4.1.3.5 Cumulative impacts

No reasonably foreseeable projects have been identified in the BSA that would contribute to cumulative impacts on sensitive natural communities. Therefore, the proposed Project, which includes avoidance and minimization measures and wetland establishment, when combined with other reasonably foreseeable projects, is not anticipated to have a significant cumulative impact on sensitive natural communities.

4.2 Special-status Plant Species

No special-status plant species were observed during the protocol-level botanical surveys conducted in the 2017 BSA (Table 7). A protocol-level botanical survey has not been conducted in the 2018 BSA. Based on the habitats present at these locations and assuming no additional special-status plant species are identified in database queries conducted prior to construction, a survey conducted in June would capture all special-status plants with the potential to occur in the 2018 BSA and would coincide with the phenological stage during which the special-status species would be most easily identified in the field. If any special-status plants are observed in the 2018 BSA during protocol-level surveys, the design of the mitigation area will be modified to avoid the population. No critical habitat for federally or state listed plant species occur within the 2017 or 2018 BSAs. Federally listed plant species with potential to occur in the BSA are described in further detail below. A comprehensive list of plant species identified during the botanical surveys in the 2017 BSA is presented in Appendix D.

Table 7. Botanical survey results for special-status plant species with potential to occur in the 2017 BSA.

Common name	Scientific name	Status[1]	Species present/ absent[2]	Rationale	Effect determination[3]
pink sand-verbena	*Abronia umbellata* var. *breviflora*	CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
sea-watch	*Angelica lucida*	CRPR 4.2	A	Species not identified during the 2017 botanical surveys	No effect
coastal marsh milk-vetch	*Astragalus pycnostachyus* var. *pycnostachyus*	CRPR 1B.2	A	Species not identified during the 2017 botanical surveys	No effect
false gray horsehair lichen	*Bryoria pseudocapillaris*	CRPR 3.2	A	Species not identified during the 2017 botanical surveys	No effect
twisted horsehair lichen	*Bryoria spiralifera*	CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
Oregon coast paintbrush	*Castilleja litoralis*	CRPR 2B.2	A	Species not identified during the 2017 botanical surveys	No effect
round-headed Chinese-houses	*Collinsia corymbosa*	CRPR 1B.2	A	Species not identified during the 2017 botanical surveys	No effect
Menzies' wallflower	*Erysimum menziesii*	FE, SE, CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
Pacific gilia	*Gilia capitata* subsp. *pacifica*	CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
dark-eyed gilia	*Gilia millefoliata*	CRPR 1B.2	A	Species not identified during the 2017 botanical surveys	No effect
American glehnia	*Glehnia littoralis* subsp. *leiocarpa*	CRPR 4.2	A	Species not identified during the 2017 botanical surveys	No effect

Common name	Scientific name	Status[1]	Species present/ absent[2]	Rationale	Effect determination[3]
short-leaved evax	*Hesperevax sparsiflora* var. *brevifolia*	CRPR 1B.2	A	Species not identified during the 2017 botanical surveys	No effect
perennial goldfields	*Lasthenia californica* subsp. *macrantha*	CRPR 1B.2	A	Species not identified during the 2017 botanical surveys	No effect
seaside pea	*Lathyrus japonicus*	CRPR 2B.1	A	Species not identified during the 2017 botanical surveys	No effect
marsh pea	*Lathyrus palustris*	CRPR 2B.2	A	Species not identified during the 2017 botanical surveys	No effect
beach layia	*Layia carnosa*	FE, SE, CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
western lily	*Lilium occidentale*	FE, SE, CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
Wolf's evening-primrose	*Oenothera wolfii*	CRPR 1B.1	A	Species not identified during the 2017 botanical surveys	No effect
maple-leaved checkerbloom	*Sidalcea malachroides*	CRPR 4.2	A	Species not identified during the 2017 botanical surveys	No effect
Scouler's catchfly	*Silene scouleri* subsp. *scouleri*	CRPR 2B.2	A	Species not identified during the 2017 botanical surveys	No effect
alpine marsh violet	*Viola palustris*	CRPR 2B.2	A	Species not identified during the 2017 botanical surveys	No effect

[1] Status:
Federal:
Federal Endangered (FE)
State:
State Endangered (SE)
California Rare Plant Rank (CRPR):
1B Plants rare, threatened, or endangered in California and elsewhere
2B Plants rare, threatened, or endangered in California, but more common elsewhere
4 Plants of limited distribution - a watch list
CRPR Threat Ranks:
0.1 Seriously threatened in California (high degree/immediacy of threat)
0.2 Moderately threatened in California (moderate degree/immediacy of threat)

[2] Key: A Absent: no habitat present and no further work needed.
HP Habitat Present: habitat is or may be present.
P Present: the species is present.
CH Critical Habitat: project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

[3] If any special-status plants are observed in the 2018 BSA during protocol-level surveys, the design of the mitigation area will be modified to avoid the population.

4.2.1 Discussion of Menzies' wallflower

Erysimum menziesii (Menzies' wallflower) is a California endemic perennial herb in the Brassicaceae family that is federally and state endangered (listed in 1992 and 1984, respectively) with a CRPR rank of 1B.1. It occurs on coastal dunes from sea level to 35 m (0 to 115 ft) above sea level, and blooms from March through September. In Humboldt Bay area, it is threatened by development, vehicles, and nonnative plant encroachment (CNPS 2018a).

4.2.1.1 Survey results

Menzies' wallflower was not observed in the isolated patches of coastal dune habitat (see Section 3.4.1.4) or elsewhere in the 2017 BSA during the protocol-level botanical surveys conducted in 2017. A protocol-level special-status plant survey will occur in the 2018 BSA prior to Project construction as coastal dune habitat was observed in the 2018 BSA (i.e., European beach grass semi-natural alliance, see Section 3.4.1.1)

4.2.1.2 Project impacts

The Project will not have any impacts on Menzies' wallflower populations in the 2017 BSA. Results of the 2018 BSA protocol-level special-status plant surveys will be provided to the agencies upon completion. With the implementation of the avoidance and minimization measures, the Project will have no effect on Menzies' wallflower.

4.2.1.3 Avoidance and minimization efforts

If Menzies' wallflower is not observed during surveys conducted in the 2018 BSA prior to Project construction, then no avoidance or mitigation measures are required for the Project. If any Menzies' wallflower individuals are observed in the 2018 BSA during protocol-level surveys, the design of the mitigation area will be modified to avoid the population.

4.2.1.4 Compensatory mitigation

There will be no impacts on Menzies' wallflower in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will be no impacts on this species by the Project and no need for compensatory mitigation.

4.2.1.5 Cumulative impacts

The Project will not have any impacts on Menzies' wallflower in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will not be any cumulative impacts by the Project on the species.

4.2.2 Discussion of beach layia

Layia carnosa (beach layia) is an annual herb in the Asteraceae family that is federally and state endangered (listed in 1992 and 1990, respectively) with a CRPR rank of 1B.1. It occurs on coastal dunes and sandy coastal scrub from sea level to 60 m (0 to 197 ft) elevation, and blooms from March through July. It is threatened by coastal development, foot traffic, vehicles, and nonnative plant encroachment (CNPS 2018a).

4.2.2.1 Survey results

Beach layia was not observed in the coastal dune or coastal scrub habitats (i.e., see Sections 3.4.1.2–3.4.1.4) or elsewhere in the 2017 BSA during the protocol-level botanical surveys conducted in 2017. A protocol-level special-status plant survey will occur in the 2018 BSA prior to Project construction as coastal dune and coastal scrub habitats were observed in the 2018 BSA.

4.2.2.2 Project impacts

The Project will not have any impacts on beach layia populations in the 2017 BSA. Results of the 2018 BSA protocol-level special-status plant surveys will be provided to the agencies upon completion. With the implementation of the avoidance and minimization measures, the Project will have no effect on beach layia.

4.2.2.3 Avoidance and minimization efforts

If beach layia is not observed during surveys conducted in the 2018 BSA prior to Project construction, then no avoidance or mitigation measures are required for the Project. If any beach layia individuals are observed in the 2018 BSA during protocol-level surveys, the design of the mitigation area will be modified to avoid the population.

4.2.2.4 Compensatory mitigation

There will be no impacts on beach layia in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will be no impacts on this species by the Project and no need for compensatory mitigation.

4.2.2.5 Cumulative impacts

The Project will not have any impacts on beach layia in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will not be any cumulative impacts by the Project on the species.

4.2.3 Discussion of western lily

Lilium occidentale (western lily) is a perennial bulbiferous herb in the Liliaceae family that is federally and state endangered (listed in 1994 and 1982, respectively) with a CRPR rank of 1B.1. It occurs on bogs and fens, coastal bluff scrub, coastal prairie, coastal scrub, freshwater marshes and swamps, openings in North Coast coniferous from 2 to 185 m (7 to 607 ft) above sea level, and blooms from June through July. It is threatened by development, herbivory, inappropriate grazing, vegetation succession, and horticultural collecting (CNPS 2018a).

Nearby western lily occurrences were based on three historical collections made between 1912 and 1925 (CDFW 2018a). These are the only known occurrences for this species along the coast between north Eureka and Arcata. They were noted along Ryan Slough at approximately 3 m (10 ft) elevation, near Bayside in the Indianola vicinity at 15 m (50 ft) elevation and the general area of the old Bayside Golf Course at 2.4 m (8 ft) elevation (Bencie and Wear 2004). There are no known occurrences on the Samoa Peninsula.

4.2.3.1 Survey results

Western lily was not observed in the coastal scrub habitats (i.e., see Sections 3.4.1.2–3.4.1.3) or elsewhere in the 2017 BSA during the protocol-level botanical surveys conducted in 2017. A protocol-level special-status plant survey will occur in the 2018 BSA prior to Project construction as coastal scrub habitat was observed in the 2018 BSA.

4.2.3.2 Project impacts

The Project will not have any impacts on western lily populations in the 2017 BSA. Results of the 2018 BSA protocol-level special-status plant surveys will be provided to the agencies upon completion. With the implementation of the avoidance and minimization measures, the Project will have no effect on western lily.

4.2.3.3 Avoidance and minimization efforts

If western lily is not observed during surveys conducted in the 2018 BSA prior to Project construction, then no avoidance or mitigation measures are required for the Project. If any western lily individuals are observed in the 2018 BSA during protocol-level surveys, the design of the mitigation area will be modified to avoid the population.

4.2.3.4 Compensatory mitigation

There will be no impacts on western lily in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will be no impacts on this species by the Project and no need for compensatory mitigation.

4.2.3.5 Cumulative impacts

The Project will not have any impacts on western lily in the 2017 BSA. With the implementation of the avoidance and minimization measures, there will not be any cumulative impacts by the Project on the species.

4.3 Special-status Animal Species

The only special-status animal species with potential to occur in the BSA are northern red-legged frog and bald eagle; northern red-legged frog is the only species with potential to occur that could also be affected by Project activities. While bald eagles have the potential to fly over the BSA, nesting, roosting, and foraging habitat is not present and would not be affected by the Project. These two species, in addition to a summary of federally listed species from database query results (Table 2), are discussed below.

4.3.1 Discussion of northern red-legged frog

Northern red-legged frogs are a California Species of Special Concern and are known to occur along the California coast from Mendocino County north to southwestern British Columbia, at elevations from sea level to 1,160 m (3,800 ft) (Lannoo 2005).

Northern red-legged frogs utilize a variety of habitats throughout their various life stages. Aquatic sites such as coastal lagoons, pools, marshes, ponds, or backwater areas are used for breeding, while upland habitats such as open grasslands with seeps and springs may be used for over-summering and foraging. Deep pools are an important breeding habitat feature for northern red-legged frogs, especially for evading predators. Other sources of cover include emergent vegetation, undercut banks, and root-wads.

Breeding for northern red-legged frogs generally between January and March, typically when water temperatures exceed 6–7°C (43–46°F). Females deposit approximately 500–800 eggs in a large mass, attached to herbaceous vegetation in low- or no-flow areas (Stebbins 2003, Lannoo

2005). Eggs hatch in the spring (March–April) and tadpoles metamorphose in June or July (Lannoo 2005). Most northern red-legged frog males begin breeding after 2 years of age, and females begin breeding after 3 years of age (Lannoo 2005). Adults may move large distances (>1,000 ft [300 m]) from breeding ponds (Lannoo 2005).

Threats to northern red-legged frog populations include degradation of habitat and water quality and susceptibility to agricultural chemicals and nonnative species (Lannoo 2005). The non-native American bullfrog (*Lithobates catesbeiana*) is a competitor and predator of northern red-legged frogs, in addition to non-native fish species. American bullfrogs are widely established west of the Cascades and may be displacing northern red-legged frogs (Lannoo 2005). Northern red-legged frogs are relatively common in Humboldt County and have been observed in dense understory vegetation such as ferns and sedges, streamside flats stands of redwoods, drainage ditches in farm fields, inboard ditches along roads, and back yard wood piles.

4.3.1.1 Survey results

A focused survey for northern red-legged frogs was not conducted for this Project. However, suitable breeding and dispersal habitat is present in the BSA and it can be assumed that the species is present. Suitable habitat is present in the drainage ditch adjacent to Hwy 255 between Lupin Drive and Carlson Drive. In addition, suitable habitat is present in the Manila water treatment plant and ponds in the dunes forest from which individuals can disperse into the Project. The nearest recorded observation was in dunes/willow habitat approximately 4.0 km (2.5 mi) north of the Project near Mad River Slough (CDFW 2017, 2018a).

4.3.1.2 Project impacts

The Project will involve the clearing and grubbing of vegetation within the footprint of the new bike path, although based upon the initial designs of the Project, potential breeding habitat will be avoided. This will avoid impacts on eggs and tadpoles. However, the clearing and grubbing has the potential to affect juvenile and adult northern red-legged frogs. Adverse effects including injury or mortality to juveniles or adults could result from being run over by heavy equipment during vegetation clearing and later phases of the work such as placement of the path's base rock and finished running surface. However, implementation of avoidance and minimization measures (BIO-7 and BIO-8) will reduce the potential impacts on this species.

4.3.1.3 Avoidance and minimization efforts

Impacts on northern red-legged frogs will be minimized by implementing BIO-3 and the following avoidance and minimization measures:

BIO-7. A qualified biologist will conduct a pre-construction survey of the work zone no more than one week prior to the initiation of ground disturbance. The biologist will relocate any red-legged frogs that occur within the work-impact zone to nearby suitable habitat.

BIO-8. Construction within areas of standing water shall be limited to the period of the year between 1 July and 30 October to avoid disturbance to breeding northern red-legged frogs. After 1 July, a qualified biologist will inspect any work areas containing surface water (not including puddles resulting from rainfall) to ensure tadpoles or metamorphosing frogs are not present. If they are, the biologist will implement a rescue and relocation operation to move any tadpoles or metamorphosing frogs out of harm's way.

4.3.1.4 Compensatory mitigation

There are no FESA-listed wildlife nor any designated critical habitat in the BSA. Therefore, there is no need for compensatory mitigation.

4.3.1.5 Cumulative impacts

No reasonably foreseeable projects have been identified in the BSA that would contribute to cumulative impacts on northern red-legged frogs. Therefore, the proposed Project, when combined with other reasonably foreseeable projects, is not anticipated to have a significant cumulative impact on northern red-legged frogs.

4.3.2 Discussion of bald eagle

Bald eagle is federally delisted, protected by the federal Bald and Golden Eagle Protection Act, and state-listed as endangered. This species is a year-round resident and uncommon winter migrant in California (Zeiner et al. 1990). Breeding occurrences have been rebounding in the state during the last few decades; recent records document nesting in 41 of California's 58 counties (CDFG 2009b). Bald eagles breed at coastal areas, rivers, lakes, and reservoirs with forested shorelines or cliffs in northern California. Bald eagles winter throughout most of California in lower elevations, with large concentrations in the Klamath Basin (Zeiner et al. 1990).

Wintering bald eagles are associated with aquatic areas containing some open water for foraging. Bald eagles forage and scavenge within large bodies of water containing abundant fish, such as estuaries, coastal waters, rivers, large lakes, and reservoirs. High snags, trees, and open rocky slopes provide hunting perches (Call 1978); open, easily approached perches and feeding areas are preferred. While there are coastal waters and an estuary near the BSA may provide foraging habitat, bald eagles are not expected to perch in the BSA as there is no suitable perching habitat, and the BSA is too far to effectively forage from the BSA into the estuary. Furthermore, the Project is not expected to impact foraging (estuarine) habitat for the species.

4.3.2.1 Survey results

A focused bald eagle survey was not conducted for this Project. However, there is no foraging or nesting habitat present in the BSA.

4.3.2.2 Project impacts

The Project will not have any impacts on bald eagle populations.

4.3.2.3 Avoidance and minimization efforts

No avoidance or mitigation measures are needed.

4.3.2.4 Compensatory mitigation

There is no FESA-listed wildlife nor any of the designated critical habitat in the BSA. Therefore, there is no need for compensatory mitigation.

4.3.2.5 Cumulative impacts

The Project will not have any impacts on bald eagle; therefore. there will not be any cumulative impacts on the species.

4.3.3 Discussion of other federally listed species

4.3.3.1 Fish

The following federally listed fish species (with federal listing status of each) were included in the database query results (Table 2):

- green sturgeon – federally threatened
- eulachon – federally threatened
- tidewater goby – federally endangered
- longfin smelt – federal candidate
- coho salmon – (southern Oregon/northern California ESU) – federally threatened
- steelhead (northern California DPS) – federally threatened
- Chinook salmon (California coastal ESU) – federally threatened

None of these federally listed fish species have potential to occur in the BSA, because there are no waterways present in the BSA that provide habitat suitable for fish. There is a manmade drainage ditch parallel to CA-255 in the BSA that is seasonally wet, but doesn't support fish. Habitat requirements for each fish species are in Table 2. Because these fish species will not occur in the BSA, they will not be affected by Project activities and are not discussed further.

4.3.3.2 Sea turtles

The following federally listed sea turtles (with federal listing status of each) were included in the database query results (Table 2):

- green sea turtle – federally threatened
- leatherback sea turtle – federally endangered
- olive Ridley sea turtle – federally threatened

None of these federally listed sea turtles have potential to occur in the BSA because they are restricted to marine and beach habitats. They forage in the open ocean and nest on sandy beaches in temperate and tropical habitats. Because these sea turtles will not occur in the BSA, they will not be affected by Project activities and are not discussed further.

4.3.3.3 Birds

The following federally listed bird species (with federal listing status of each) were included in the database query results (Table 2):

- short-tailed albatross – federally endangered
- California Ridgway's rail – federally endangered
- western snowy plover – federally threatened
- marbled murrelet – federally threatened
- western yellow-billed cuckoo – federally threatened

- northern spotted owl – federally threatened

Short-tailed albatross is a pelagic seabird that only comes onshore to breed on islands near Japan.

California Ridgway's rail is distributed predominantly in the marshes of the San Francisco estuary. The BSA is outside of the species' known range.

Western snowy plover is a shorebird whose habitat primarily includes beaches, and less commonly salt ponds, dredged material disposal areas, and river bars (Page et al. 2009, USFWS 2007). This species nests on the ground above the high tide line on barren to sparsely-vegetated beaches. There is no beach or dune habitat in the BSA.

Marbled murrelet is a small diving seabird that occurs along the Pacific Coast. This species breeds in old-growth and mature coastal forests. There are no mature forests in or near the BSA.

Western yellow-billed cuckoos are extremely rare in the northern part of California. Yellow-billed cuckoos generally prefer open woodland with trees and low, dense shrubs, often associated with riparian areas (Hughes 1999). There are no riparian areas with habitat conditions suitable for western yellow-billed cuckoo in the BSA.

Northern spotted owls are typically associated with complex mature or old-growth stands dominated by conifers, particularly redwoods with hardwood understories (Pious 1994, USFWS 2011). In coastal Mendocino County, the majority of nests occurred in redwood trees (Pious 1995). There are no mature forests in or near the BSA.

There is no suitable nesting or foraging habitat in or near the BSA for any of the above-mentioned federally listed bird species. Because these bird species will not occur in or near the BSA, they will not be affected by Project activities and are not discussed further.

4.3.3.4 Mammals

The following federally listed mammal species (with federal listing status of each) were included in the database query results (Table 2):

- Sei whale – federally endangered
- Blue whale – federally endangered
- North Pacific right whale – federally endangered
- Fin whale – federally endangered
- Humpback whale – federally endangered
- sperm whale – federally endangered
- killer whale (Southern Resident DPS) – federally endangered

Whales are very large marine mammals restricted to deep ocean and coastal waters. Therefore, they will not be affected by Project activities and are not discussed further.

4.3.4 Discussion of Migratory Birds Treaty Act birds

4.3.4.1 Survey results

A focused survey for CDFW and Migratory Bird Treaty Act (MBTA)-protected nesting birds was not conducted for this Project. Suitable nesting habitat for several nesting bird species is present in the BSA and nesting birds are likely present in the BSA during the nesting season (15 March to 15 August).

4.3.4.2 Project impacts

The work will take place during the nesting season for migratory birds. Construction could directly adversely impact active nests, eggs, or nestlings by direct contact during vegetation clearing activities. Indirect adverse impacts could occur due to construction-related noise disturbance of active nests, which could inhibit egg brooding and feeding of nestlings, which could indirectly result in injury or mortality of eggs and young. Implementation of avoidance and minimization measure BIO-9 will reduce the potential impacts on MBTA species.

4.3.4.3 Avoidance and minimization efforts

Impacts on nesting birds will be minimized by implementing BIO-3 and the following avoidance and minimization measures:

BIO-9. The County will ensure that seasonal avoidance of the 15 March–15 August nesting season will be utilized when feasible, to avoid impacts on native bird species protected under the California Fish and Game Code and MBTA that may be present within the project footprint or adjacent area during construction. Clearing of shrubs or other vegetation, if necessary for construction or maintenance, shall be conducted if possible during the fall and/or winter months from 16 August to 14 March, outside of the active nesting season. If vegetation removal or ground disturbance cannot be confined to work during the non-breeding season, the County will have a qualified biologist conduct preconstruction surveys within the vicinity of the impact area, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special-status bird species. The biologist shall conduct a minimum of one-day preconstruction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian survey before project work is reinitiated.

If an active nest is found, the biologist will determine the extent of an appropriate construction-free buffer zone to be established around the nest and/or operational restrictions in consultation with CDFW. Buffer zones will be delineated with flagging and maintained until the nests have fledged or nesting activity has ceased.

Buffer sizes would take into account factors such as: (1) highway and other ambient noise levels, (2) distance from the nest to the highway and distance from the nest to the active construction area, (3) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity, (4) distance and amount of vegetation or other screening between the construction site and the nest, and (5) sensitivity of individual nesting species and behaviors of the nesting birds.

4.3.4.4 Compensatory mitigation

No impacts on birds protected under the MBTA are anticipated from Project activities with implementation of BIO-3 and BIO-9. Therefore, there is no need for compensatory mitigation.

4.3.4.5 Cumulative impacts

No reasonably foreseeable projects have been identified in the BSA that would contribute to cumulative impacts on bird species. Therefore, the proposed Project, when combined with other reasonably foreseeable projects is not anticipated to have a significant cumulative impact on protected nesting birds.

5 CONCLUSIONS AND REGULATORY DETERMINATIONS

With the implementation of the avoidance and minimization measures described in this document, the Project will have no effect on any state or federally listed species, designated critical habitat, or essential fish habitat.

5.1 Federal Endangered Species Act Consultation Summary

There are no federal ESA-listed species in or immediately adjacent to the BSA. The three federally listed plant species with habitat present in the BSA were not documented during the protocol-level special-status plant surveys in the 2017 BSA. Therefore, there will be no effect on these species from the Project in the 2017 BSA and there is no consultation summary. Protocol level special-status plant surveys will be conducted in the 2018 BSA. Results from this survey will be provided to the agencies upon completion. If any federally listed plant species are documented in the 2018 BSA, the design of the mitigation area will be modified to avoid these populations. The Project will have no effect on federally listed plant species.

5.2 Essential Fish Habitat Consultation Summary

There is no EFH in or adjacent to the 2017 BSA. Therefore, there is no consultation summary.

5.3 California Endangered Species Act Consultation Summary

There are no CESA-listed species in or adjacent to the 2017 BSA. The 3 CESA-listed plant species with habitat present in the 2017 BSA were not documented during the protocol-level special-status plant surveys. Therefore, there will be no effect on these species from the Project and there is no consultation summary. Protocol level special-status plant surveys will be conducted in the 2018 BSA. Results from this survey will be provided to the agencies upon completion. If any CESA-listed plant species are documented in the 2018 BSA, the design of the mitigation area will be modified to avoid these populations. The Project will have no effect on CESA-listed plant species.

5.4 Wetlands and Other Waters Coordination Summary

A Preliminary Wetland Delineation was conducted for Project in 2017 and updated in 2018 (Appendix A). A preliminary jurisdictional determination of verified wetland features in the 2017 BSA was received from the San Francisco Regulatory Branch of the USACE on March 7, 2018 (USACE 2018). The results from the 2017 delineation and the 2018 wetland delineation of the 2018 BSA was compiled into a revised wetland delineation report to be submitted to the USACE for verification via a jurisdictional determination letter. The Project has been designed to minimize impacts on USACE-jurisdictional wetlands and avoidance and minimization measures will be implemented during construction to protect adjacent wetlands. The Project will impact USACE-jurisdictional wetlands. Wetlands will be established on-site at a ratio of 1:1 to ensure no net loss of wetlands.

Wetlands Only Practicable Alternative Finding: Based on the considerations reported above, it is determined that there is no practicable alternative to the proposed new construction in wetlands

and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

5.5 Invasive Species

Several invasive plant species were observed in the developed and landscaped vegetation and the nonnative perennial grassland habitats. The invasive plant species that have the greatest possibility of negatively affecting the ecology of natural communities within the BSA are those species with a high or moderate Cal-IPC rating including, *Cortaderia jubata* (purple pampas grass), *Foeniculum vulgare* (fennel), European beach grass, freeway iceplant, English ivy, and Himalayan blackberry, as well as those listed as an invasive weed in Humboldt County (e.g., yellow bush lupine) (HCWMA 2010). Implementation of avoidance and minimization measures BIO-3–BIO-6 (Section 4.1.3.3) will reduce the risk of spreading invasive species to adjacent sensitive natural communities.

There are several invasive animal species within and adjacent to the BSA. These include domestic dogs and cats, horses, goats, pigs, European starlings, and Eurasian collared doves. The Project will have no influence on the proliferation or range expansion of these species.

5.6 California Coastal Commission Coordination Summary

The Project has been designed to minimize impacts on CCC-jurisdictional wetlands and avoidance and minimization measures will be implemented during construction to protect adjacent wetlands. The Project will impact wetlands under the jurisdiction of the CCC. Wetlands will be established on-site at a ratio of 1:1 to ensure no net loss of CCC-jurisdictional wetlands.

Humboldt County will be issuing the CDP for this Project under the Humboldt Bay Area LCP; there is no consultation summary for the CCC. The CDP may be appealed to the CCC.

5.7 Critical Habitat Determination

The species potentially affected by the Project are not listed under FESA and do not have designated critical habitat. Therefore, there is no critical habitat determination.

5.8 CDFW Species of Special Concern

Northern red-legged frogs are likely present within the 2017 BSA and could be affected by the Project. However, with the implementation of avoidance and minimization measures BIO-3, BIO-7, and BIO-8, the Project will have no effect on northern red-legged frogs.

5.9 MBTA species

It is possible that MBTA bird species could nest in the 2017 BSA and be impacted by the Project. However, with the implementation of avoidance and minimization measures BIO-3 and BIO-9, the Project will have no effect on MBTA species.

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Appendices

Appendix A

Preliminary Wetland Delineation for the Manila Highway 255 Bike Path Project, Manila, California

REVISED FINAL REPORT ◦ NOVEMBER 2018

Preliminary Delineation of Waters and Wetlands for the Manila Highway 255 Bike Path Project, Manila, California – Revised









PREPARED FOR

GHD, Inc.
718 Third Street
Eureka, CA 95501

and

Humboldt County Department
of Public Works
1106 Second Street
Eureka, CA 95501

PREPARED BY

Stillwater Sciences
850 G Street, Suite K
Arcata, CA 95521

Stillwater Sciences

Suggested citation:
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Cover photos: Wetland delineation Survey Area, Manila, California, Stillwater Sciences 2017.

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1 INTRODUCTION

1.1 Project Description and Proponent

The Manila Highway 255 Bike Path Project (Project) is a collaborative plan between Humboldt County, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District to provide a bike path (also known as a shared-use path or multi-use trail) along the west side of State Route 255 (CA-255). The Project also includes intersection improvements along Pacific Avenue and Peninsula Drive and potential installation of streetlights at the Dean Street/Pacific Avenue intersection. The bike path will be designed in accordance with the Class I standard defined in Chapter 1000 of the Highway Design Manual (Caltrans 2016) and will consist of a paved, ten-foot-wide path with two-foot wide shoulders on either side that is situated at least five feet from the edge of the standard shoulder along the west side of CA-255. The project also includes the establishment of wetlands in onsite upland areas adjacent to the proposed bike path and in open space along SR 255 between Post Mile 3.45 and 3.58.

The Project is intended to improve safety for non-motorized and motorized travelers in Manila and facilitate the use of active modes of transportation by removing the existing gap in non-motorized travel pathways between the Pacific, Lupin, and Carlson neighborhoods. Additional benefits of the Project will include heightened driver awareness of the community, enhanced coastal access, and increased opportunities for recreation and nature study.

The Project proponent, Humboldt County Department of Public Works, may be contacted at:

Hank Seemann, Deputy-Director
Humboldt County Department of Public Works
1106 Second Street
Eureka, CA 95501
(707) 445-7741
HSeemann@co.humboldt.ca.us

1.2 Project Location and Survey Area

The Project is in unincorporated Humboldt County along CA-255 (a western alternate to U.S. Route 101 [US-101]), between the intersection with Dean Street/Pacific Avenue (Post Mile 3.64) and the intersection with Carlson Drive (Post Mile 4.14) in the community of Manila, California (Figure 1). The Project is in Section 34 of Township 6 North and Section 3 of Township 5 North, Range 1 West of the Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The northern and southern boundaries of the Project are located at latitude 40°51'17.76"N and longitude 124°9'44.85"W and latitude 40°50'51.90"N and longitude 124° 9'58.56"W, respectively. The elevation within the Project area ranges from approximately 17 to 25 feet above mean sea level. The Project can be accessed from Eureka by taking the CA-255 exit from US-101, crossing the Samoa Bridge, and heading north along CA-255 for approximately 1.6 miles. From Arcata, the Project can be accessed by taking the CA-255 exit from US-101 and heading west towards Manila for 4.6 miles (Figure 1).

Wetland delineations were performed in a 5.5-acre area in 2017 (2017 Survey Area) and an additional 3.2-acre area in 2018 (2018 Survey Area). The additional 2018 Survey Area extends to the north and south of the 2017 Survey Area and was added to the Project in 2018 to incorporate

design modifications, a trail extension, and a potential wetland establishment area. Any reference to the 2017 Survey Area or 2018 Survey Area refers only to the area evaluated in that respective year. Otherwise, these two survey areas are combined and collectively referred to as Survey Area. The Survey Area parallels approximately 0.8 mile of CA-255 along its western side as well as a portion along the east side of CA-255 at the CA-255/Dean Street intersection (Figure 1). The Survey Area is in the CA-255 and Humboldt County right-of-way (ROW) which are actively managed by Caltrans and the County, respectively, in accordance with their standard road maintenance practices. As such, conditions in the Survey Area may change from those described in this report.

1.3 Purpose of the Wetland Delineation

The purpose of this delineation is to: (1) assess the geographic extent of water and wetland resources in the Survey Area; (2) delineate any waters of the U.S. that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act of 1899; (3) delineate any additional waters of the State that may be subject to the jurisdiction of the State Water Resources Control Board (SWRCB), California Coastal Commission (Coastal Commission or CCC), County of Humboldt Local Coastal Program (LCP)[1], and/or California Department of Fish and Wildlife (CDFW). The wetland features in the 2017 Survey Area were verified by the San Francisco Regulatory Branch of the USACE on March 7, 2018 (USACE 2018). The wetland features in the 2018 Survey Area are considered preliminary until verified by the San Francisco Regulatory Branch of the USACE. The USACE will need to determine CWA jurisdiction of the wetland features in the 2018 Survey Area based on current regulatory guidance (e.g., USEPA and USACE 2008).

[1] The Project is in the "appeal" jurisdiction of the Coastal Zone; this area falls under the County of Humboldt's LCP, with primary permitting jurisdiction with the county. Coastal Development Permits may be appealed to the CCC.



Figure 1. Project location and waters/wetland delineation Survey Area.

2 METHODS

2.1 Existing Conditions

Prior to the delineation, existing information on soils, hydrology, precipitation, and vegetation for the site was evaluated, and results from 2015 field reconnaissance surveys reported in the *Environmental Constraints Assessment* conducted for the Project (GHD, Inc. 2015) were reviewed. Information on potential jurisdictional waters and wetlands was obtained from the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) online application, *Wetlands Mapper* (USFWS 2017, 2018). Available data from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey website were reviewed for the Survey Area and nearby vicinity. Precipitation and climate records from the National Climatic Data Center (NCDC 2018) were reviewed for a nearby weather station, Eureka Weather Forecast Office, Woodley Island, California. Preliminary vegetation maps from the 2017/2018 vegetation mapping and characterization surveys associated with the Project's *Natural Environmental Study* (NES) (Stillwater Sciences 2018) were reviewed.

2.2 Field Delineation

Delineations of potential jurisdictional waters and wetlands were conducted by qualified personnel on August 1–2, 2017 (within the 2017 Survey Area) and October 17–18, 2018 (within the 2018 Survey Area) in accordance with the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual, USACE 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (WMVC Supplement; USACE 2010), USACE *Regulatory Guidance Letter (RGL) No. 05-05* (USACE 2005), and *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (OHWM Guide; Mersel and Lichvar 2014). The delineations included any feature that could potentially meet the definition of a water protected under the Clean Water Act (and thus be subject to USACE jurisdiction), the Porter Cologne Act (RWQCB jurisdiction), and the Coastal Act or Humboldt County LCP (collectively, CCC/LCP jurisdiction).

2.2.1 Waters determination

The extent of waters, other waters, and tributaries was delineated by the location of the OHWM. The OHWM is defined as the elevation established on the shore by water fluctuations, and is indicated by physical characteristics such as: (a) a clear, natural line impressed on the bank; (b) shelving; (c) changes in the character of soil; (d) destruction of terrestrial vegetation; (e) the presence of litter and debris; or (f) other appropriate means that consider the characteristics of the surrounding areas. The OHWM was identified in accordance with the USACE RGL 05-05 (USACE 2005) and the OHWM Guide (Mersel and Lichvar 2014).

Prior to the wetland delineation surveys, aerial photographs and topographic maps were reviewed to identify limits and connections of potential wetlands to traditional navigable waters (TNW) such as the Humboldt Bay. During the wetland delineations, waters in the Survey Area were further reviewed for their connectivity to a TNW based on culvert connections and the existing drainage network. The OHWM of potentially jurisdictional waters was delineated in the field. Boundaries were mapped via a sub-meter Global Positioning System (GPS) unit (Trimble Geo 6000) and later post-processed, corrected, and incorporated into Geographic Information Systems (GIS) where maps detailing the delineation results were generated. The delineation team recorded

the width of the channel at the OHWM at representative cross-sections, and the OHWM water depth at the thalweg (i.e., the projected depth of water when the channel is filled to the OHWM) onto USACE OHWM delineation data forms.

2.2.2 Wetland determination

Wetlands were delineated in accordance with the1987 Manual (USACE 1987) and WMVC Supplement (USACE 2010). The 1987 Manual and WMVC Supplement provide technical guidelines and methods for the three-parameter approach to determining the location and boundaries of USACE jurisdictional wetlands. This approach requires that an area must support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Connectivity of delineated wetlands to other waters and tributaries was evaluated in accordance with USACE RGL 07-01 (USACE 2007). As the Survey Area is located within the Coastal Zone, all wetland features were also evaluated for potential CCC/LCP jurisdiction which requires that only one or two of the three USACE wetland parameters (hydrophytic vegetation, hydric soils, and wetland hydrology) be present (1976 California Coastal Act, Public Resources Code Section 30000 *et seq*.).

A total of 17 data points were sampled in potential USACE- and CCC/LCP-jurisdictional wetlands in the Survey Area. If a data point met all three wetland parameters, it was considered a USACE wetland; if a point only met one or two wetland parameters, it was considered a CCC/LCP wetland; if a point met no wetland parameters, it was considered upland. Potential wetland areas were identified based on information generated from the pre-field review (e.g., the NWI *Wetland Mapper* results), the vegetation maps of the Survey Area (Stillwater Sciences 2018, GHD, Inc. 2015), and observations of hydrology and vegetation in the field. If a data point met all three parameters for a USACE jurisdictional wetland, then a paired data point was placed along the preliminary transition zone (the area in which a change from wetland to non-wetland conditions occurs) to determine the wetland/upland boundary. If the data point did not meet any of the three parameters, then the point was considered to be in an upland location and a paired point was not collected. At each data point, a soil pit was dug and the following information was recorded using the USACE (2010) data forms:

1. **Vegetation**: Dominant plant species for each stratum (i.e., tree, sapling/shrub, herb, woody vine) by scientific name (genus and species) following the taxonomy of *The Jepson Manual, Second Edition* (Baldwin et al. 2012) and the online *Jepson eFlora* (Jepson Flora Project 2018). Absolute percent cover and dominance were determined using the 50/20 rule outlined in the *WMVC Supplement*, and the wetland indicator status (OBL [obligate], FACW [facultative-wet], FAC [facultative], FACU [facultative-upland], and UPL [upland]) defined for the WMVC Region in the *National Wetland Plant List: 2016 Wetland Ratings* (Lichvar et al. 2016). Plant species not listed in the *2016 National Wetland Plant List* were considered upland (UPL) species. A dominance test was performed to determine if the data point exhibited hydrophytic vegetation. If the dominance test was not conclusive and wetland hydrology and hydric soils were present, then the prevalence index was calculated.
2. **Hydrology**: Presence and depth of surface water, groundwater, and/or soil saturation were recorded. In addition, if primary (e.g., oxidized rhizospheres along living roots) and secondary indicators (e.g., drainage patterns, dry-season water table, saturation visible on aerial imagery) were observed, then they were also recorded at each data point.
3. **Soils**: Moistened soil matrix descriptions were recorded for each data point using the following: depth of the sample, color (as defined in Munsell soil color charts [Munsell Color 2000]), and texture. If present, redox features were then described by type (e.g.,

concentration, depletion, reduced matrix) and location (e.g., pore lining, root channel, or matrix). Hydric soils were determined using the *WMVC Supplement* primary indicators, such as sandy redox (S5). In addition, mapped soil units (described in Section 3.1.2) were considered and the current National List of Hydric Soils (NRCS 2017, 2018a) was consulted.

The location of each data point was recorded and photographs were taken of the representative site characteristics (Appendix A). Coordinates were determined using a Trimble Geo 6000 GPS unit. The wetland boundaries were walked and locations along the perimeter were recorded using the GPS unit. These boundaries along with other GPS collected data were post-processed, corrected, and incorporated into GIS where maps detailing the delineation results were generated. Mapped wetlands were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979, Federal Geographic Data Committee [FCDC] 2013) based on the vegetation composition and structure at the data points.

3 RESULTS

3.1 Existing Conditions

3.1.1 Hydrology

The Project is located along the North Spit of Humboldt Bay on the Samoa Peninsula and is bounded by Humboldt Bay to the east and the Pacific Ocean to the west (Figure 1). The Project is located within the Eureka Plain Hydrologic Unit and the Eureka Plain Groundwater Basin. This basin includes two primary water-bearing formations, the Pliocene Hookton Formation and the Holocene Dune Sand, the former of which includes the Survey Area (CDWR 2004). These dune sands form an aquifer, a freshwater lens that overlies the ocean water (Evenson 1959), which is recharged almost wholly from local precipitation (Fuller 1975).

A network of intermittently flowing drainage ditches border CA-255 in the Survey Area. These drainages connect via culverts to convey water at least seasonally into non-navigable tributaries to Humboldt Bay (a TNW) and their adjacent wetlands. Humboldt Bay includes the Port of Humboldt Bay, a protected deep water port with harbor facilities designed to serve cargo and other vessels, and a number of marinas that serve hundreds of small to mid-size boats and pleasure crafts (Humboldt Bay Harbor, Recreation, and Conservation District 2018). Commercial oyster production operations that produce more than half of all oysters farmed in California are located in Humboldt Bay (Pomeroy et al. 2010).

The NWI *Wetlands Mapper* shows palustrine scrub-shrub wetlands located throughout the Survey Area (Figure 2).

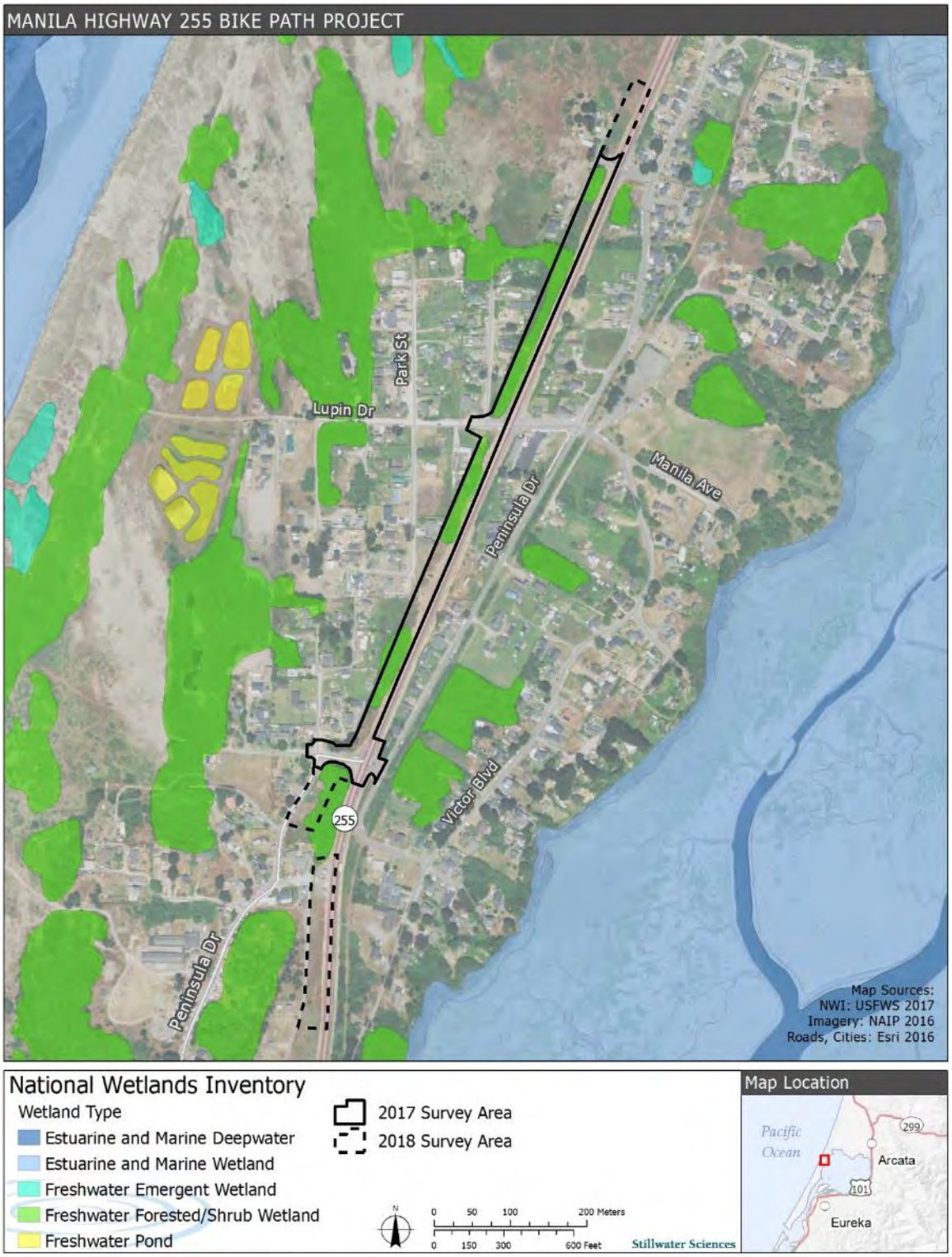


Figure 2. National Wetlands Inventory map of the Survey Area (Source: USFWS 2017).

3.1.2 Soil units

Soil units in the Survey Area was primarily mapped as Urban land-Anthraltic Xerorthents association, 0 to 2% slopes, with a small portion of the 2018 Survey Area mapped as Samoa-Clambeach complex, 0 to 50% slopes (NRCS 2018b, Figure 3).An additional soil map unit, Lanphere (2 to 75% slopes), was also assessed due to its proximity to the Survey Area.

Urban land-Anthraltic Xerorthents association (0 to 2% slopes) is comprised of 80% urban land, industrial and 20% anthralitic xerorthents and similar soils. This association is found from 0 to 10 feet above mean sea level with a mean annual precipitation of 41–43 inches, a mean annual air temperature of 50–55ºF, and a frost-free period of 275–330 days (NRCS 2018b). Anthraltic Xerorthents is located on backslopes of fluviomarine terraces with a parent material of coarse-loamy fluviomarine deposit or coarse-loamy dredge spoils. A typical profile consists of gravelly loamy fine sand within the upper 0–6 inches with sandy loam, gravelly sand, and sand forming the horizons below. It has a drainage class of moderately well drained (NRCS 2018b).

Samoa-Clambeach complex (0 to 50% slopes) is typically comprised of 65% Samoa series, 30% Clambeach series, and 5% minor components. The complex is found in areas with elevations that range from 0 to 70 feet above mean sea level and with a mean annual precipitation of 35–80 inches, a mean annual air temperature of 50–55º F, and a frost-free period of 275–330 days (NRCS 2018b). The Samoa series is primarily located along the shoulder, backslope, and summit of dunes. A typical profile consists of slightly decomposed plant material in the upper 0–1 inches (Oi horizon) with sand forming all other horizons below. It has a drainage class of somewhat excessively drained. Samoa soils have a udic moisture regime which may develop redoximorphic features from brief and localized saturated conditions around root channels during the winter months, rather than from the presence of free water throughout the soil profile (NRCS 2016a). The Clambeach series is associated with deflation basins along toe slopes and is very poorly drained. Clambeach soils have an aquic moisture regime with endosaturation typically characterized by a water table depth ranging from 0–4 inches January–March to greater than 72 inches June–November and depth to redoximorphic features of 0–4 inches (NRCS 2016b). This series has a soil profile comprised entirely of sand in all horizons and is listed as a hydric soil in the region (NRCS 2017, 2018b).

The Lanphere (2 to 75% slopes) map unit is located in areas with elevations that range from 0 to 80 feet elevation above mean sea level, mean annual precipitation of 35–80 inches, mean annual air temperature of 50–55º F, and a frost-free period of 275–330 days (NRCS 2018b). The Lanphere series are positioned in the summit, backslope, and shoulder of dune and longitudinal dune landforms. The typical profile includes an organic horizon from 0–4 inches and A, AC, and C horizons from 4–63 inches comprised of sand. It has a depth to water table of more than 80 inches with a natural drainage class of somewhat excessively drained (NRCS 2018b). Lanphere soils have a udic moisture regime which may develop redoximorphic features from brief and localized saturated conditions around root channels during the winter months, rather than from the presence of free water throughout the soil profile (NRCS 2016c). Minor components of this map unit include the Clambeach (10%) and Samoa (5%) soil series (NRCS 2018b).

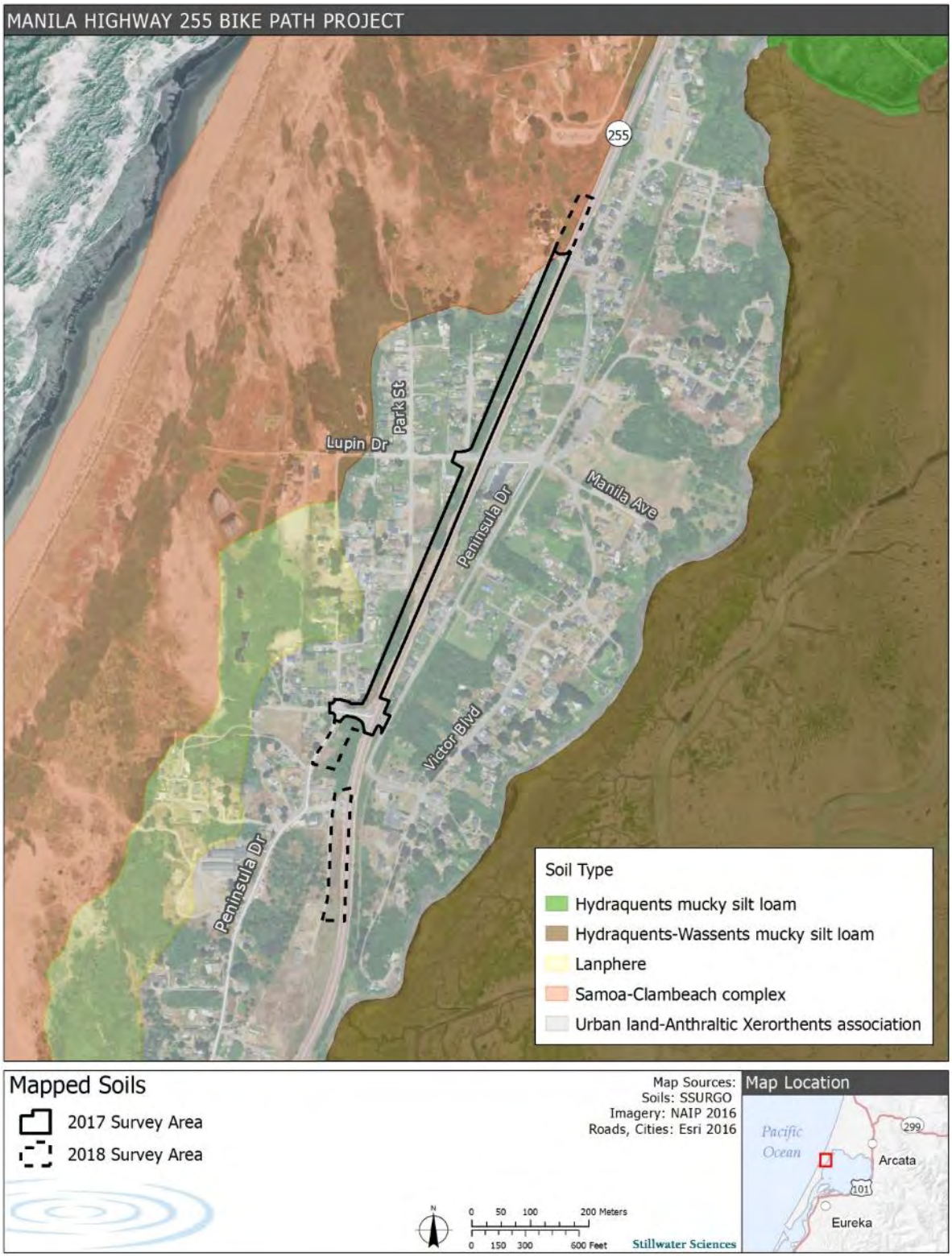


Figure 3. Mapped soil units in the Survey Area.

Wetland data points closely resembled the hydric soil Clambeach series (NRCS 2017) with matrix colors ranging from 10YR (value of 2–3 and chroma of 1–2) and 2.5Y (value of 3 and chroma of 1–2) (Appendix B). Data points commonly contained sandy clay loam (near and within drainage ditches), sandy loam, and sand. Soil samples were considered hydric when a positive primary indicator, such as sandy redox (S5) was identified (data points 1W, 2Wa–2We, 3W, 4W, and 101W in Appendix B).

3.1.3 Precipitation

Local climate conditions are moist, cool, and influenced by the conditions of the Pacific Ocean, with wet cool winters and cool summers with frequent fog and strong winds. Rainfall occurs primarily between October through April, with an average annual rainfall of 40 inches (NCDC 2018). The average monthly temperature range is approximately 41–56ºF in winter and approximately 52–63ºF in the summer (NCDC 2018).

The Eureka, California National Oceanic and Atmospheric Administration (NOAA) weather station recorded less than one inch (0.66 inches) of precipitation (rain) in the two months preceding the 2017 field survey. Total precipitation in June 2017 was 0.59 inches and in July 2017 was 0.07 inch; most of accumulated rain (0.37 inch) occurred on June 7, 2017. According to the weather station, the average precipitation in June and July (based on the monthly normals for the 1981–2010 period of record) is 0.75 inches and 0.18 inches, respectively (NCDC 2018). Although June–July 2017 had slightly dryer conditions than normal, monthly precipitation totals for January–May 2017 (totaling 35.04 inches) exceeded the weather stations monthly precipitation normals by 14.3 inches (normal precipitation for January–May is 20.75 inches) resulting in a higher than normal winter and spring water table for the region. Weather conditions during the 2017 delineation were sunny and clear, 65–67ºF, and warmer than the weather station's average temperature for the period of record of 58.5º F for the month of August (NCDC 2018).

The only substantial rainfall reported at the Eureka, California NOAA weather station in the two months preceding the 2018 field delineation occurred during 29 September–9 October, which totaled 0.52 inches. When compared to the accumulated average precipitation of 2.83 inches for September and October (using monthly normals for the 1981–2010 period of record), the 2018 delineation occurred during a dryer than normal period for the region (NCDC 2018). Weather conditions during the 2018 delineation were sunny with some fog and wind throughout the day with temperature highs of 54–55ºF, which was normal based on the weather station's average temperature for the month of October (54.4ºF) (NCDC 2018). However, the slightly drier conditions prior to the field surveys is unlikely to have influenced the delineation results; water and wetland features were evident regardless of precipitation.

3.1.4 Vegetation communities

Results from the vegetation mapping and habitat characterization surveys conducted by Stillwater Sciences prior to or concurrent with the wetland delineation surveys in 2017/2018 were reviewed to assess the presence of dominant hydrophytic vegetation, as well as, to assist with classification of wetland types during the wetland delineation. Vegetation alliances mapped in the Survey Area include:

- *Rubus ursinus* Shrubland Alliance (coastal brambles),
- *Salix hookeriana* Shrubland Alliance (coastal dune willow thickets),
- *Abronia latifolia - Ambrosia chamissonis* Herbaceous Alliance (dune mat),

- *Ammophila arenaria* Semi-Natural Alliance (European beach grass swards),
- *Anthoxanthum odoratum* Semi-Natural Alliance (sweet vernal grass meadows),
- *Carex obnupta* Herbaceous Alliance (slough sedge swards),
- *Juncus breweri* Herbaceous Alliance (salt rush swales),
- *Oenanthe sarmentosa* Herbaceous Alliance (water parsley marsh),
- *Scirpus microcarpus* Herbaceous Alliance (small-fruited bulrush marsh), and
- developed/landscaped.

Vegetation communities are described in further detail in Section 3.4.1 of the NES and the vegetation map of the Survey Area is provided in Appendix C (Figures C-2–C-5) of the NES (Stillwater Sciences 2018).

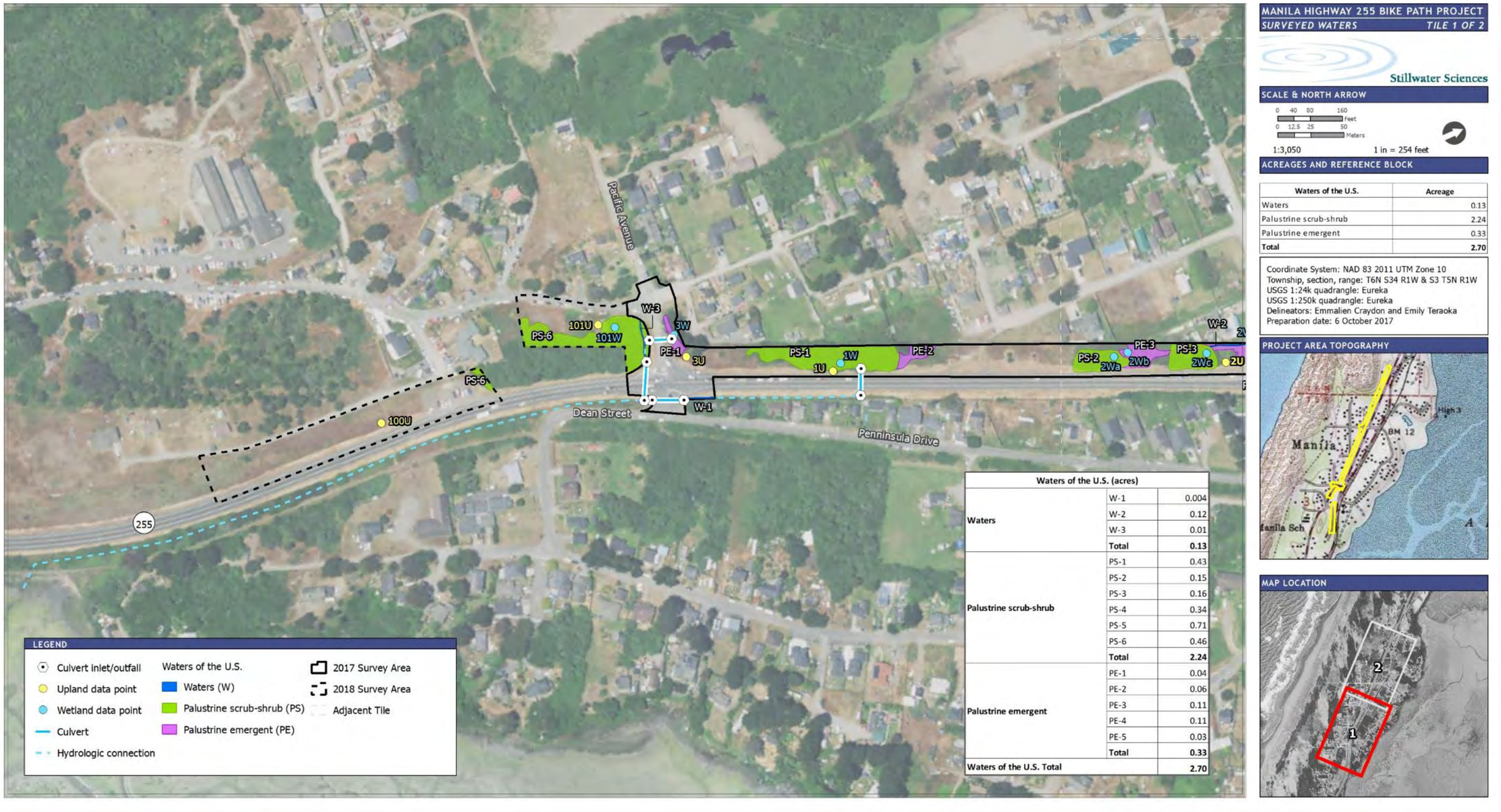
3.2 Preliminary Jurisdictional Waters and Wetlands

The Survey Area contains 0.13 acres of potentially USACE-jurisdictional waters and 2.57 acres of potentially USACE-jurisdictional wetlands adjacent to these waters (Table 1, Figures 4–5, Appendices A and B). These potentially jurisdictional waters of the U.S. are also considered to be waters of the State under SWRCB, CDFW, and CCC/LCP jurisdiction. Additionally, there is a total of 0.20 acre of wetlands that are only subject to CCC/LCP jurisdiction (Table 1, Figure 6, Appendices A and B).

Table 1. Preliminary USACE-jurisdictional waters of the U.S., including wetlands, and CCC/LCP-jurisdictional wetlands in the Survey Area.

Description	Acreage
***Waters*[1]**	
Intermittently flowing drainage ditches (W-1, W-2, and W-3)	0.13
***Wetlands*[1]**	
Seasonally flooded palustrine persistent emergent wetlands	0.33
Seasonally flooded palustrine broad-leaved deciduous scrub-shrub wetlands	2.24
***Additional Coastal Commission Wetlands*[2]**	
One parameter wetlands within the Coastal Zone	0.20

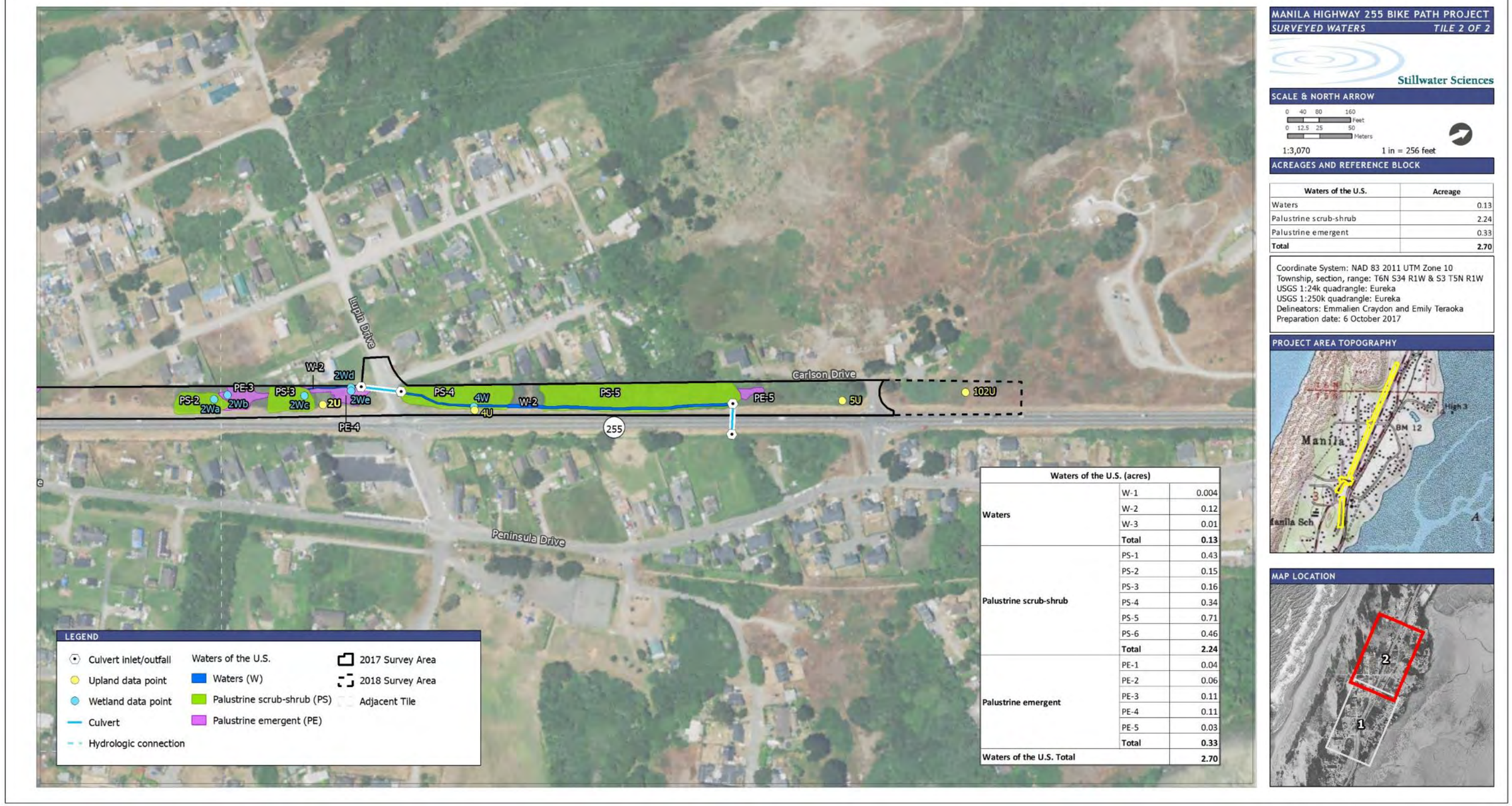
[1] Subject to Section 404 of the CWA, and SWRCB, CDFW, and CCC/LCP jurisdiction.
[2] Subject to CCC/LCP jurisdiction.



Waters of the U.S.	Acreage
Waters	0.13
Palustrine scrub-shrub	2.24
Palustrine emergent	0.33
Total	**2.70**

Waters of the U.S. (acres)		
Waters	W-1	0.004
	W-2	0.12
	W-3	0.01
	Total	**0.13**
Palustrine scrub-shrub	PS-1	0.43
	PS-2	0.15
	PS-3	0.16
	PS-4	0.34
	PS-5	0.71
	PS-6	0.46
	Total	**2.24**
Palustrine emergent	PE-1	0.04
	PE-2	0.06
	PE-3	0.11
	PE-4	0.11
	PE-5	0.03
	Total	**0.33**
Waters of the U.S. Total		**2.70**

Figure 4. Preliminary waters of the U.S. in the Survey Area.



Waters of the U.S.	Acreage
Waters	0.13
Palustrine scrub-shrub	2.24
Palustrine emergent	0.33
Total	**2.70**

Waters of the U.S. (acres)		
Waters	W-1	0.004
	W-2	0.12
	W-3	0.01
	Total	**0.13**
Palustrine scrub-shrub	PS-1	0.43
	PS-2	0.15
	PS-3	0.16
	PS-4	0.34
	PS-5	0.71
	PS-6	0.46
	Total	**2.24**
Palustrine emergent	PE-1	0.04
	PE-2	0.06
	PE-3	0.11
	PE-4	0.11
	PE-5	0.03
	Total	**0.33**
Waters of the U.S. Total		**2.70**

Figure 5. Preliminary waters of the U.S. in the Survey Area.

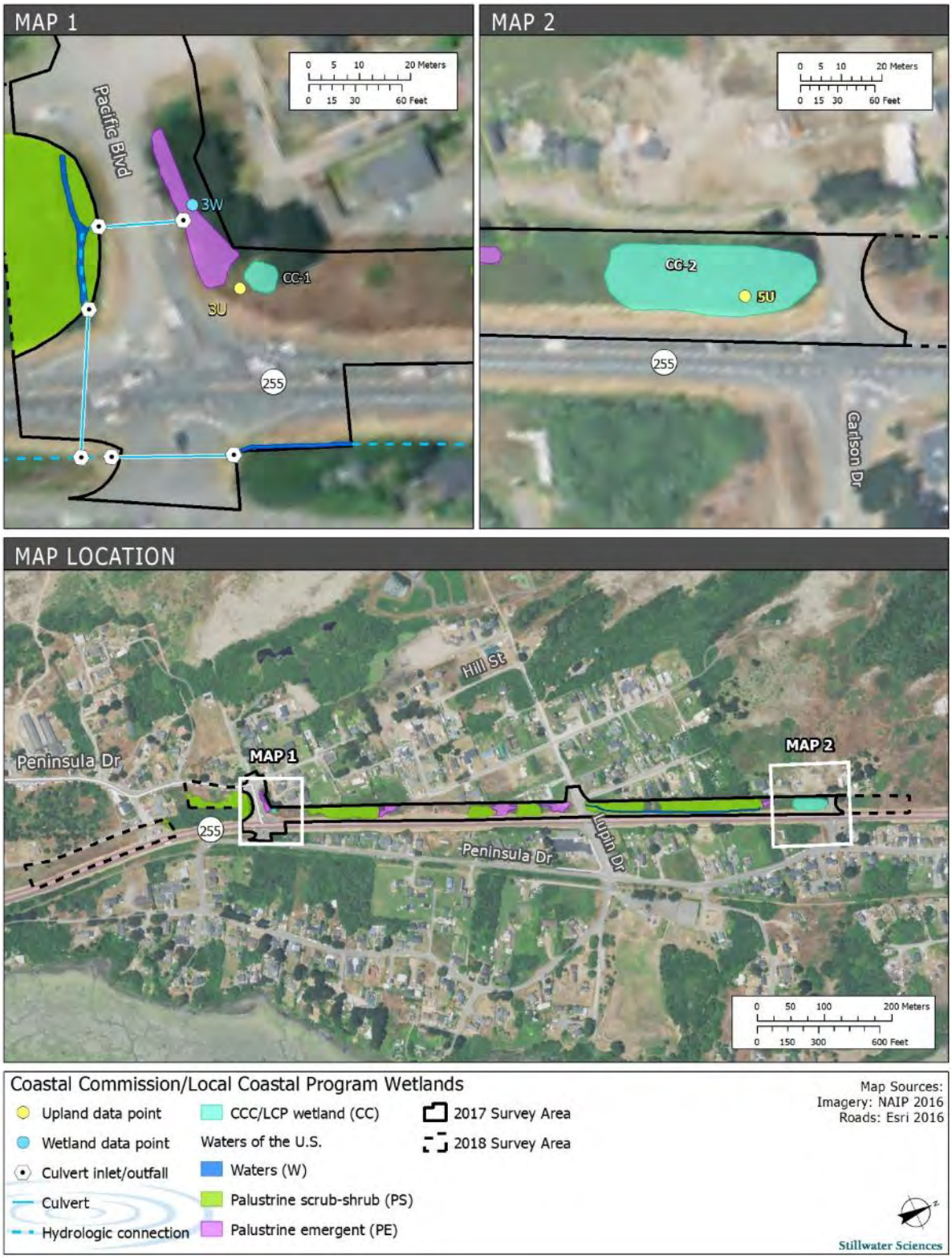


Figure 6. Additional potential CCC/LCP-jurisdictional wetlands the Survey Area.

3.2.1 Waters

There are 0.13 acres of potential USACE-jurisdictional waters in the Survey Area. These include three nontidal relatively permanent waters (e.g., intermittently flowing drainage ditches) with a clear OHWM that at least seasonally convey surface water into non-navigable tributaries to Humboldt Bay (a TNW) and their adjacent wetlands (Table 1, features W-1–W-3 in Figures 4, 5, and 7). Six associated culvert crossings also were identified along CA-255 in the Survey Area which indicate conveyance and seasonal surface water connection to nearby wetland features that drain into Humboldt Bay to the east and south of the Survey Area (Figure 7). A seventh culvert crossing was identified in the 2018 Survey Area however, it was not associated with a drainage ditch or wetland feature (Figure 7). Based on the absence of wetland indicators at data point 100U (Appendices A and B), any surface water collection at this location is brief and temporary; stormwater drains through the culvert to the drainage ditch on the east side of CA-255.

Based on the NWI Wetlands Mapper and historical aerial photographs (Shuster 1947), the current drainage ditches were formerly part of a large wetland complex that existed prior to the construction of CA-255 and development of the community of Manila. These drainage ditches are assumed to have been excavated during the development of the highway. All constructed drainage ditches (W-1–W-3) had variable vegetative cover, ranging from bare ground with some overhead shrub and tree canopy to high cover by herbaceous hydrophytic vegetation. When the latter was observed, vegetation differed in composition and cover from upland regions and this transition in vegetation identified the OHWM. As the delineations were conducted during the dry season, surface water in the intermittently flowing drainage ditches was low (i.e., less than 4 inches deep) to absent. Thus, the vegetation encroachment (a common attribute in non-perennial waters of the WMVC region [Mersel and Lichvar 2014]) observed in the ditches, is anticipated to decrease in cover with increased surface water levels during the wet season.

To characterize waters, measurements were taken across six transects (Appendix B). The primary OHWM indicators at the transects included a break in slope and changes in vegetation. Waters ranged in width from 3 to 8 feet (based on the horizontal distance between the OHWM on the right and left banks, respectively) and ranged in depth from 10 to 32 inches (based on the vertical distance between the OHWM and channel thalweg). Surface water was observed at a few transect locations and ranged from 1 to 4 inches deep (Appendix B).

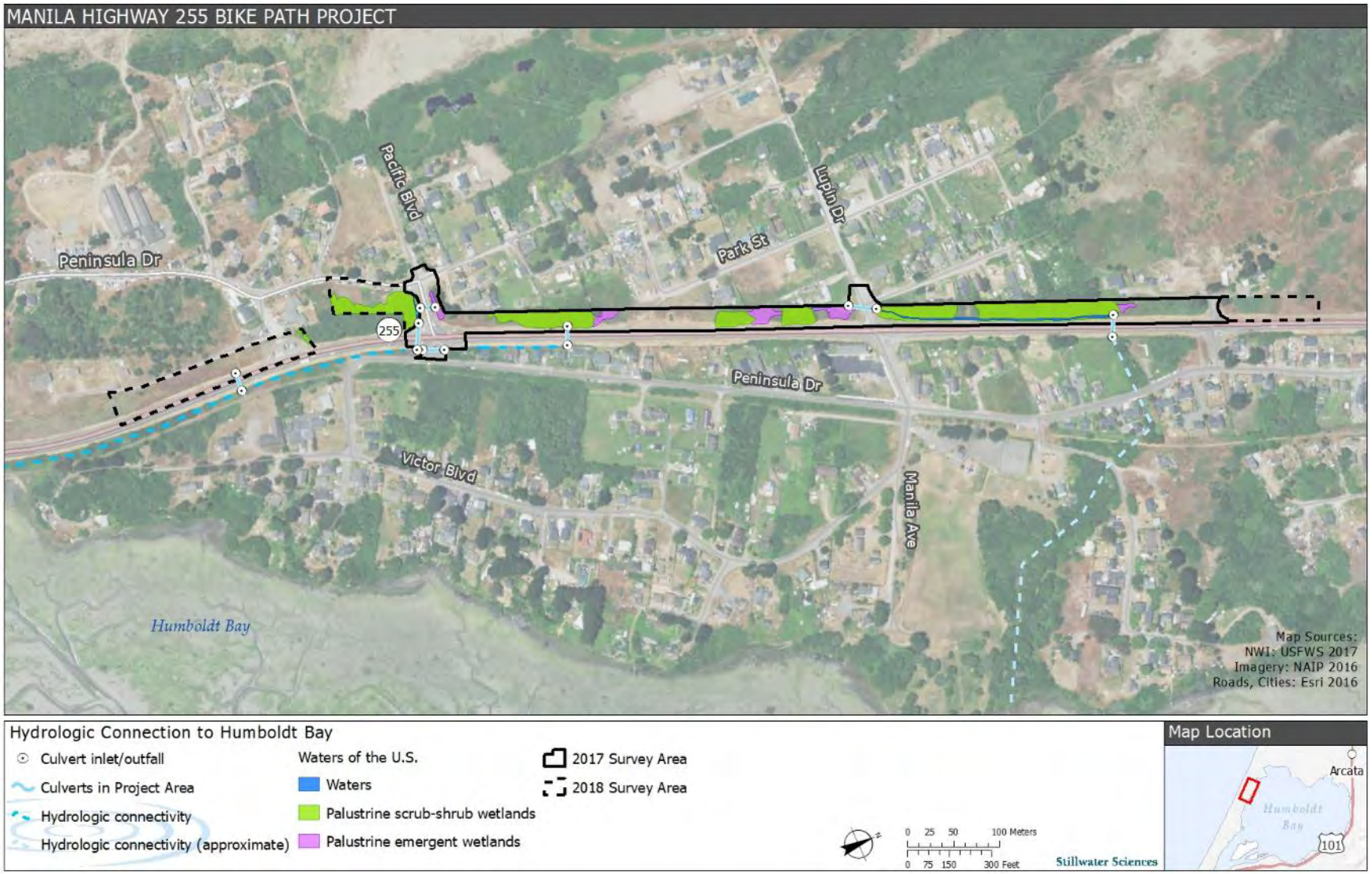


Figure 7. Hydrologic connection of preliminary waters of the U.S. in the Survey Area to Humboldt Bay.

3.2.2 Wetlands

There are a total of 2.24 acres of potential USACE-jurisdictional wetlands and an additional 0.20 acres of CCC/LCP-jurisdictional wetlands in the Survey Area (Table 1, Figures 4–6, Appendix B). Two USACE-jurisdictional wetland types occur: (1) seasonally flooded palustrine emergent wetlands and (2) seasonally flooded palustrine broad-leaved deciduous scrub-shrub wetlands (hereinafter called palustrine emergent wetlands and palustrine scrub-shrub wetlands, respectively) (Figures 4–5). FGDC (2013) defines the palustrine system as all nontidal wetlands dominated by trees, shrubs, persistent emergent plants, emergent mosses or lichens (i.e., non-vascular) and all similar wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per thousand. Seasonally flooded conditions are those where surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years during which the depth to substrate saturation may vary (FGDC 2013). Emergent wetlands are characterized by erect, rooted herbaceous hydrophytes, excluding mosses and lichens, that are the tallest life form, have at least 30% areal coverage, and are present for most of the growing season in most years (FGDC 2013). Broad-leaved deciduous scrub-shrub wetlands are characterized by woody plants of this leaf type that are less than 20 feet tall and are the dominant life form with at least 30% areal coverage (FGDC 2013).

The potential USACE-jurisdictional wetlands form a complex of palustrine scrub-shrub and palustrine emergent wetlands. Dominant vegetation in the palustrine emergent wetland areas varies from herbaceous emergent dune swale species to freshwater emergent species. Palustrine scrub-shrub wetlands are primarily composed of deciduous woody shrubs and trees with a fairly dense understory of herbaceous hydrophytes and/or woody vines. A list of plant species observed is provided in Appendix C.

3.2.2.1 Palustrine emergent wetlands

There are five palustrine emergent wetlands in the Survey Area; two are adjacent to intermittent drainage ditches (PE-1 and PE-4 in Figures 4–5) and three are associated with dune swale features adjacent to palustrine scrub-shrub wetlands (PE-2, PE-3, and PE-5 in Figures 4–5). These wetlands total 0.33 acre in the Survey Area (Table 1).

Hydrophytic plant species *Scirpus microcarpus* (small-fruited bulrush, OBL), *Carex obnupta* (slough sedge, OBL), *Juncus effusus* (soft rush, FACW), *Oenanthe sarmentosa* (water parsley, OBL), and *Potentilla anserina* subsp. *pacifica* (Pacific silverweed, OBL) are predominant throughout the palustrine emergent wetlands adjacent to intermittent drainage ditches in the Survey Area (Figures 4–5). Frequent management activities within the CA-255 ROW and within the upper extent of this wetland was illustrated by mowed *Salix hookeriana* (coastal willow, FACW) seedling recruits and the lack of woody establishment of this species. All wetlands were in topographic depressions that experience long durations of endosaturation by an elevated winter water table. Culverts identified at Pacific Avenue and CA-255 connect these wetlands hydrologically to a potential jurisdictional water of the U.S. (W-1 in Figures 4–5). Sampled data point 3W best characterizes these palustrine emergent wetlands (Appendix B). Dominant hydrophytic vegetation at this location included small-fruited bulrush, water parsley, and seedling or sapling coastal willow; application of the dominance test using the "50/20 rule" confirmed hydrophytic vegetation was present. The soil profile consisted of sandy loam that contained prominent redox concentrations (2–10%) within the upper 16 inches of the soil profile and confirmed the primary hydric soil indicator as sandy redox (S5). Wetland hydrology was

established from the presence of a high water table (greater than 11 inches of the soil pit) and saturation within the upper 11 inches of the soil pit (Appendix B). The paired upland data point 3U lacked all three wetland indicators (hydrophytic vegetation, hydrology, and hydric soils; Appendix B). Upland vegetation was dominated by *Hypochaeris radicata* (rough cat's ear, FACU), *Briza maxima* (rattlesnake grass, UPL), and *Anthoxanthum odoratum* (sweet vernal grass, FACU).

Palustrine emergent wetlands located in dune swale landforms in the Survey Area are adjacent to palustrine scrub-shrub wetlands (PE-2, PE-3, and PE-5 in Figures 4–5). These wetlands are positioned in low gradient depressions with varying cover by hydrophytic vegetation including *Juncus breweri* (salt rush, OBL) and slough sedge. These wetlands are best characterized by data point 2Wb (Figure 4, Appendix B). At this location both hydric soils and wetland hydrology were confirmed by primary indicators sandy redox (S5) and oxidized rhizospheres along living roots (C3), respectively. Results of the dominance test and prevalence index for confirming hydrophytic vegetation were not conclusive at this location; therefore, problematic vegetation was evaluated following procedures in the WMVC Supplement (Section 5 in USACE 2010). Vegetation at this location was a mixture of nonnative, naturalized sweet vernal grass and native salt rush along with *Rubus armeniacus* (Himalayan blackberry, FAC) and *Rubus ursinus* (California blackberry, FACU) (Appendix B). Hydrophytic vegetation was determined by applying guidance described in problematic situation "(F) Aggressive invasive plants" in which a nonnative FACU or UPL plant species, such as sweet vernal grass, become established in wetlands due to its adaptability and aggressive growth habits (USACE 2010). Upland locations adjacent to these wetlands were defined by low to absent cover by hydrophytic plant species, and lack of both hydric soil and wetland hydrology indicators, as observed in data point 2U (Figures 4–5).

Boundaries of the palustrine scrub-shrub wetlands documented in the NWI's *Wetlands Mapper* were modified by the survey crew to the palustrine emergent wetland type (Figures 3–5).

3.2.2.2 Palustrine scrub-shrub wetlands

Palustrine scrub-shrub wetlands totaled 2.24 acres in the Survey Area (Table 1, PS-1–PS-6 in Figures 4–5) and were located in topographically low depressions. Based on historical imagery (Shuster 1947), most of this wetland type was associated with a deflation plain that was a part of a larger coastal dune complex. This region has since been modified by development (e.g., CA-255, community of Manila) and these wetlands are isolated relicts, that are no longer connected to the adjacent dune complex. Several culverts connect these wetlands hydrologically to potential USACE-jurisdictional waters (W-1–W-3 in Figures 4–5). The canopy in the palustrine scrub-shrub wetlands is dominated by coastal willow, *Salix lasiandra* (Pacific willow, FACW), with some low cover by *Morella californica* (wax-myrtle, FACW) and *Pinus contorta* subsp. *contorta* (shore pine, FAC). Established understory species include slough sedge and California blackberry. These wetlands are best described by data point 4W, which represents a coastal willow overstory with emergent herbaceous species, slough sedge and water parsley along with California blackberry in the understory (Appendix B). Hydric soils were determined by the primary indicator sandy redox and a high water table (2+ inches of the soil pit) confirmed wetland hydrology (Appendix B). The upland border was defined by a distinct change in vegetation to upland nonnative grassland, which extended to the edge of CA-255. The paired upland data point 2U lacked all three wetland indicators (Appendix B). Upland vegetation at this location included sweet vernal grass, *Rumex acetosella* (sheep sorrel, FACU), and California blackberry. In the 2018 Survey Area, these wetlands were confirmed by datapoint 101W.

Vegetation was primarily comprised of mixed willow overstory (both coastal willow and *Salix sitchensis* [Sitka willow, FACW]) with a moderate cover of *Rubus spectabilis* (salmon berry, FAC), Himalayan blackberry, and California blackberry throughout the understory. Sandy redox and oxidized rhizospheres along living roots along with secondary indicators of geomorphic position confirmed wetland soils and FAC-neutral test confirmed wetland hydrology at this location (Appendix B). Disturbance along some portions of this the wetland perimeter included brush clearing, dumping of landscaped materials originating from other locations, and establishment of escaped ornamentals (*Carpobrotus edulis* [freeway iceplant]). The upland boundary at this location was also defined by a distinct change in vegetation to upland nonnative grassland, illustrated by upland data point 101U, which lacked all three wetland indicators (Appendix B).

Based on data collected for this delineation and other field observations (Stillwater Sciences 2018), the survey crew confirmed and refined the NWI's *Wetlands Mapper* palustrine scrub-shrub wetland boundaries (Figures 4–5).

3.2.3 Coastal Commission wetlands

In addition to all potential USACE-jurisdictional waters and adjacent wetlands described in Sections 3.2.1 and 3.2.2, an additional 0.20 acres of potential CCC/LCP-jurisdictional wetlands were identified in the Survey Area (Table 1, Figure 6). Boundaries for these wetlands were delineated from data points with at least one positive primary wetland parameter located within the Coastal Zone. Data point 5U describes the one-parameter wetlands. Although both hydric soils and wetland hydrology were lacking at this location, vegetation was dominated by coastal willow which confirmed hydrophytic vegetation. Uplands are characterized by data points 3U and 4U. Both data points lack hydric soils, hydrophytic vegetation, and wetland hydrology. Vegetation was dominated by annual grasses and forbs with low cover by coastal willow recruits (Appendix B).

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Appendices

Appendix A

Field Delineation Photographs



Figure A-1. Wetland data point 1W.



Figure A-2. Upland data point 1U.



Figure A-3. Wetland data point 2Wa.



Figure A-4. Wetland data point 2Wb.



Figure A-5. Wetland data point 3W.



Figure A-6. Upland data point 3U.



Figure A-7. Wetland data point 2Wc.



Figure A-8. Upland data point 2U.



Figure A-9. Wetland data point 2Wd.



Figure A-10. Wetland data point 2We.



Figure A-11. Wetland data point 4W.



Figure A-12. Upland data point 4U.



Figure A-13. Upland data point 5U, a CCC one-parameter wetland.



Figure A-14. Upland data point 100U.



Figure A-15. Upland data point 101U.



Figure A-16. Wetland data point 101W.



Figure A-17. Upland data point 102U.

Appendix B

Wetland Delineation Datasheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/1/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 1U

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Slope, along R-O-W Local relief (concave, convex, none): Concave Slope (%): 20

Subregion (LRR): LRR A Lat: 40°50'56.09"N Long: 124° 9'55.99"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Lanphere, 2-75% slopes NWI classification: NONE

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland parameters are not present and the sampled location is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiandra	5	Yes	FACW
2.			
3.			
4.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2m2)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 2m2)			
1. Anthoxanthum odoratum	60	Yes	FACU
2. Equisetum arvense	5	No	FACU
3. Fragaria chiloensis	2	No	FACU
4. Plantago lanceolata	8	No	FACU
5. Rubus ursinus	10	No	FACU
6. Daucus carota	5	No	FACU
7. Raphanus sativus	5	No	NL/UPL
8. Briza maxima	40	Yes	UPL
9. Avena barbata	5	No	NL/UPL
10. Hypochaeris radicata	5	No	FACU
11. Holcus lanatus	15	No	FAC
	160	= Total Cover	
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominant vegetation is not hydrophytic and dominance test fails.

SOIL

Sampling Point: 1U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Sandy loam	
4-10	2.5Y 3/2	100					Sandy loam	
10-16	2.5 Y 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

No redox features in soil profile. Hydric soil is not present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

Remarks:

No moisture/cap fringe in soil pit; no other wetland hydrology indicators observed. FAC Neutral Test fails. Wetland hydrology is not present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/1/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 1W

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): convex Slope (%): 5

Subregion (LRR): LRR A Lat: 40°50'56.33"N Long: 124° 9'56.13"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Lanphere, 2-75% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present and the sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiandra	80	Yes	FACW
2. Salix sitchensis	15	No	
3.			
4.			
	95 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Salix hookeriana	25	Yes	FACW
2. Lonicera involucrata	15	Yes	FAC
3. Salix lasiandra	20	Yes	FACW
4.			
5.			
	60 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Carex obnupta	80	Yes	OBL
2. Equisetum arvense	5	No	FAC
3. Juncus lescurii	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: 5m2)			
1. Rubus ursinus	80	Yes	FACU
2.			
	80 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation is hydrophytic and passes dominance test.

SOIL

Sampling Point: 1W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	95	10YR 5/8	5	C	M	Sandy loam	
8-18	2.5Y 3/1	95	10YR 5/8	5	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Redox concentrations of iron manganese soft masses present within upper 6" of soil profile and chroma = 2; sandy profile. Hydric soil is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5) indicate wetland hydrology is present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2U

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): LRR A Lat: 40°51'5.06"N Long: 124° 9'51.39"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification:

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

No wetland parameters are present and sampled are is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Anthoxanthum odoratum	80	Yes	FACU
2. Rumex acetosella	35	Yes	FACU
3. Plantago lanceolata	5	No	FACU
4. Rubus lacinatus	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	122 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1. Rubus ursinus	20	Yes	FACU
2. Lonicera (hispidula)	20	Yes	(FACU)
	40 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominant vegetation is not hydrophytic.

SOIL

Sampling Point: 2U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					Sandy loam	
3-14	2.5Y 3/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

No hydric soil indicators are evident in the soil sample.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

Remarks:

No wetland hydrology indicators observed at this location. FAC-Neutral Test failed.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/1/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2Wa

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): swale/depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): LRR A Lat: 40°51'2.58"N Long: 124° 9'52.93"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: NONE

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present and the sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana	10	Yes	FACW
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Salix hookeriana	100	Yes	FACW
2.			
3.			
4.			
5.			
	100 = Total Cover		
Herb Stratum (Plot size: 5m2)			
1. Juncus brewerii	8	Yes	FACW
2. Anthoxanthum odoratum	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	13 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1. Rubus ursinus	10	Yes	FACU
2. Rubus armeniacus	15	Yes	FAC
	25 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytic vegetation is dominant at this location, dominance test passed.

SOIL

Sampling Point: 2Wa

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 3/2	98	2.5Y 5/6	2	C	PL	Sandy loam	
8-16	2.5Y 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5) confirm wetland hydrology is present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Trail City/County: Manila/Humboldt Sampling Date: 8/1/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2Wb

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): LRR A Lat: 40°51'2.93"N Long: 124° 9'52.89"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Confirmed problematic hydrophytic vegetation at this sample location and hydric soils and wetland hydrology were observed therefore this sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Lupinus arboreus	5	Yes	NL/UPL
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 4m2)			
1. Juncus brewerii	35	Yes	FACW
2. Anthoxanthum odoratum	80	Yes	FACU
3. Holcus lanatus	25	No	FAC
4. Vicia sativa	2	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	142 = Total Cover		
Woody Vine Stratum (Plot size: 4m2)			
1. Rubus ursinus	20	Yes	FACU
2. Rubus armeniacus	15	Yes	FAC
	35 = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	35	x 2 =	70
FAC species	40	x 3 =	120
FACU species	100	x 4 =	400
UPL species	7	x 5 =	35
Column Totals:	182 (A)		625 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Naturally problematic due to exotics (4f) present and hydric soil and wetland hydrology are present. Problematic (4f) confirmed- "aggressive invasive plant" =Anthoxanthum odoratum present. Presence by Juncus brewerii with 35% absolute cover indicates dune swale vegetation.

SOIL

Sampling Point: 2Wb

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	99	10YR 4/6	1	C	PL	Sandy loam	
1-16	2.5Y 3/2	95	2.5Y 5/6	5	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Wetland hydrology is present indicated by oxidized rhizospheres along living roots. FAC-Neutral Test failed at location, see remarks in vegetation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2Wc

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): LRR A Lat: 40°51'4.71"N Long: 124° 9'51.89"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

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

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

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

All three wetland indicators are present and the sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana	85	Yes	FACW
2.			
3.			
4.			
	85 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Salix hookeriana	35	Yes	FACW
2.			
3.			
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Carex obnupta	90	Yes	OBL
2. Polystichum munitum	20	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. Rubus ursinus	15	Yes	FACU
2.			
	15 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes x No _____

Remarks:

The dominance test passes and hydrophytic vegetation is present at this sampled area.

SOIL

Sampling Point: 2Wc

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10.5YR 2/2	97	10YR 5/6	3	C	PL	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Tree roots

Depth (inches): 10"

Hydric Soil Present? Yes X No ____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5) confirm wetland hydrology at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2Wd

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): Concave Slope (%): 15

Subregion (LRR): LRR A Lat: 40°51'5.87"N Long: 124° 9'51.55"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present and the sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Potentilla anserina	90	Yes	OBL
2. Lotus corniculatus	40	Yes	FAC
3. Holcus lanatus	10	No	FAC
4. Oenanthe sarmentosa	5	No	OBL
5. Symphyotrichum chilense	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	150 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation is hydrophytic and passes dominance test for hydrophytic vegetation at this location.

SOIL

Sampling Point: 2Wd

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y 3/2	100					Sandy loam	
1-16	2.5Y 3/2	95	2.5Y 5/6	5	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Primary indicator Oxidized Rhizospheres along Living Roots (C3) and secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5) confirm wetland hydrology is present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 2We

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): floodplain/swale Local relief (concave, convex, none): concave/flat Slope (%): 2

Subregion (LRR): LRR A Lat: 40°51'5.84"N Long: 124° 9'51.44"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present and the sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus contorta subsp. contorta	15	Yes	FAC
2.			
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Carex obnupta	15	No	OBL
2. Holcus lanatus	50	Yes	FAC
3. Trifolium repens	30	No	FAC
4. Lotus corniculatus	45	Yes	FAC
5. Hypochaeris radicata	15	No	FACU
6. Juncus breweri	2	No	FACW
7. Ranunculus repens	30	No	FACW
8.			
9.			
10.			
11.			
	187 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Hydrophytic vegetation is dominant at this location, passes dominance test.

SOIL

Sampling Point: 2We

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					Sandy loam	
1-13	10YR 2/2	92	10YR 5/8	8	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

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

Remarks:

Primary indicator Oxidized Rhizospheres along Living Roots (C3) as well as secondary indicators Geomorphic Position (D2) and FAC-Neutral Test (D5) confirm wetland hydrology is present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 3U

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave/flat Slope (%): 2

Subregion (LRR): LRR A Lat: 40°50'52.90"N Long: 124° 9'58.23"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Lanphere, 2-75% slopes NWI classification: _____

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

No wetland parameters are present and the sampled area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 2m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1. Salix hookeriana	10	Yes	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Hypochaeris radicata	20	Yes	FACU
2. Briza maxima	30	Yes	NL/UPL
3. Plantago lanceolata	5	No	FACU
4. Rumex acetosella	1	No	FACU
5. Bromus diandrus	15	No	NL/UPL
6. Anthoxanthum odoratum	30	Yes	FACU
7.			
8.			
9.			
10.			
11.			
	101 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

Dominant vegetation is not hydrophytic and fails dominance test.

SOIL

Sampling Point: 3U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 3/2	100					Sandy loam	
8-16	2.5Y 4/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

Hydric soil is not present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

Remarks:

Wetland hydrology is not present at this location. FAC-Neutral Test fails.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 3W

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Drainage/roadside Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): LRR A Lat: 40°50'52.83"N Long: 124° 9'59.04"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Lanphere, 2-75% slopes NWI classification: NONE

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters are present and the sampled area is within a wetland. Wetland near culvert.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus radiata	80	Yes	NL/UPL
2.			
3.			
4.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1. Salix hookeriana	15	Yes	FACW
2.			
3.			
4.			
5.			
	15 = Total Cover		
Herb Stratum (Plot size: 3m2)			
1. Scirpus microcarpus	90	Yes	OBL
2. Holcus lanatus	8	No	FAC
3. Oenanthe sarmentosa	35	Yes	OBL
4. Equisetum arvense	5	No	FAC
5. Rubus ursinus	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	140 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

1m across 2-3 ft deep. Hydrophytic vegetation is dominant and passes dominance test.

SOIL

Sampling Point: 3W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	95	10YR 6/8	5	C	M	Sandy loam	
2-16	2.5Y 3/1	90	10YR 5/8	10	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: n/a

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes x No _____ Depth (inches): 11+

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 11-surface

Wetland Hydrology Present? Yes X No _____

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

Remarks:

A High Water Table (A2) and Saturation (A3) to the surface of the soil pit confirm wetland hydrology is present at this location.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 4U

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Hillslope/roadcuts Local relief (concave, convex, none): Concave Slope (%): 50

Subregion (LRR): LRR A Lat: 40°51'8.52"N Long: 124° 9'49.29"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: NONE

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

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

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

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

No wetland parameters observed and the sampled area is not within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1. Salix hookeriana	5	Yes	FACW
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Daucus carota	15	No	FACU
2. Rubus ursinus	5	No	FACU
3. Avena barbata	5	No	NL/UPL
4. Anthoxanthum odoratum	40	Yes	FACU
5. Briza maxima	20	No	UPL
6. Rumex acetosella	30	Yes	FACU
7. Plantago lanceolata	5	No	FACU
8.			
9.			
10.			
11.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No x

Remarks:

Dominant vegetation is not hydrophytic, dominance test for hydrophytic vegetation fails.

SOIL

Sampling Point: 4U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Sand	with fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel

Depth (inches): 6"

Hydric Soil Present? Yes ____ No X

Remarks:

No hydric soil indicators evident. Point of restriction fill from adjacent CA-255.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

No wetland hydrology indicators observed. FAC-Netural Test failed.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 4W

Investigator(s): EPC, EKT Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): Along sloped drainage Local relief (concave, convex, none): Concave Slope (%): 35

Subregion (LRR): LRR A Lat: 40°51'8.54"N Long: 124° 9'49.40"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: PSS1C

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

All three wetland parameters observed and this sampled area is within a wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix hookeriana	25	Yes	FACW
2.			
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 3m2)			
1. Salix hookeriana	90	Yes	FACW
2.			
3.			
4.			
5.			
	90 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Scirpus microcarpus	20	Yes	OBL
2. Drypoteris expansa	5	No	FACW
3. Oenanthe sarmentosa	40	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1. Rubus ursinus	35	Yes	FACU
2.			
	35 = Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominant vegetation is hydrophytic, dominance test passes.

SOIL

Sampling Point: 4W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 3/2	97	2.5Y 5/6	3	C	PL	Sandy clay loam	
8-16	2.5Y 3/2	97	2.5Y 5/6	3	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

Greater than 2% redox concentrations within upper six inches that has a matrix of >60% or more chroma of 2 in a band greater than 4 inches thick observed and confirms hydric soil indicator S5, sandy redox is present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): 2+

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 0-2

Wetland Hydrology Present? Yes X No _____

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

Remarks:

High Water Table (A2) and Saturation (A3) within the upper 12 inches of the soil pit confirm wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Shared Use Path City/County: Manila/Humboldt Sampling Date: 8/2/2017

Applicant/Owner: Humboldt County State: CA Sampling Point: 5U

Investigator(s): EPC, EKT Section, Township, Range: S34 T6N R1W

Landform (hillslope, terrace, etc.): Sloped Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR): LRR A Lat: 40°51'17.14"N Long: 124° 9'44.91"W Datum: WGS 84

Soil Map Unit Name: NOTCOM near Samoa-Clambeach-Dune land complex 0-50% slopes NWI classification: NONE

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

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

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

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

Hydric soil and wetland hydrology absent at this sample area and this location is not within a USACE wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus radiata	15	Yes	FACU
2. Salix hookeriana	50	Yes	FACW
3.			
4.			
	65 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Salix hookeriana	100	Yes	FACW
2.			
3.			
4.			
5.			
	100 = Total Cover		
Herb Stratum (Plot size: 2m2)			
1. Fumaria capreolata	2	No	NL/UPL
2. Rubus ursinus	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	17 = Total Cover		
Woody Vine Stratum (Plot size: 2m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	150	x 2 =	300
FAC species		x 3 =	
FACU species	30	x 4 =	120
UPL species	2	x 5 =	20
Column Totals:	182 (A)		440 (B)

Prevalence Index = B/A = 2.42

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Dominance test not conclusive, although hydric soil and hydrology are absent, the prevalence index was reviewed to confirm presence of a CCC wetland. The prevalence index passes for hydrophytic vegetation at this location.

SOIL

Sampling Point: 5U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 3/3	98%	10YR 5/8	2	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Chroma>2 and sandy redox=no. Hydric soil is not present at this location.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

Wetland hydrology is not present at this location. FAC-Neutral Test fails.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Highway 255 Bike Path Project City/County: Manila/Humboldt Sampling Date: 10/17/2018

Applicant/Owner: Humboldt County/Caltrans State: CA Sampling Point: 100U

Investigator(s): E. Craydon, E. Teraoka Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave-flat Slope (%): 1

Subregion (LRR): LRR A Lat: Long: Datum: WPT 79

Soil Map Unit Name: Urban land-Anthraltic Xerorthents association (0 to 2% slopes) NWI classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

No wetland indicators are present and the sampled area is not within a wetland. Sample area is near a culvert, draining towards wetland in opposite side. Rainfall is lower than average for the region in September/October, based on Eureka Weather Station data.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Lupinus arboreus	5	YES	UPL (NL)
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 3m2)			
1. Anthoxanthum odoratum	15	NO	
2. Armeria maritima	2	NO	
3. Briza maxima	45	YES	UPL (NL)
4. Bromus carinatus	10	NO	
5. Bromus hordeaceous	2	NO	
6. Rumex acetosella	10	NO	
7. Raphanus sativus	5	NO	
8.			
9.			
10.			
11.			
	89 = Total Cover		
Woody Vine Stratum (Plot size: 3m2)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

Dominant vegetation is primarily upland and failed dominance test for hydrophytic vegetation in the sampled area.

SOIL

Sampling Point: 100U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	2.5Y 3/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

No redoximorphic features are present in the soil profile and no hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** X

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

Remarks:

The sample area is located at the bottom of a depression near a culvert. Only one secondary indicator, geomorphic position (D2), was observed in the sampled area. Vegetation failed FAC-Neutral test. Two secondary indicators are required to confirm wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Highway 255 Bike Path Project City/County: Manila/Humboldt Sampling Date: 10/17/2018

Applicant/Owner: Humboldt County/Caltrans State: CA Sampling Point: 101U

Investigator(s): E. Craydon, E. Teraoka Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): flat Slope (%): 1

Subregion (LRR): LRR A Lat: Long: Datum: WGS 84

Soil Map Unit Name: Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes NWI classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

No wetland indicators are present and the sampled area is not within a wetland. Rainfall is lower than average for the region in September/October, based on Eureka Weather Station data.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Baccharis pilularis	10	YES	UPL
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 3m2)			
1. Anthoxanthum odoratum	40	YES	FACU
2. Carpobrotus edulis	8	NO	
3. Plantago lanceolata	15	NO	
4. Briza maxima	15	NO	
5. Holcus lanatus	40	YES	FAC
6. Avena barbata	2	NO	
7. Oenothera glazioviana	2	NO	
8.			
9.			
10.			
11.			
	122 = Total Cover		
Woody Vine Stratum (Plot size: 3m2)			
1. Rubus ursinus	5	YES	FACU
2.			
	5 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Dominant vegetation is primarily upland and failed dominance test for hydrophytic vegetation in the sampled area.

SOIL

Sampling Point: 101U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	2.5Y 3/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Gravel/fill

Depth (inches): 9

Hydric Soil Present? Yes ____ **No** X

Remarks:

No redoximorphic features are present in the soil profile and no hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ **No** X

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

Remarks:

Only one secondary indicator, geomorphic position (D2), was observed in the sampled area. Vegetation failed FAC-Neutral Test. Two secondary indicators are required to confirm wetland hydrology.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Highway 255 Bike Path Project City/County: Manila/Humboldt Sampling Date: 10/17/2018

Applicant/Owner: Humboldt County/Caltrans State: CA Sampling Point: 101W

Investigator(s): E. Craydon, E. Teraoka Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave-flat Slope (%): 0

Subregion (LRR): LRR A Lat: Long: Datum: WGS 84

Soil Map Unit Name: Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes NWI classification: Freshwater Forested/Shrub Wetland

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

All three wetland indicators are present (hydrophytic vegetation, hydric soils, and hydrology) and the sampled area is within a wetland. Rainfall is lower than average for the region in September/October, based on Eureka Weather Station data.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sitchensis	45	YES	FACW
2. Salix hookeriana	45	YES	FACW
3.			
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Salix hookeriana	20	YES	FACW
2. Rubus spectabilis	25	YES	FAC
3.			
4.			
5.			
	45	= Total Cover	
Herb Stratum (Plot size: 3m2)			
1. Holcus lanatus	10	NO	
2. Crocosmia ×crocosmiiflora	15	NO	
3. Ranunculus repens	60	YES	FAC
4. Zantedeschia aethiopica	5	NO	
5. Rumex (pulcher)	1	NO	
6. Tropaeolum majus	2	NO	
7. Dryopteris	5	NO	
8.			
9.			
10.			
11.			
	98	= Total Cover	
Woody Vine Stratum (Plot size: 3 m2)			
1. Rubus armeniacus	45	YES	FAC
2. Rubus ursinus	5	NO	
	50	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Dominance test exceeds 50% and hydrophytic vegetation is present within the sampled area.

SOIL

Sampling Point: 101W

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
1-8	2.5Y 3/2	95	10YR 5/4	5	CS	PL	Loamy Sand	
0-1	5Y 2/1	100					Loam	
8-15	2.5Y 3/2	100					Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☑ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☑ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

The primary hydric soil indicator sandy redox was observed in the soil profile and a hydric soil is present in the sampled area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

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

Remarks:

The primary hydrology indicator presence of oxidized rhizospheres along living roots (C3) was observed confirming wetland hydrology. In addition, two secondary indicators, geomorphic position (D2) and FAC-Neutral test (D5) were confirmed.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Manila Highway 255 Bike Path Project City/County: Manila/Humboldt Sampling Date: 10/18/2018

Applicant/Owner: Humboldt County/Caltrans State: CA Sampling Point: 102U

Investigator(s): E. Craydon, E. Teraoka Section, Township, Range: S3 T5N R1W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): flat/undulating Slope (%): 1

Subregion (LRR): LRR A Lat: Long: Datum: WGS 84

Soil Map Unit Name: Samoa-Clambeach complex, 0 to 50 percent slopes NWI classification: None

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

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

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

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

No wetland indicators are present and the sampled area is not within a wetland. Rainfall is lower than average for the region in September/October, based on Eureka Weather Station data.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5m2)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m2)			
1. Lupinus arboreus	8	YES	NL-UPL
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: 3m2)			
1. Anthoxanthum odoratum	40	YES	FACU
2. Scrophularia californica	2	NO	
3. Rumex acetosella	2	NO	
4. Bromus carinatus	1	NO	
5. Aira caryophyllea	1	NO	
6. Poa (douglassii)	1	NO	
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: 3m2)			
1. Rubus ursinus	45	YES	FACU
2.			
	40 = Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ 5 - Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks:

Dominant vegetation is primarily upland and failed dominance test for hydrophytic vegetation in the sampled area.

SOIL

Sampling Point: 102U

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 2.5/2	100					Loamy sand	
3-16	7.5YR 3/2	100					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: na

Depth (inches): _____

Hydric Soil Present? Yes _____ **No** X

Remarks:

No redoximorphic features are present in the soil profile and no hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No** X

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

Remarks:

Only one secondary indicator, geomorphic position (D2), was observed in the sampled area. Vegetation fails FAC-Neutral test. Two secondary indicators are required to confirm wetland hydrology.

OHWM Delineation Cover Sheet

Project: Manila Bike Path **Date:** August 2, 2017

Location: East side of CA-255, Manila, CA **Investigator(s):** Emmalien Craydon (EPC), Emily Teraoka (EKT)

Project Description:
The Manila Bike Path Project is a collaborative plan between Humboldt County, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District to provide a bike path (also known as a shared-use path or multi-use trail) along the west side of State Route 255 (CA-255). The Project also includes intersection improvements along Pacific Avenue and Peninsula Drive and installation of streetlights at the Dean Street/Pacific Avenue intersection. The project may also include a cable barrier between the trail and CA-255.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
A dry, intermittent, constructed drainage ditch with culvert connections to adjacent waters and ditches. Described as W-1 in the survey area.

Off-site Information

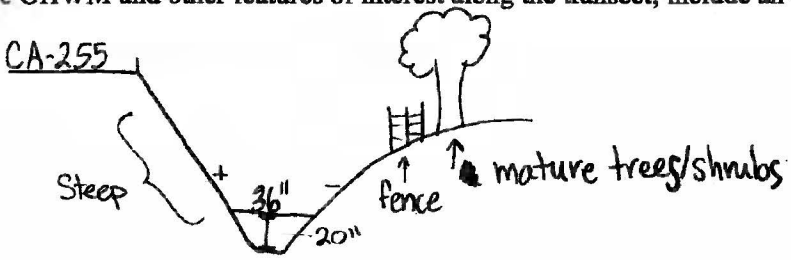
Remotely sensed image(s) acquired? ☐ **Yes** ■ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ■ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ■ Sharp (> 60°) | ■ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

West slope is sharp, East slope is moderate.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	0	100	0	0	0	0
Below OHWM	2	98	0	0	0	0

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	0	100	0
Below OHWM	0	0	100	0

Notes/Description:
Vegetation is entirely herbaceous. Emergent hydrophytic vegetation is within the OHWM. Upland grasses are above the OHWM.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
A break in bank slope and change in vegetation species and cover supports the delineation.

OHWM Delineation Cover Sheet

Project: Manila Bike Path

Date: August 1-2, 2017; Follow-up September 22, 2017

Location: East side of CA-255, Manila, CA

Investigator(s): Emily Teraoka (EKT), Emmalien Craydon (EPC)

Project Description:

The Manila Bike Path Project is a collaborative plan between Humboldt County, California Department of Transportation (Caltrans) District 1, and the Manila Community Services District to provide a bike path (also known as a shared-use path or multi-use trail) along the west side of State Route 255 (CA-255). The Project also includes intersection improvements along Pacific Avenue and Peninsula Drive and installation of streetlights at the Dean Street/Pacific Avenue intersection. The project may also include a cable barrier between the trail and CA-255.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

An intermittent constructed drainage ditch with portions dry and wet (some with surface water about 4 inches in depth) during the investigation. Recent vegetation removal is evident during the secondary investigation. Described at W-2 in the survey area.

Off-site Information

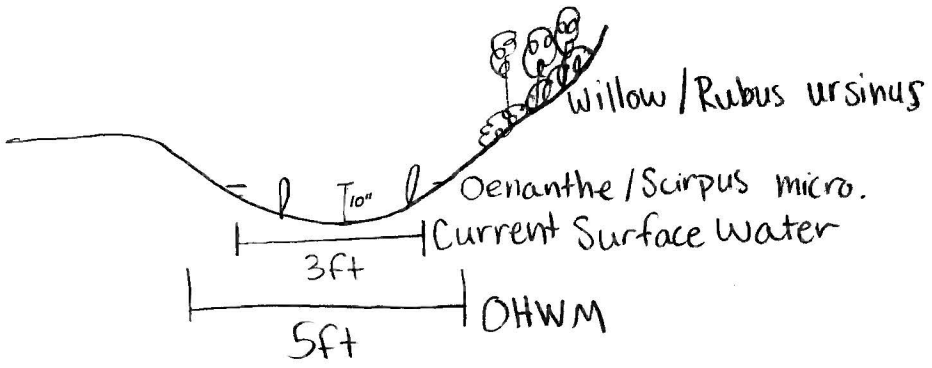
Remotely sensed image(s) acquired? ☐ **Yes** ■ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ■ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ■ Gentle (< 30°) | ☐ None

Notes/Description:

Gentle to moderate slope

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	50	0	0	0	0
Below OHWM	70	30	0	0	0	0

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	50	50	25	0
Below OHWM	45	0	5	50

Notes/Description:

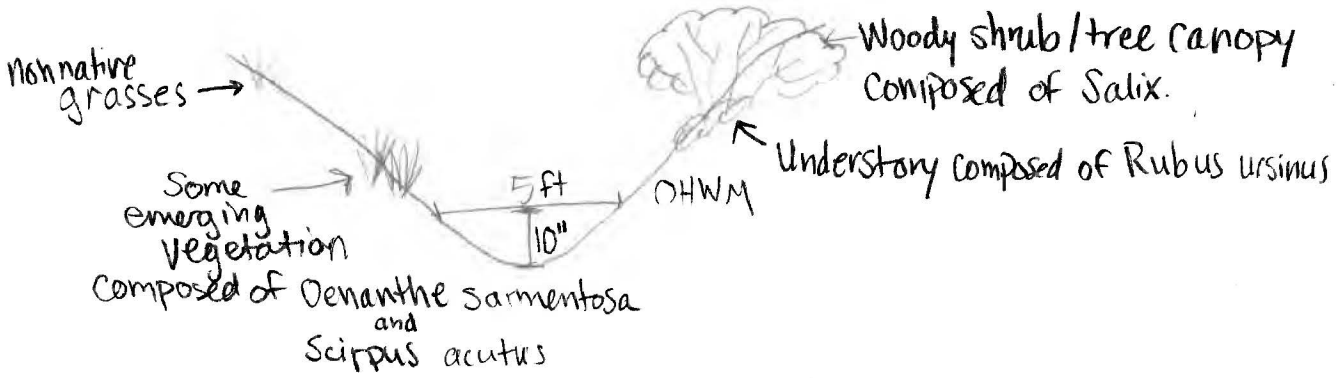
Vegetation present on one side only. Carex obnopta.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Intermittent drainage ditch; soils saturated during the investigation; some standing water (2 in.) observed.

A break in bank slope and change in vegetation species and cover supports the delineation.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ■ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Moderate slope break

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	50	0	0	0	0
Below OHWM	70	30	0	0	0	0

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

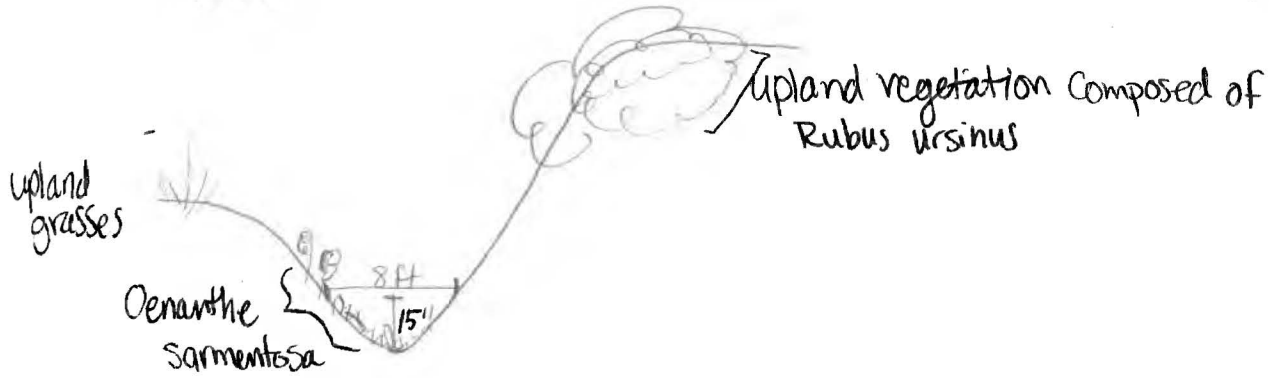
	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	100	100	100	0
Below OHWM	10	0	15	75

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

A break in bank slope and change in vegetation species and cover supports the delineation.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ■ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Break in slope is moderate on both sides (60 on West bank and 40-50 on East bank).

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	20	80	0	0	0	0
Below OHWM	60	40	0	0	0	0

Notes/Description:

Saturated muck below OHWM

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

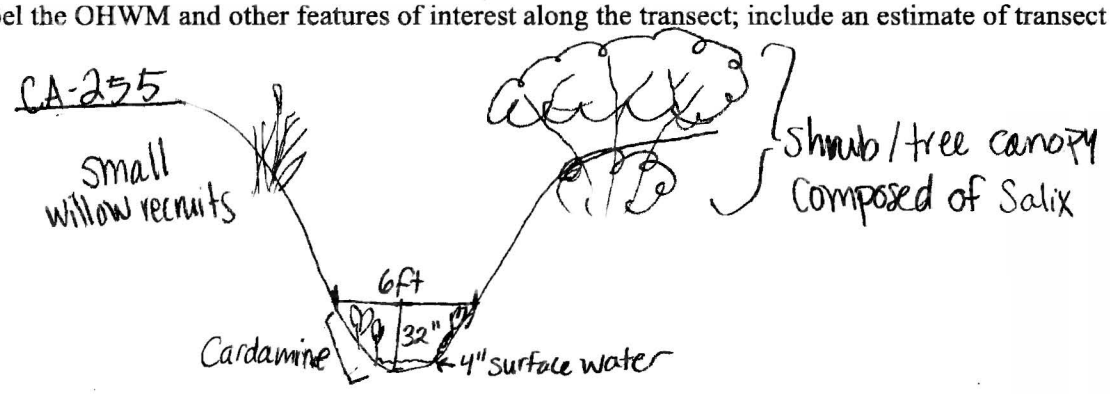
	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	100	0	0
Below OHWM	0	0	90	10

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

A break in bank slope and change in vegetation species and cover supports the delineation.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ■ Sharp (> 60°) | ■ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

East bank is sharp, West bank is moderate.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	15	85	0	0	0	0
Below OHWM	80	20	0	0	0	0

Notes/Description:

Standing water present

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	80	45	0	0
Below OHWM	50	5	100	0

Notes/Description:
Channel is deep and wide with shrubs on both sides. Cardamine is growing in channel bed.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

A break in bank slope and change in vegetation species and cover supports the delineation.

Appendix C

List of Plant Species Observed in the Survey Area

Table C-1. Plant species observed during the wetland delineation surveys in the Survey Area.

Scientific name	Common name	Family	Native status	WMVC Rating (Lichvar et al. 2016)
Aira caryophyllea	silver hair grass	Poaceae	Nonnative	FACU
Anthoxanthum odoratum	sweet vernal grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	FACU
Armeria maritima	thrift sea pink	Plumbaginaceae	Native	FAC
Avena barbata	slender wild oat	Poaceae	Nonnative, Cal-IPC Rated Moderate	Not Listed -UPL
Baccharis pilularis	coyote brush	Asteraceae	Native	Not Listed -UPL
Briza maxima	rattlesnake grass, large quaking grass	Poaceae	Nonnative, Cal-IPC Rated Limited	Not Listed -UPL
Bromus carinatus	California brome	Poaceae	Native	Not Listed -UPL
Bromus diandrus	ripgut grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	Not Listed -UPL
Bromus hordeaceus	soft chess	Poaceae	Nonnative, Cal-IPC Rated Limited	FACU
Carex obnupta	slough sedge	Cyperaceae	Native	OBL
Carpobrotus edulis	freeway iceplant	Aizoaceae	Nonnative, Cal-IPC Rated High	Not Listed- UPL
Crocosmia ×crocosmiiflora	montbretia	Iridaceae	Nonnative, Cal-IPC Rated Limited	FAC
Daucus carota	carrot, Queen Anne's lace	Apiaceae	Nonnative	FACU
Dryopteris expansa	spreading wood fern	Dryopteridaceae	Native	FACW
Equisetum arvense	common horsetail	Equisetaceae	Native	FAC
Fragaria chiloensis	beach strawberry	Rosaceae	Native	FACU
Fumaria capreolata	White ramping fumitory	Papaveraceae	Nonnative	Not Listed -UPL
Holcus lanatus	common velvet grass	Poaceae	Nonnative, Cal-IPC Rated Moderate	FAC
Hypochaeris radicata	rough cat's-ear	Asteraceae	Nonnative, Cal-IPC Rated Moderate	FACU
Juncus breweri	salt or brewer's rush	Juncaceae	Native	FACW
Juncus lescurii	San Francisco rush	Juncaceae	Native	FACW
Lonicera sp.	honeysuckle	Caprifoliaceae	Native	FACU
Lonicera involucrata	twinberry	Caprifoliaceae	Native	FAC
Lotus corniculatus	bird's-foot trefoil	Fabaceae	Nonnative	FAC
Lupinus arboreus	yellow bush lupine	Fabaceae	Native (Nonnative to Humboldt County)	Not Listed -UPL
Tropaeolum majus	garden nasturtium	Tropaeolaceae	Nonnative	UPL
Oenanthe sarmentosa	water parsley	Apiaceae	Native	OBL
Oenothera glazioviana	redsepal evening primrose	Onagraceae	Nonnative	Not Listed -UPL
Pinus contorta subsp. *contorta*	shore pine	Pinaceae	Native	FAC
Pinus radiata	Monterey pine	Pinaceae	Native	Not Listed -UPL
Plantago lanceolata	English plantain	Plantaginaceae	Nonnative, Cal-IPC Rated Limited	FACU

Scientific name	Common name	Family	Native status	WMVC Rating (Lichvar et al. 2016)
Poa douglasii	sand dune blue grass	Poaceae	Native	FACU
Polystichum munitum	western sword fern	Dryopteridaceae	Native	FACU
Potentilla anserina subsp. *pacifica*	Pacific silverweed	Rosaceae	Native	OBL
Ranunculus repens	common creeping buttercup	Ranunculaceae	Nonnative, Cal-IPC Rated Limited	FAC
Raphanus sativus	radish	Brassicaceae	Nonnative, Cal-IPC Rated Limited	Not Listed -UPL
Rubus armeniacus	Himalayan blackberry	Rosaceae	Nonnative, Cal-IPC Rated High	FAC
Rubus laciniatus	cutleaf blackberry	Rosaceae	Nonnative	FACU
Rubus spectabilis	salmon berry	Rosaceae	Native	FAC
Rubus ursinus	California blackberry	Rosaceae	Native	FACU
Rumex acetosella	sheep sorrel	Polygonaceae	Nonnative, Cal-IPC Rated Moderate	FACU
Rumex (*pulcher*)	fiddle dock	Polygonaceae	Nonnative	FAC
Salix hookeriana	coastal willow	Salicaceae	Native	FACW
Salix lasiandra	Pacific willow	Salicaceae	Native	FACW
Salix sitchensis	Sitka willow	Salicaceae	Native	FACW
Scirpus microcarpus	small-fruited bulrush	Cyperaceae	Native	OBL
Scrophularia californica	California figwort	Scrophulariaceae	Native	FAC
Symphyotrichum chilense	Pacific aster	Asteraceae	Native	FAC
Trifolium repens	white clover	Fabaceae	Nonnative	FAC
Vicia sativa	common vetch	Fabaceae	Nonnative	UPL
Zantedeschia aethiopica	calla-lily	Araceae	Nonnative, Cal-IPC Rated Limited	OBL

Appendix B

Species Query Results

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To:
Consultation Code: 08EACT00-2017-SLI-0386
Event Code: 08EACT00-2019-E-00079
Project Name: Manila Bike Path

November 06, 2018

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2017-SLI-0386

Event Code: 08EACT00-2019-E-00079

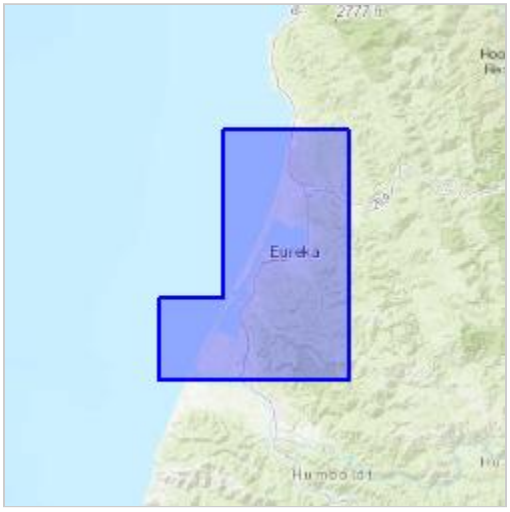
Project Name: Manila Bike Path

Project Type: TRANSPORTATION

Project Description: Scoping for the Manila bike path. Project area includes Quads: Eureka, Arcata South, Arcata North, Fields Landing, Tyree City, Cannibal Island, and McWhinney Creek.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.8124999976456N124.12500408782202W



Counties: Humboldt, CA

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

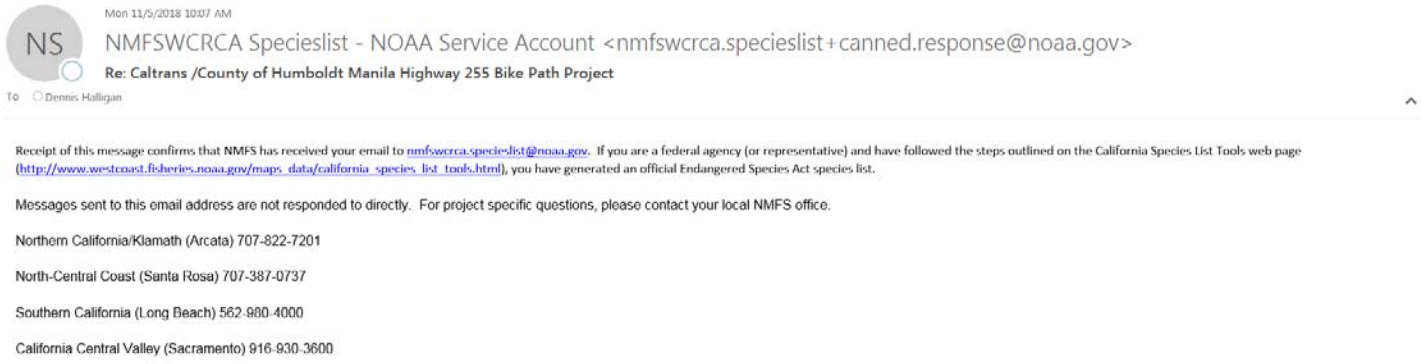
Flowering Plants

NAME	STATUS
Beach Layia *Layia carnosa* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6728	Endangered
Menzies' Wallflower *Erysimum menziesii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2935	Endangered
Western Lily *Lilium occidentale* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/998	Endangered

Critical habitats

There are 4 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* https://ecos.fws.gov/ecp/species/4467#crithab	Final
Tidewater Goby *Eucyclogobius newberryi* https://ecos.fws.gov/ecp/species/57#crithab	Final
Western Snowy Plover *Charadrius nivosus nivosus* https://ecos.fws.gov/ecp/species/8035#crithab	Final
Yellow-billed Cuckoo *Coccyzus americanus* https://ecos.fws.gov/ecp/species/3911#crithab	Proposed



Mon 11/5/2018 10:07 AM

NS NMFSWCRCA Specieslist - NOAA Service Account <nmfswcrca.specieslist+canned.response@noaa.gov>

Re: Caltrans /County of Humboldt Manila Highway 255 Bike Path Project

To Dennis Halligan

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

NOAA Fisheries – California Species List Tools

https://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html

Accessed November 5, 2018

Quad Name **Eureka**
Quad Number **40124-G2**

ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Tyee City (4012482) OR Arcata North (4012481) OR Arcata South (4012471) OR Eureka (4012472) OR Cannibal Island (4012463) OR Fields Landing (4012462) OR McWhinney Creek (4012461))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Abronia umbellata var. breviflora pink sand-verbena	G4G5T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	5 236	61 S:16	0	9	2	1	1	3	5	11	15	1	0
Accipiter striatus sharp-shinned hawk	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	200 580	22 S:2	0	0	2	0	0	0	0	2	2	0	0
Acipenser medirostris green sturgeon	G3 S1S2	Threatened None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened NMFS_SC-Species of Concern	0 0	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Anodonta californiensis California floater	G3Q S2?	None None	USFS_S-Sensitive	41 41	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Aplodontia rufa humboldtiana Humboldt mountain beaver	G5TNR SNR	None None		50 1,700	28 S:16	0	0	0	0	0	16	13	3	16	0	0
Arborimus albipes white-footed vole	G3G4 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	15 15	3 S:1	0	0	0	0	0	1	1	0	1	0	0
Arborimus pomo Sonoma tree vole	G3 S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	40 1,600	222 S:7	0	0	0	0	0	7	7	0	7	0	0
Ardea alba great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	4 194	43 S:6	1	0	0	0	0	5	4	2	6	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	4 450	155 S:13	6	0	0	0	0	7	6	7	13	0	0
Ascaphus truei Pacific tailed frog	G4 S3S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	100 1,027	491 S:8	0	0	0	0	0	8	5	3	8	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		25 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus caliginosus obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	0 2,100	181 S:8	0	0	0	0	0	8	8	0	8	0	0
Bombus occidentalis western bumble bee	G2G3 S1	None None	USFS_S-Sensitive XERCES_IM-Imperiled	10 2,100	282 S:9	0	0	0	0	0	9	9	0	9	0	0
Brachyramphus marmoratus marbled murrelet	G3G4 S1	Threatened Endangered	CDF_S-Sensitive IUCN_EN-Endangered NABCI_RWL-Red Watch List	1,200 1,800	110 S:4	0	2	0	0	0	2	4	0	4	0	0
Bryoria spiralifera twisted horsehair lichen	G3 S1S2	None None	Rare Plant Rank - 1B.1	30 70	8 S:3	0	0	0	0	0	3	1	2	3	0	0
Cardamine angulata seaside bittercress	G4G5 S3	None None	Rare Plant Rank - 2B.1	310 310	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Carex arcta northern clustered sedge	G5 S1	None None	Rare Plant Rank - 2B.2	200 500	10 S:2	0	0	0	0	0	2	2	0	2	0	0
Carex leptalea bristle-stalked sedge	G5 S1	None None	Rare Plant Rank - 2B.2	300 300	8 S:1	0	0	0	0	0	1	1	0	1	0	0
Carex lyngbyei Lyngbye's sedge	G5 S3	None None	Rare Plant Rank - 2B.2	0 20	29 S:15	2	4	3	0	0	6	6	9	15	0	0
Carex praticola northern meadow sedge	G5 S2	None None	Rare Plant Rank - 2B.2		14 S:1	0	0	0	0	0	1	1	0	1	0	0
Castilleja ambigua var. humboldtiensis Humboldt Bay owl's-clover	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	5 65	31 S:21	2	8	2	0	0	9	7	14	21	0	0
Castilleja litoralis Oregon coast paintbrush	G3 S3	None None	Rare Plant Rank - 2B.2	25 500	39 S:3	0	0	0	0	0	3	2	1	3	0	0
Charadrius alexandrinus nivosus western snowy plover	G3T3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	10 23	138 S:5	0	1	0	0	0	4	3	2	5	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Charadrius montanus mountain plover	G3 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	4 7	90 S:2	0	0	0	0	0	2	0	2	2	0	0
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	G4?T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	5 10	68 S:15	2	6	1	1	0	5	5	10	15	0	0
Cicindela hirticollis gravida sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:1	0	0	0	0	1	0	1	0	0	0	1
Circus hudsonius northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	6 6	53 S:1	0	0	1	0	0	0	0	1	1	0	0
Coastal Terrace Prairie Coastal Terrace Prairie	G2 S2.1	None None		160 160	8 S:1	0	1	0	0	0	0	1	0	1	0	0
Collinsia corymbosa round-headed Chinese-houses	G1 S1	None None	Rare Plant Rank - 1B.2		13 S:1	0	0	0	0	0	1	1	0	1	0	0
Corynorhinus townsendii Townsend's big-eared bat	G3G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	30 250	626 S:3	0	0	0	0	0	3	3	0	3	0	0
Coturnicops noveboracensis yellow rail	G4 S1S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	4 24	45 S:4	0	0	0	0	0	4	3	1	4	0	0
Egretta thula snowy egret	G5 S4	None None	IUCN_LC-Least Concern	4 47	20 S:3	1	0	0	0	0	2	1	2	3	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Elanus leucurus white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	60 60	178 S:2	0	0	0	0	0	2	0	2	2	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	3 400	1350 S:8	0	3	1	0	0	4	1	7	8	0	0
Entosphenus tridentatus Pacific lamprey	G4 S4	None None	AFS_VU-Vulnerable BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	14 43	9 S:5	0	0	0	0	0	5	1	4	5	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	13 817	508 S:9	0	0	0	0	0	9	3	6	9	0	0
Erysimum menziesii Menzies' wallflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	5 30	19 S:6	2	2	1	1	0	0	0	6	6	0	0
Erythronium revolutum coast fawn lily	G4G5 S3	None None	Rare Plant Rank - 2B.2		154 S:1	0	0	0	0	0	1	1	0	1	0	0
Eucyclogobius newberryi tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	0 12	127 S:10	1	1	0	1	0	7	1	9	10	0	0
Fissidens pauperculus minute pocket moss	G3? S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	100 650	22 S:3	0	0	0	0	0	3	3	0	3	0	0
Gilia capitata ssp. pacifica Pacific gilia	G5T3 S2	None None	Rare Plant Rank - 1B.2	250 250	73 S:1	0	0	0	0	0	1	1	0	1	0	0
Gilia millefoliata dark-eyed gilia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	5 50	54 S:11	1	4	1	0	0	5	5	6	11	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Haliaeetus leucocephalus bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	580 580	327 S:1	1	0	0	0	0	0	0	1	1	0	0
Hesperevax sparsiflora var. brevifolia short-leaved evax	G4T3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 13	56 S:4	0	0	1	0	0	3	2	2	4	0	0
Lasthenia californica ssp. macrantha perennial goldfields	G3T2 S2	None None	Rare Plant Rank - 1B.2		59 S:1	0	0	0	0	0	1	1	0	1	0	0
Lathyrus japonicus seaside pea	G5 S2	None None	Rare Plant Rank - 2B.1	5 200	24 S:3	0	0	0	0	0	3	3	0	3	0	0
Lathyrus palustris marsh pea	G5 S2	None None	Rare Plant Rank - 2B.2	10 10	13 S:2	0	0	0	0	0	2	1	1	2	0	0
Layia carnosa beach layia	G2 S2	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	10 40	25 S:6	0	3	1	0	0	2	0	6	6	0	0
Lilium occidentale western lily	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank	30 350	16 S:9	0	3	1	1	3	1	3	6	6	3	0
Lycopodium clavatum running-pine	G5 S3	None None	Rare Plant Rank - 4.1	160 1,860	120 S:35	2	10	13	3	0	7	6	29	35	0	0
Margaritifera falcata western pearlshell	G4G5 S1S2	None None		75 317	78 S:2	0	0	0	0	0	2	1	1	2	0	0
Martes caurina humboldtensis Humboldt marten	G5T1 S1	None Candidate Endangered	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	1,100 1,100	44 S:1	0	0	0	0	0	1	1	0	1	0	0
Mitellastra caulescens leafy-stemmed mitrewort	G5 S4	None None	Rare Plant Rank - 4.2	1,200 1,200	21 S:1	0	1	0	0	0	0	0	1	1	0	0
Monotropa uniflora ghost-pipe	G5 S2	None None	Rare Plant Rank - 2B.2	100 100	89 S:1	0	0	0	0	0	1	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Montia howellii Howell's montia	G3G4 S2	None None	Rare Plant Rank - 2B.2	39 1,600	110 S:13	0	3	1	4	3	2	1	12	10	3	0
Myotis evotis long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_M-Medium Priority	40 429	139 S:2	0	1	0	0	0	1	1	1	2	0	0
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	G3 S3.2	None None		0 0	53 S:11	1	0	0	0	0	10	11	0	11	0	0
Northern Foredune Grassland Northern Foredune Grassland	G1 S1.1	None None		50 50	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Nycticorax nycticorax black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	4 194	37 S:8	1	0	0	0	0	7	6	2	8	0	0
Oenothera wolfii Wolf's evening-primrose	G2 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_BerrySB-Berry Seed Bank	10 25	29 S:2	0	0	0	0	0	2	1	1	2	0	0
Oncorhynchus clarkii clarkii coast cutthroat trout	G4T4 S3	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern USFS_S-Sensitive	5 317	45 S:16	0	0	1	0	0	15	10	6	16	0	0
Oncorhynchus kisutch pop. 2 coho salmon - southern Oregon / northern California ESU	G4T2Q S2?	Threatened Threatened	AFS_TH-Threatened	35 117	10 S:6	0	0	2	0	0	4	1	5	6	0	0
Oncorhynchus mykiss irideus pop. 16 steelhead - northern California DPS	G5T2T3Q S2S3	Threatened None	AFS_TH-Threatened	35 117	12 S:4	0	1	1	0	0	2	0	4	4	0	0
Pandion haliaetus osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	10 1,240	500 S:80	14	25	7	2	1	31	70	10	79	1	0
Pekania pennanti fisher - West Coast DPS	G5T2T3Q S2S3	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	182 319	738 S:2	0	0	0	0	0	2	0	2	2	0	0
Phalacrocorax auritus double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	10 10	39 S:1	0	0	0	0	0	1	1	0	1	0	0

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Puccinellia pumila dwarf alkali grass	G4? SH	None None	Rare Plant Rank - 2B.2	15 15	2 S:1	0	0	0	0	0	1	1	0	1	0	0
Rallus obsoletus obsoletus California Ridgway's rail	G5T1 S1	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List		99 S:2	0	0	0	0	2	0	2	0	0	0	2
Rana aurora northern red-legged frog	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	5 800	290 S:56	0	3	0	1	0	52	11	45	56	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	7 2,100	2304 S:9	2	1	0	0	0	6	2	7	9	0	0
Rhyacotriton variegatus southern torrent salamander	G3G4 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	200 1,200	415 S:8	0	0	1	0	0	7	4	4	8	0	0
Riparia riparia bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	50 114	298 S:3	0	1	0	0	0	2	2	1	3	0	0
Sidalcea malachroides maple-leaved checkerbloom	G3 S3	None None	Rare Plant Rank - 4.2	100 1,650	136 S:26	2	4	7	10	0	3	2	24	26	0	0
Sidalcea malviflora ssp. patula Siskiyou checkerbloom	G5T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	50 300	49 S:5	0	0	2	0	0	3	2	3	5	0	0
Sidalcea oregana ssp. eximia coast checkerbloom	G5T1 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	20 200	19 S:5	0	0	2	0	0	3	2	3	5	0	0
Silene scouleri ssp. scouleri Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2		23 S:1	0	0	0	0	0	1	1	0	1	0	0
Sitka Spruce Forest Sitka Spruce Forest	G1 S1.1	None None		160 160	4 S:1	0	0	1	0	0	0	1	0	1	0	0
Spergularia canadensis var. occidentalis western sand-spurrey	G5T4 S1	None None	Rare Plant Rank - 2B.1	5 10	4 S:4	0	0	1	0	0	3	3	1	4	0	0

Summary Table Report

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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Spirinchus thaleichthys longfin smelt	G5 S1	Candidate Threatened	CDFW_SSC-Species of Special Concern	0 10	46 S:6	0	0	0	0	0	6	5	1	6	0	0
Thaleichthys pacificus eulachon	G5 S3	Threatened None			10 S:2	0	0	0	0	1	1	2	0	1	1	0
Trichodon cylindricus cylindrical trichodon	G4 S2	None None	Rare Plant Rank - 2B.2		14 S:1	0	0	0	0	0	1	1	0	1	0	0
Usnea longissima Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	520 2,100	206 S:16	0	3	1	6	0	6	0	16	16	0	0
Viola palustris alpine marsh violet	G5 S1S2	None None	Rare Plant Rank - 2B.2	100 100	10 S:2	0	0	0	0	0	2	2	0	2	0	0

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

Plant List

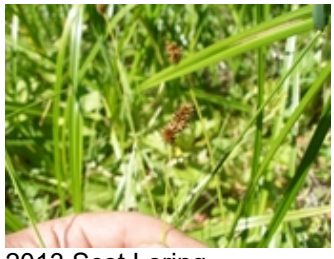
47 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 4012482, 4012481, 4012472, 4012471, 4012463 4012462 and 4012461;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Remove Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	Photo
Abronia umbellata var. breviflora	pink sand-verbena	Nyctaginaceae	perennial herb	Jun-Oct	1B.1	S2	G4G5T2	 2009 Jorg & Mimi Fleige
Angelica lucida	sea-watch	Apiaceae	perennial herb	May-Sep	4.2	S3	G5	 2013 Dana York
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	1B.2	S2	G2T2	 2009 Neal Kramer
Astragalus rattanii var. rattanii	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	4.3	S4	G4T4	no photo available
Bryoria pseudocapillaris	false gray horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)		3.2	S2	G3	no photo available
Bryoria spiralifera	twisted horsehair	Parmeliaceae	fruticose lichen (epiphytic)		1B.1	S1S2	G3	no photo available

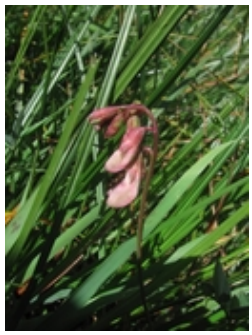
	lichen							
Cardamine angulata	seaside bittercress	Brassicaceae	perennial herb	(Jan)Mar-Jul	2B.2	S3	G4G5	 2015 Dana York
Carex arcta	northern clustered sedge	Cyperaceae	perennial herb	Jun-Sep	2B.2	S1	G5	 2006 Dean Wm. Taylor
Carex leptalea	bristle-stalked sedge	Cyperaceae	perennial rhizomatous herb	Mar-Jul	2B.2	S1	G5	 2003 Steve Matson
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	2B.2	S3	G5	 2010 Dana York
Carex praticola	northern meadow sedge	Cyperaceae	perennial herb	May-Jul	2B.2	S2	G5	 2013 Scot Loring
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	1B.2	S2	G4T2	

								 2005 Doreen L. Smith
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun-Jul	2B.2	S3	G3	 2012 Gary A. Monroe
Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	1B.2	S2	G4?T2	 2013 Robert Sikora
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun(Jul)	4.3	S3	G5	no photo available
Collinsia corymbosa	round-headed Chinese-houses	Plantaginaceae	annual herb	Apr-Jun	1B.2	S1	G1	 2007 Steve Matson
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	1B.1	S1	G1	 2004 Bob Huettmann
Erythronium revolutum	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	2B.2	S3	G4G5	

								 2009 Jim Maloney
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?	no photo available
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	1B.2	S2	G5T3	 2012 Asa Spade
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2	 2005 Doreen L. Smith
Glehnia littoralis ssp. leiocarpa	American glehnia	Apiaceae	perennial herb	May-Aug	4.2	S3	G5T4	 2013 Dana York
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3	 2006 Doreen L. Smith
Lasthenia californica ssp. macrantha	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	1B.2	S2	G3T2	 2003 Doreen L. Smith
Lathyrus japonicus	seaside pea	Fabaceae	perennial rhizomatous herb	May-Aug	2B.1	S2	G5	


1998 Nick Kurzenko

Lathyrus palustris	marsh pea	Fabaceae	perennial herb	Mar-Aug	2B.2	S2	G5


2015 Aaron Arthur

Layia carnosa	beach layia	Asteraceae	annual herb	Mar-Jul	1B.1	S2	G2


2007 Aaron Schusteff

Lilium kelloggii	Kellogg's lily	Liliaceae	perennial bulbiferous herb	May-Aug	4.3	S3	G3


2014 John Doyen

Lilium occidentale	western lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	1B.1	S1	G1


2000 John Game

Listera cordata	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	4.2	S4	G5

								 2011 Jean Pawek
Lycopodium clavatum	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	4.1	S3	G5	 2008 Zoya Akulova
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	4.2	S4	G5	 2002 N. Misa Ward and EDAW
Monotropa uniflora	ghost-pipe	Ericaceae	perennial herb (achlorophyllous)	Jun-Aug(Sep)	2B.2	S2	G5	 2005 Louis-M. Landry
Montia howellii	Howell's montia	Montiaceae	annual herb	(Jan-Feb)Mar-May	2B.2	S2	G3G4	 2008 Sierra Pacific Industries
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	perennial herb	May-Oct	1B.1	S1	G2	

								 1995 Saint Mary's College of California
Pityopus californicus	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar-Apr)May-Aug	4.2	S4	G4G5	 2015 Debra L. Cook
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	4.2	S4	G4	 2004 Dean Wm. Taylor
Puccinellia pumila	dwarf alkali grass	Poaceae	perennial herb	Jul	2B.2	SH	G4?	no photo available
Ribes laxiflorum	trailing black currant	Grossulariaceae	perennial deciduous shrub	Mar-Jul(Aug)	4.3	S3	G5?	 2010 Dana York
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	4.2	S3	G3	 2015 Adrienne Simmons

Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Apr)May-Aug	1B.2	S2	G5T2	 2005 Dean Wm. Taylor
Sidalcea oregana ssp. eximia	coast checkerbloom	Malvaceae	perennial herb	Jun-Aug	1B.2	S1	G5T1	no photo available
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	2B.2	S2S3	G5T5	no photo available
Spergularia canadensis var. occidentalis	western sand-spurrey	Caryophyllaceae	annual herb	Jun-Aug	2B.1	S1	G5T4	no photo available
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	moss		2B.2	S2	G4	no photo available
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		4.2	S4	G4	no photo available
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	Mar-Aug	2B.2	S1S2	G5	 2015 Trent M. Draper

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 06 November 2018].

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Appendix C

Project Maps

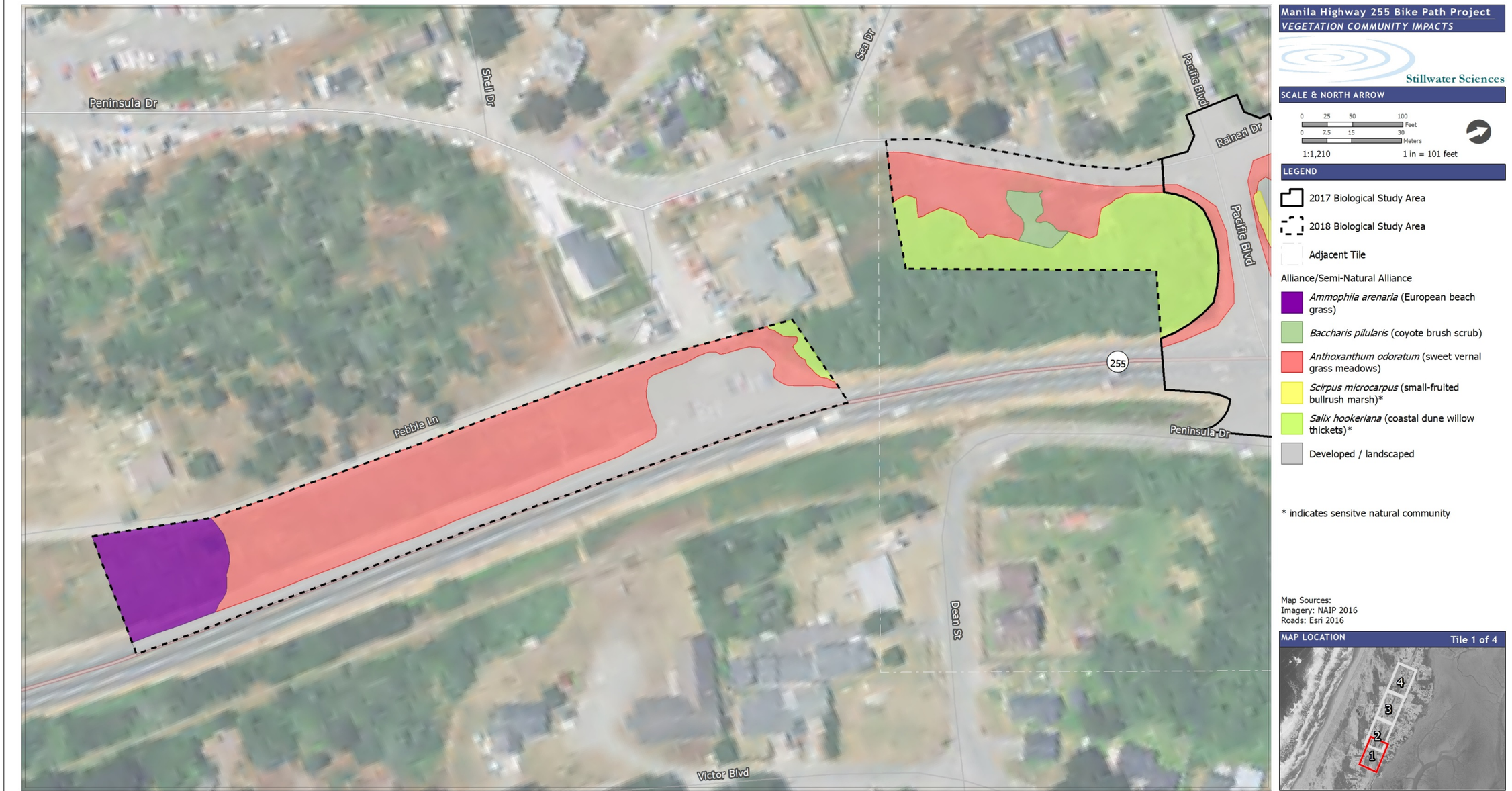


Figure C-1. Vegetation communities in the 2017 and 2018 BSAs. Tile 1 of 4.

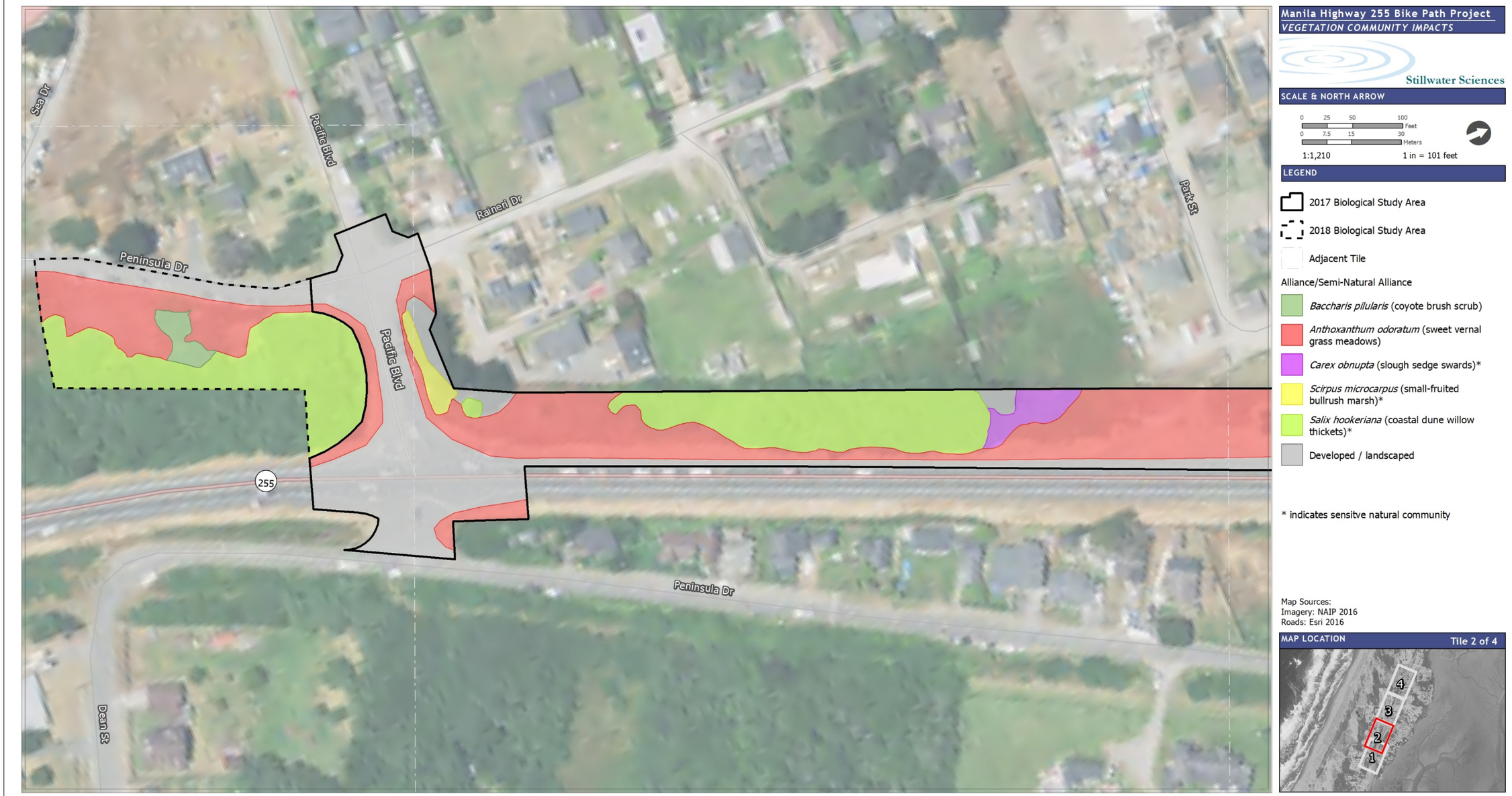


Figure C-2. Vegetation communities in the 2017 and 2018 BSAs. Tile 2 of 4.

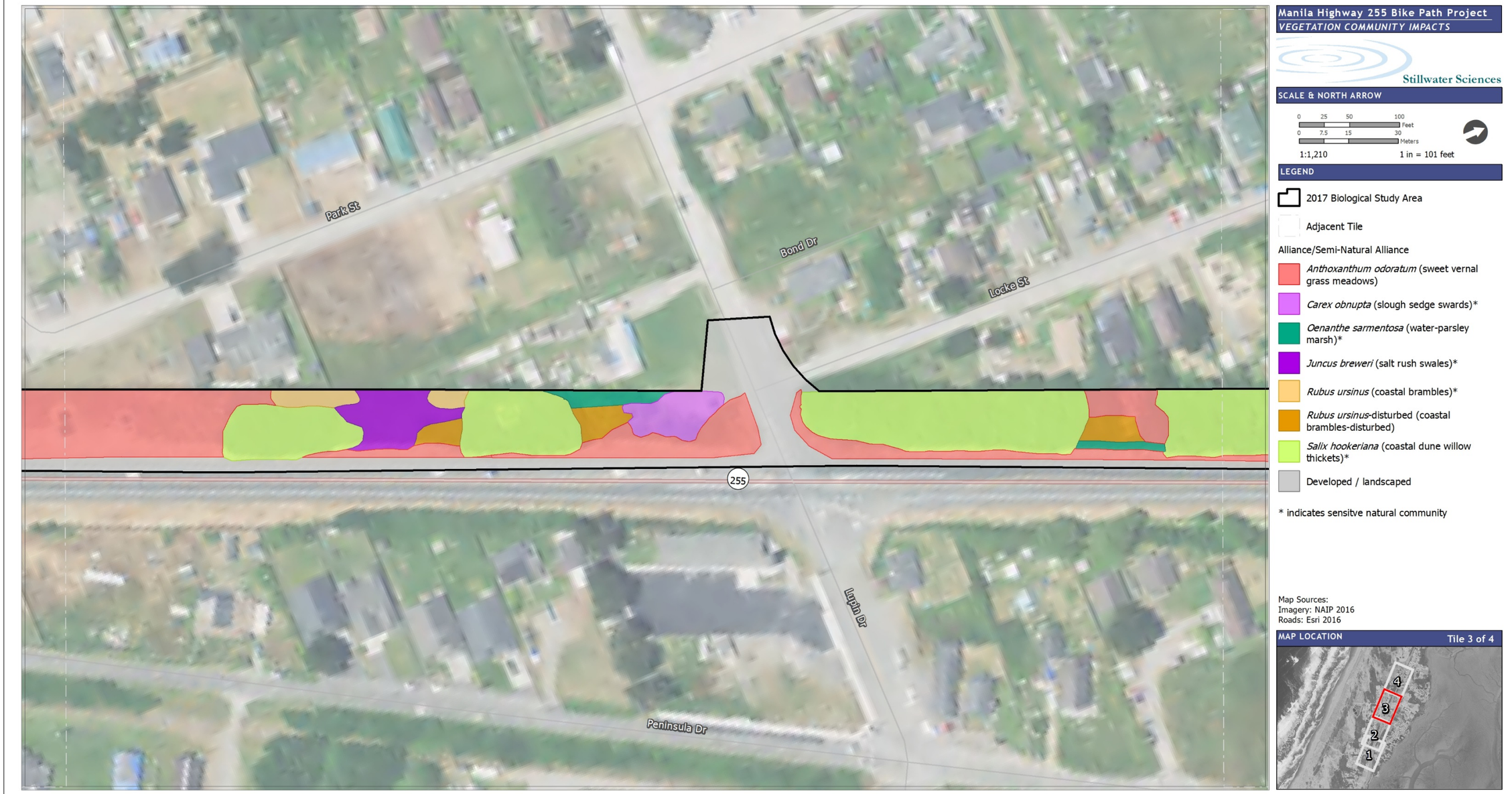


Figure C-3. Vegetation communities in the 2017 and 2018 BSAs. Tile 3 of 4.

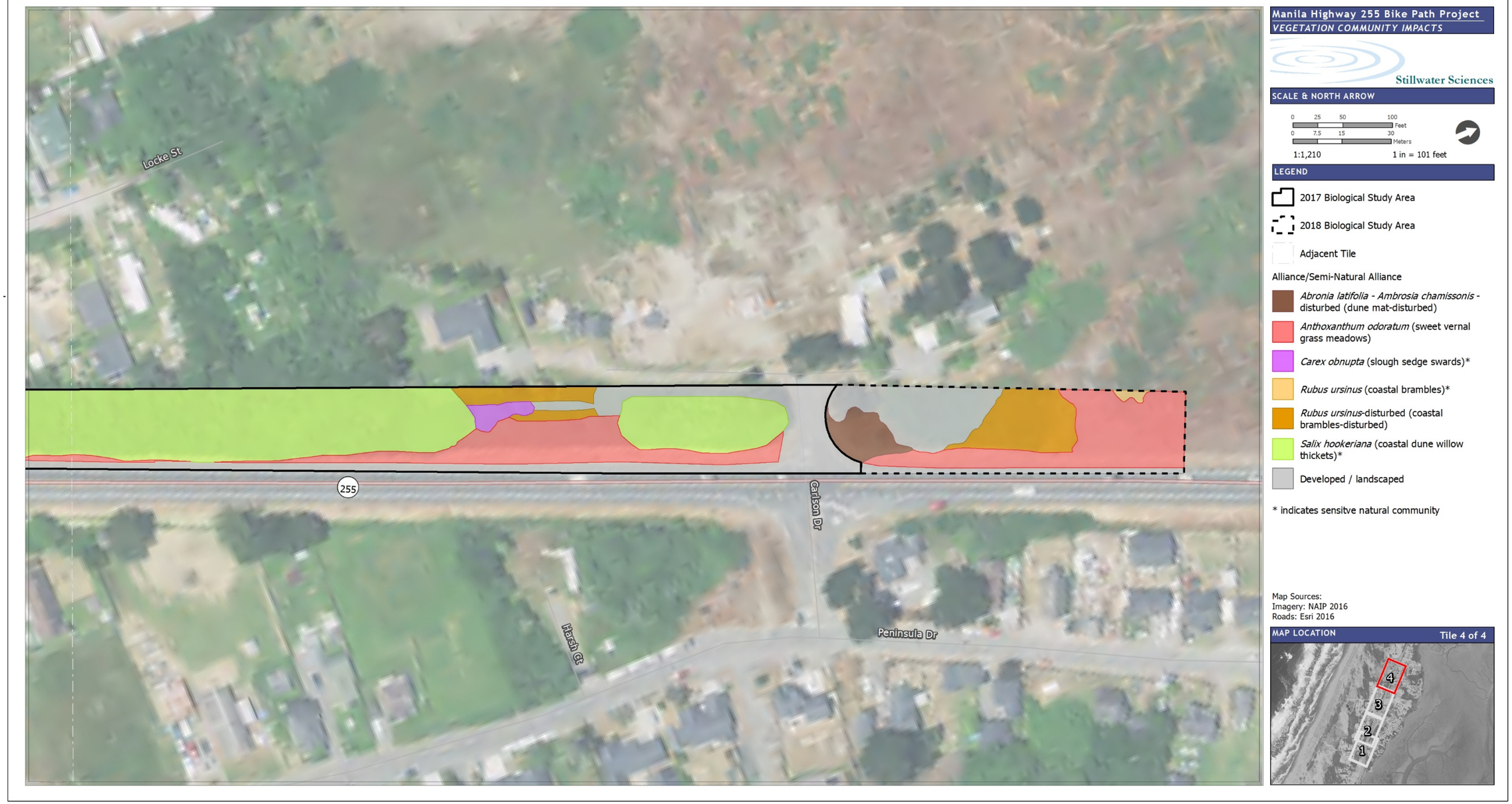


Figure C-4. Vegetation communities in the 2017 and 2018 BSAs. Tile 4 of 4.



Figure C-5. Sensitive natural communities and Project impacts in the 2017 and 2018 BSAs. Tile 1 of 4.



Figure C-6. Sensitive natural communities and Project impacts in the 2017 and 2018 BSAs. Tile 2 of 4.

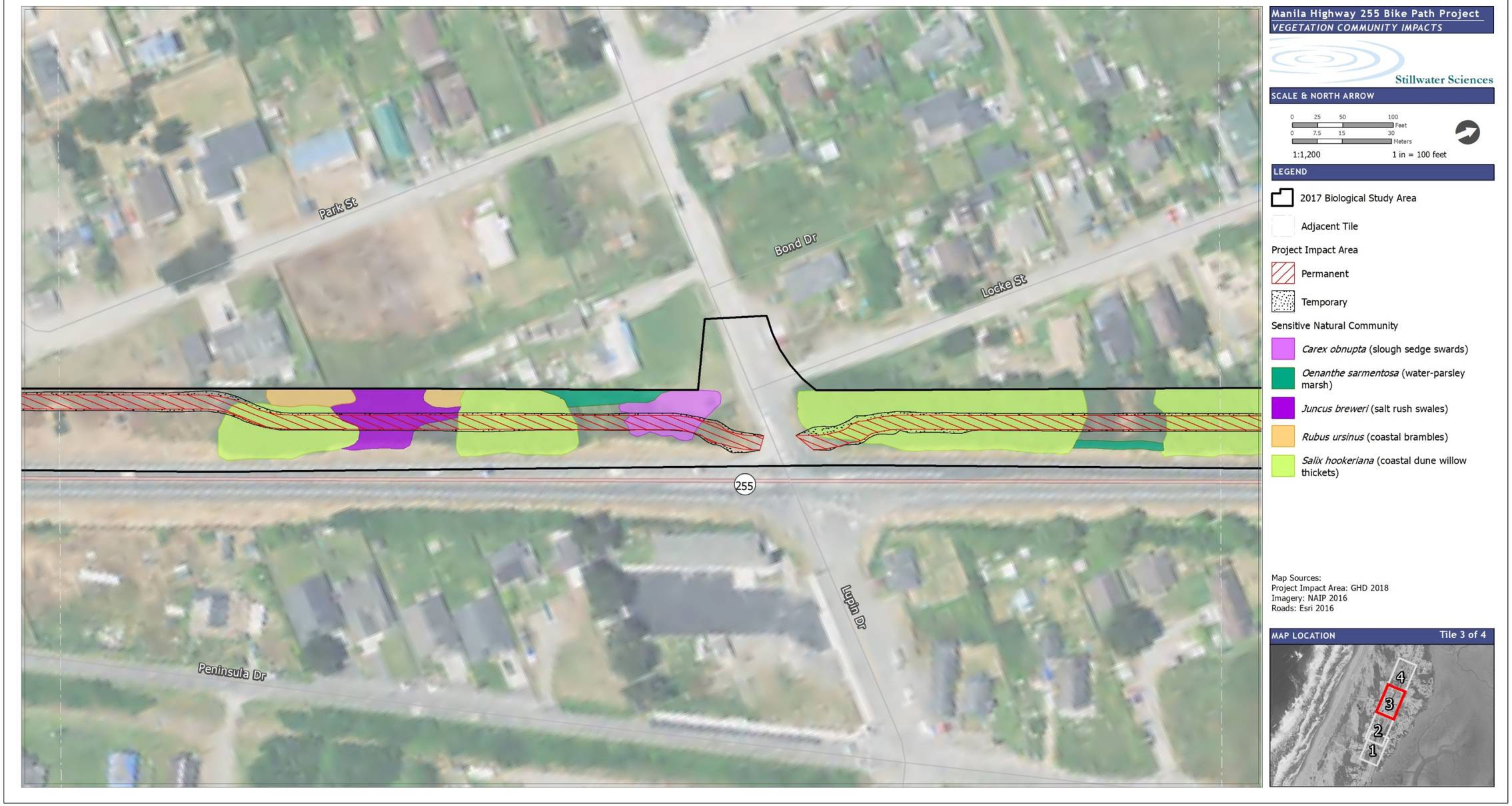


Figure C-7. Sensitive natural communities and Project impacts in the 2017 and 2018 BSAs. Tile 3 of 4.



Figure C-8. Sensitive natural communities and Project impacts in the 2017 and 2018 BSAs. Tile 4 of 4.

Appendix D

Comprehensive List of Plant Species Observed During the 2017 Botanical Surveys Conducted in the 2017 BSA

Table D-1. Comprehensive list of plant species observed during botanical surveys conducted on 26 May and 31 July 2017.

Scientific name	Common name	Native status	Cal-IPC rating
Acacia dealbata	silver wattle	nonnative	Moderate
Agave sp.	agave	nonnative	–
Agrostis stolonifera	creeping bent	nonnative	Limited
Aira caryophyllea	silver hair grass	nonnative	Evaluated Not Listed
Aira praecox	early hair grass	nonnative	Evaluated Not Listed
Allium sp.	onion	-	NA
Amaryllis belladonna	naked ladies	nonnative	–
Anthoxanthum odoratum	sweet vernal grass	nonnative	Moderate
Avena barbata	slender wild oat	nonnative	Moderate
Baccharis pilularis	coyote brush	native	–
Briza maxima	rattlesnake grass, large quaking grass	nonnative	Limited
Briza minor	annual quaking grass, small quaking grass	nonnative	–
Bromus carinatus	California brome	native	NA
Bromus diandrus	ripgut grass	nonnative	Moderate
Bromus hordeaceus	soft chess	nonnative	Limited
Cardamine oligosperma	little western bittercress	native	NA
Cardionema ramosissimum	sandcarpet	native	NA
Carex obnupta	slough sedge	native	NA
Cerastium fontanum subsp. *vulgare*	common mouse-ear chickweed	nonnative	–
Cichorium intybus	chicory	nonnative	–
Clarkia davyi	Davy's clarkia	native	NA
Conium maculatum	poison hemlock	nonnative[1]	Moderate
Convolvulus arvensis	bindweed	nonnative	Evaluated Not Listed
Cortaderia jubata	jubata grass	nonnative[1]	High
Cynodon dactylon	Bermuda grass	nonnative	Moderate
Daucus carota	carrot, Queen Anne's lace	nonnative	Evaluated Not Listed
Dryopteris expansa	spreading wood-fern	native	NA
Eleocharis macrostachya	pale spikerush	native	NA
Epilobium ciliatum	fringed willowherb	native	NA
Equisetum arvense	common horsetail	native	NA
Eriogonum latifolium	seaside wild buckwheat	native	NA
Escallonia rubra	redclaws	nonnative	–
Eschscholzia californica	California poppy	native	NA
Festuca arundinacea	tall fescue	nonnative	Moderate
Festuca bromoides	brome fescue	nonnative	Evaluated Not Listed
Foeniculum vulgare	fennel	nonnative[1]	High

Scientific name	Common name	Native status	Cal-IPC rating
Fragaria chiloensis	beach strawberry	native	NA
Fumaria capreolata	white ramping fumitory	nonnative	–
Geranium dissectum	cutleaf geranium	nonnative	Limited
Hedera helix	English ivy	nonnative[1]	High
Hesperocyparis macrocarpa	Monterey cypress	native	NA
Holcus lanatus	common velvet grass	nonnative	Moderate
Hordeum murinum	wall barley	nonnative	Moderate
Hypochaeris radicata	rough cat's-ear	nonnative	Moderate
Iris pseudacorus	paleyellow iris	nonnative	Limited
Juncus breweri	salt or brewer's rush	native	NA
Juncus bufonius	toad rush	native	NA
Juncus effusus	soft or lamp rush	native	NA
Juncus lescurii	San Francisco rush	native	NA
Juncus patens	spreading rush	native	NA
Lathyrus latifolius	perennial sweet pea	nonnative	Nominated Not Reviewed
Leontodon saxatilis	hairy hawkbit	nonnative	–
Ligustrum ovalifolium	California privet	nonnative	NA
Lonicera japonica	Japanese honeysuckle	nonnative	NA
Lonicera involucrata	twinberry	native	NA
Lotus corniculatus	bird's-foot trefoil	nonnative	Evaluated Not Listed
Lupinus arboreus	yellow bush lupine	nonnative[1]	NA[1]
Lupinus bicolor	miniature lupine	native	NA
Lupinus rivularis	riverbank lupine	native	NA
Melilotus albus	white sweetclover	nonnative	Nominated Not Reviewed
Morella californica	wax myrtle	native	NA
Nasturtium officinale	water cress	nonnative	–
Oenanthe sarmentosa	water parsley	native	NA
Oenothera glazioviana	redsepal evening primrose	nonnative	–
Parentucellia viscosa	yellow glandweed	nonnative	Limited
Pinus contorta subsp. *contorta*	shore pine	native	NA
Pinus radiata	Monterey pine	native	NA
Piperia elegans subsp. *elegans*	coast piperia, elegant piperia	native	NA
Plantago lanceolata	English plantain	nonnative	Limited
Poa annua	annual bluegrass	nonnative	Nominated Not Reviewed
Polystichum munitum	western sword fern	native	NA
Potentilla anserina	silverweed cinquefoil	native	NA
Pyracantha angustifolia	slender or woolly firethorn	nonnative	Limited

Scientific name	Common name	Native status	Cal-IPC rating
Ranunculus repens	creeping buttercup	nonnative	Limited
Raphanus sativus	cultivated radish	nonnative	Limited
Rosa sp.	rose	-	–
Rubus armeniacus	Himalayan blackberry	nonnative[1]	High
Rubus laciniatus	cutleaf blackberry	nonnative	–
Rubus ursinus	California blackberry	native	NA
Rumex acetosella	sheep sorrel	nonnative	Moderate
Rumex crispus	curly dock	nonnative	Limited
Salix hookeriana	coastal willow	native	NA
Salix lasiandra	Pacific willow	native	NA
Salix lasiolepis	arroyo willow	native	NA
Salix sitchensis	Sitka willow	native	NA
Scirpus microcarpus	small-fruited bulrush	native	NA
Scrophularia californica	California figwort	native	NA
Silene gallica	small-flower catchfly	nonnative	–
Solidago spathulata	coast goldenrod	native	NA
Sonchus asper subsp. *asper*	prickly sow thistle	nonnative	Evaluated Not Listed
Spergula arvensis	stickwort, starwort	nonnative	–
Symphyotrichum chilense	Pacific aster	native	NA
Taraxacum officinale	common dandelion	nonnative	Evaluated Not Listed
Trifolium arvense	rabbitfoot clover	nonnative	–
Trifolium dubium	little hop clover	nonnative	–
Trifolium repens	white clover	nonnative	–
Veronica americana	American speedwell	native	NA
Vicia hirsuta	tiny vetch	nonnative	–
Vicia sativa subsp. *nigra*	narrow-leaved vetch	nonnative	–
Vicia sativa subsp. *sativa*	spring vetch	nonnative	–
Vinca major	greater periwinkle	nonnative[1]	Moderate
Zantedeschia aethiopica	calla lily	nonnative	Limited

[1] Listed as nonnative, invasive weed of Humboldt County (Humboldt County Weed Management Area 2010).

Appendix E

Technical Memorandum on Preliminary Approach for Wetland Establishment (Creation) for Manila Highway 255 Bike Path for the County of Humboldt Public Works Department, Eureka, CA

Memorandum

Draft Document – For Discussion Only – Final Version May Differ From Draft

November 16, 2018

To:	Hank Seemann, Deputy Director of Public Works, County of Humboldt		
From:	Amy Livingston (Botanist) and Josh Wolf (Project Manager), GHD Inc.	Tel:	707.443.8326
Subject:	Technical Memorandum on Preliminary Approach for Wetland Establishment (Creation) for Manila Highway 255 Bike Path for the County of Humboldt Public Works Department, Eureka, CA	Job no.	11145210

1 Preliminary Anticipated Wetlands Impacts

The purpose of this memorandum is to provide a proposed approach for wetland establishment within the project area of the Manila Highway 255 Bike Path Project, located in Manila, California. The project area is within the California Coastal Zone and within the area where the County of Humboldt has primary jurisdiction for issuance of a Coastal Development Permit under the Local Coastal Plan.

Based on the limits of grading calculations shown in the attached Preliminary Wetland Creation Plan (Figures 1-6), it is anticipated that approximately 31,165 square feet of impacts to wetlands will occur. The anticipated impacts are preliminary at this stage and subject to change. Impacts to the following types of wetlands are anticipated: palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands. Impacts to 155 square feet of water (consisting of man-made ditch) are also anticipated. Areas of impact for each wetland category are shown in Table 1.

Table 1 Preliminary Anticipated Impacts to Wetlands

Wetland Types	Impact (sf)
Palustrine Emergent	5,050
Palustrine Scrub-Shrub	23,300
One-Parameter Coastal Willow Wetlands	2,660
Waters	155
Total	31,165

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2 Wetland Establishment

Wetlands will be established on-site at a ratio of 1:1. Palustrine emergent wetlands and one-parameter coastal willow wetlands will be established on site and in-kind. Palustrine scrub-shrub wetlands will be established on-site, and mostly in-kind. Palustrine scrub-shrub wetlands will not be established within 15 feet of the existing highway shoulder or within 15 feet of the proposed trail in order to reduce the potential for vegetation encroaching on the facilities, and thus reducing the need for regular vegetation maintenance. Due to these constraints, some of the palustrine scrub-shrub wetlands will be mitigated for with establishment of palustrine emergent wetland. The area to establish for each wetland type is shown in Table 2. For impacts to "waters" an additional 155 square feet of palustrine emergent wetland will be established, and this amount has been added to the palustrine emergent category in Table 2. Table 2 shows the anticipated area of establishment for each wetland category.

Table 2 Preliminary Anticipated Established Wetlands

Wetland Types	Area to Establish (sf)
Palustrine Emergent	9,155
Palustrine Scrub-Shrub	19,350
One-Parameter Coastal Willow Wetlands	2,660
Total	31,165

3 Preliminary Design

To gather preliminary data a GHD scientist visited the site on March 7, 2018 and hand augured holes to measure the depth to ground water. The test pit locations are shown on Figures 1, 2, and 5 and the depth to ground water is shown in Table 3. On March 7, 2018 ground water elevation was estimated to be approximately 14.4 to 15.3 feet. According to data from the National Weather Service automated rain gage in Eureka (Eureka WFO (EKA01)), as of March 13, 2018, Eureka had received 24-inches of rain since the beginning of the water year on October 1, 2018, which was 80% of average annual rainfall for this period (National Weather Service 2018). Thus in a normal year the ground water elevation would likely be higher than that observed by GHD in 2018.

Table 3 Depth to Water Table

Test Pit (WTP = Wetland Test Pit, UTP= Upland Test Pit)	Depth Below Ground Surface (Inches)	Ground Elevation (Feet)	Ground Water Elevation (Feet)
WTP 1	10.5”	15.3”	14.4
UTP 1	42”	18.1”	14.6
UTP 2	32”	17.1”	14.4
UTP 3	34”	18.2”	15.3
UTP 4	22”	17.2”	15.3

*Data for UTP 4 was collected on March 2, 2018

For this preliminary analysis, a wetland bottom elevation of 16.5 feet was assumed. This bottom elevation assumes a seasonally high ground water table of 15.5 feet (0.2 to 1.1 feet higher than that observed by GHD in 2018). The criteria for meeting wetland hydrology as defined by the U.S. Army Corps of Engineers (USACE) is flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days (USACE 2010).

The actual design elevation will be verified by installing piezometers (monitoring wells) to measure groundwater elevations for six to nine weeks after 50% of the average annual rainfall has occurred. The data obtained will help the wetland scientists and designers better understand if hydrology is adequate for on-site wetland establishment, and aid in determining the appropriate wetland bottom design elevation in accordance with USACE requirements.

The attached preliminary plans (Figures 1-6) show proposed locations for wetland establishment. Wetlands will be established in upland locations that are adjacent to existing wetlands that were delineated in 2017 and 20018 (Stillwater Sciences 2018). To establish the wetlands, upland soil will be excavated to the seasonal high water table, which based on the preliminary site investigation could be at a depth of approximately 22-42 inches below ground surface.

4 Maintenance and Drainage

To reduce the likelihood of willow encroachment onto the highway or trail, palustrine scrub-shrub wetland will not be established within 15 feet of the shoulder of the highway, or within 15 feet of the trail. Where wetlands will be established within these locations, palustrine emergent wetlands will be established closest to the road or trail and palustrine scrub-shrub wetland will be established farther away from the road or trail. This design approach substantially decreases maintenance requirements from encroaching willows. The proposed cross sections for wetland establishment are shown in Figure 6. All cut slopes will be established

at 3:1 (horz:vert) and will be covered with a biodegradable erosion control fabric, such as jute mat, to limit the potential for surface erosion.

The establishment of on-site wetlands are not anticipated to result in significant changes to Caltrans current maintenance practices. The wetlands will be self-sustaining and no watering or maintenance activities such as mowing or pruning would be needed to maintain the wetlands. The planting lists do not include any particularly aggressive species, and were chosen based on the predominant vegetation in the adjacent wetlands (Stillwater Sciences 2018). With the exception of the two willow species, no tree species are proposed for planting and vegetative debris (branches, leaves, etc.) along the bicycle path or adjacent road should be minimal. Caltrans will be able to maintain the established willows and other vegetation along the trail and highway after the conclusion of the five-year monitoring period. Normal maintenance activity is expected to include the cutting back of willows on a regular basis using tractor-mounted cutting equipment.

Current drainage patterns at the site involve the highway runoff sheet flowing towards the west where it flows into either uplands or wetlands and infiltrates into the ground, ponds, or is conveyed to highway drainage facilities (e.g. culverts). No significant changes to drainage runoff volumes, peak flows or flow patterns are expected as a result of the project or the establishment of wetlands within Caltrans right-of-way.

5 Wetland Planting Plan

The excavated areas will be planted with the following species found in Tables 4, 5, and 6 using a combination of container stock and/or cuttings (for willow species) or seeds. The proposed planting list for each type of wetland was based on the dominant species composition present in adjacent wetland habitats as described in the wetland delineation report (Stillwater Sciences 2018) and supporting the goal of in-kind establishment. The suggested planting lists follow along with the Wetland Indicator Status as defined by the USACE (Lichvar *et al*. 2016).

Table 4 Planting List Palustrine Emergent Wetlands

Scientific Name	Common Name	USACE Wetland Indicator Status
Scirpus microcarpus	small-fruit bulrush	Obligate Wetland Plant
Carex obnupta	slough sedge	Obligate Wetland Plant
Juncus effusus	soft rush	Facultative Wetland Plant
Oenanthe sarmentosa	Pacific oenanthe	Obligate Wetland Plant
Potentilla anserina subsp. *pacifica*	Pacific silverweed	Obligate Wetland Plant
Juncus breweri	salt rush	Facultative Wetland Plant

Table 5 Planting List Palustrine Scrub-Shrub Wetlands

Scientific Name	Common Name	USACE Wetland Indicator Status
Salix hookeriana	coastal willow	Facultative Wetland Plant
Salix lasiandra	Pacific willow	Facultative Wetland Plant
Morella californica	California wax myrtle	Facultative Wetland Plant
Carex obnupta	slough sedge	Obligate Wetland Plant
Oenanthe sarmentosa	Pacific oenanthe	Obligate Wetland Plant

Table 6 Planting List One Paramter Coastal Willow Wetlands

Scientific Name	Common Name	USACE Wetland Indicator Status
Salix hookeriana	coastal willow	Facultative Wetland Plant

6 Conclusion & Recommendations

Based on the limited data obtained, wetland establishment at the site appears feasible. The preliminary design concept should be verified by adequate groundwater data collection, which will also be used to verify excavation depths and the final grading plan.

We recommend the installation of up to 8 piezometers at representative locations within the project area. Piezometers would be installed by hand auguring to a depth of approximately 8 feet below ground surface, and installing 1-inch PVC pipe (the bottom 12 inches would be perforated and covered with filter fabric). The pipe would be backfilled with sand to within 12 inches of the ground surface, with the top 12 inches sealed with bentonite clay to form a watertight seal. The pipe would extend approximately 12 above ground surface to prevent surface water from entering. After monitoring is complete, all materials would be removed and holes backfilled with sand.

Groundwater elevations are normally monitored for six to nine weeks after 50% of the average annual rainfall has occurred in the water year.

7 References

Lichvar, R. W., D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. The National wetland plant list: 2016 wetland ratings. Phytoneuron 2016-30: 1–17.

National Weather Service Climate Report, National Weather Service Forecast Office, Eureka, CA, 2018. Accessed March 13, 2018: http://w2.weather.gov/climate/index.php?wfo=eka

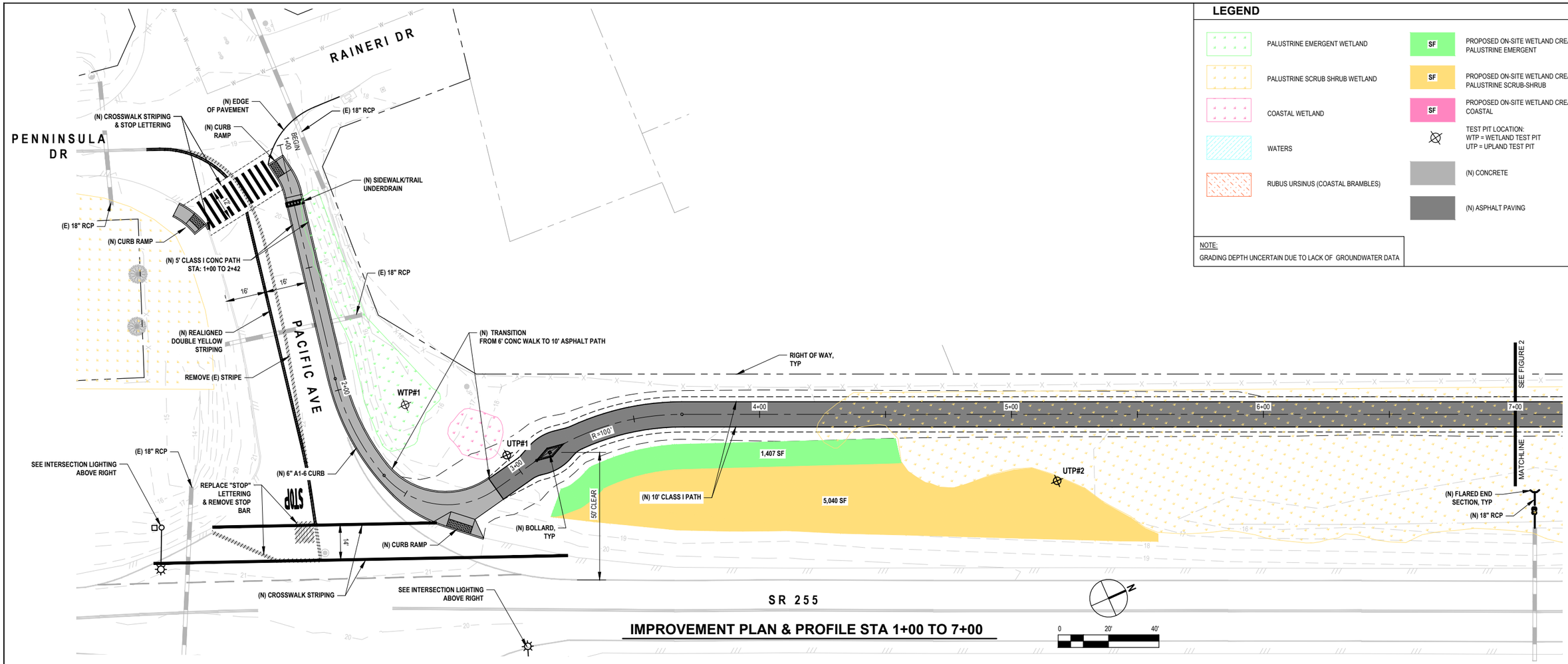
Stillwater Sciences. 2018. Preliminary wetland delineation for the Manila Highway 255 Bike Path Project, Manila, California. Prepared by Stillwater Sciences, Arcata, California for GHD, Eureka California and Humboldt County Department of Public Works, Eureka, California.

USACE, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Corps of Engineers.

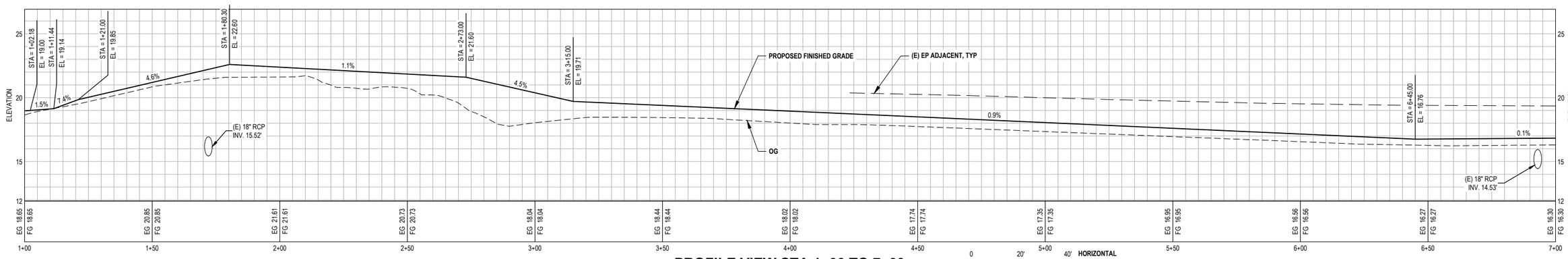
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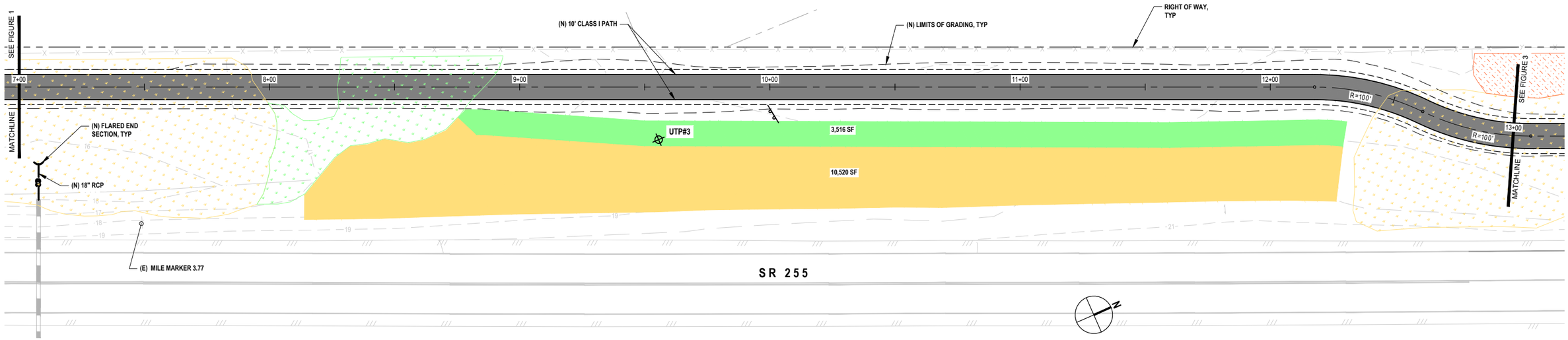
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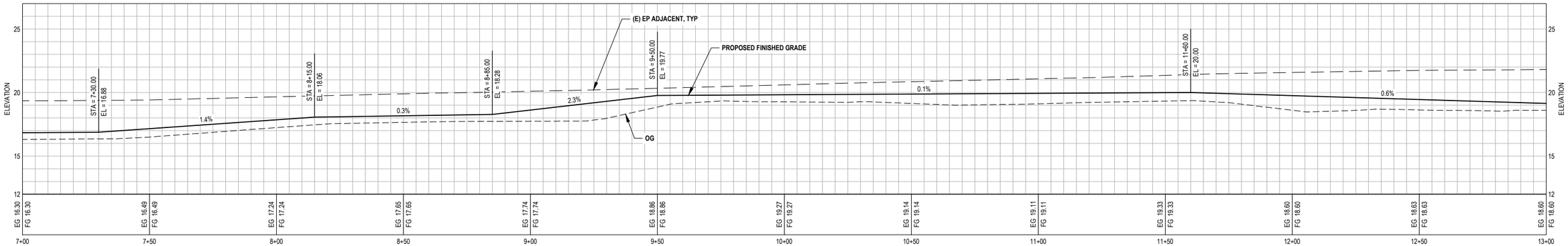
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0 20' 40'

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- PALUSTRINE SCRUB SHRUB WETLAND
- COASTAL WETLAND
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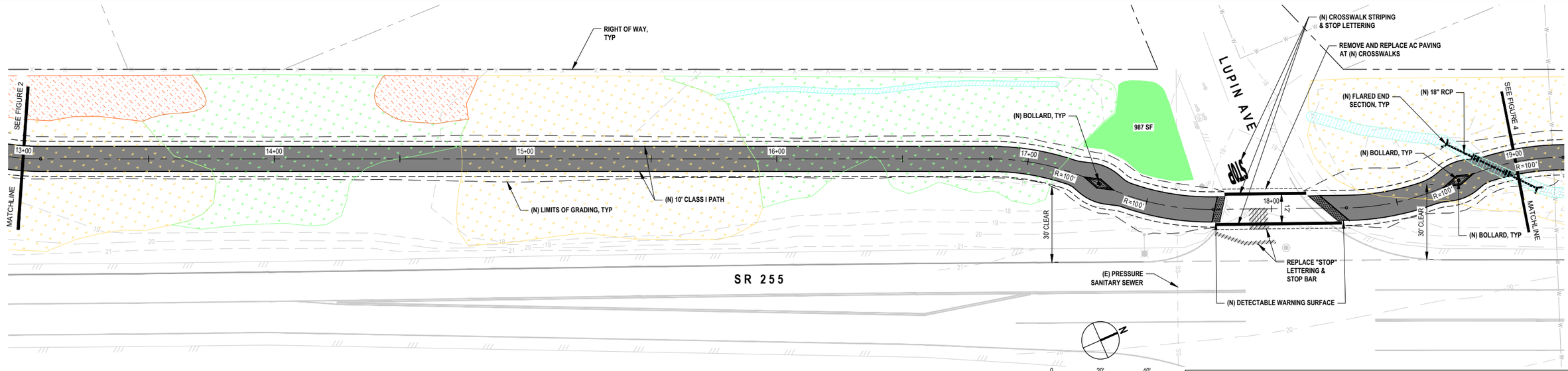
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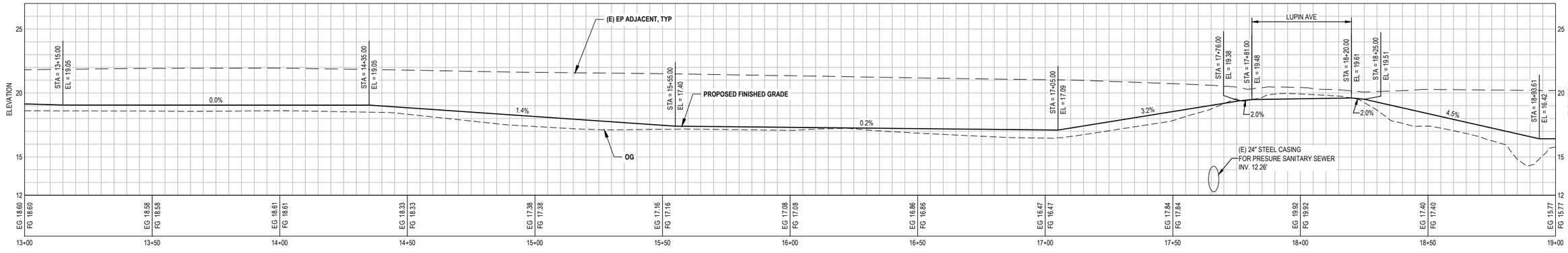


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- (N) ASPHALT PAVING

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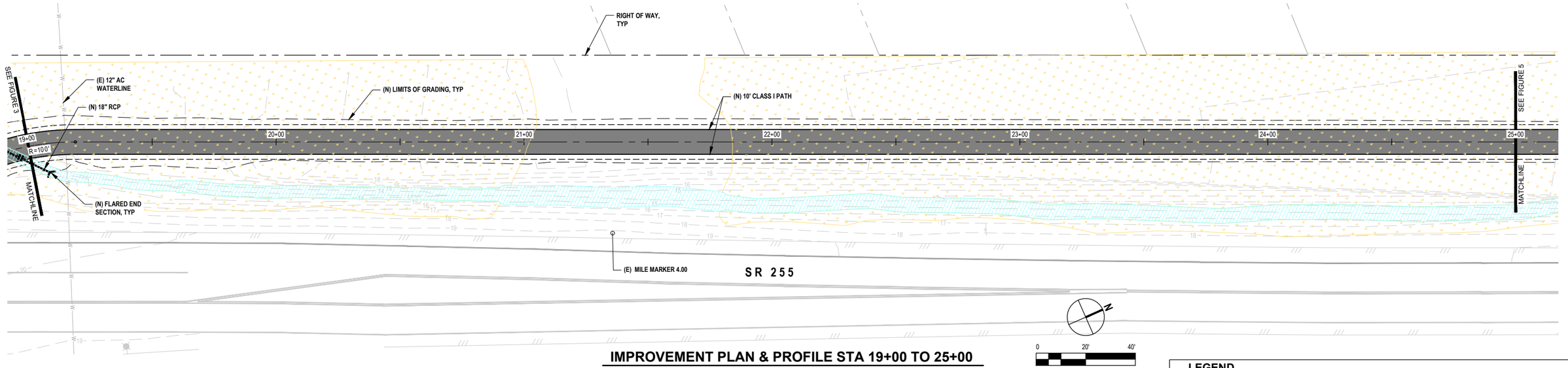
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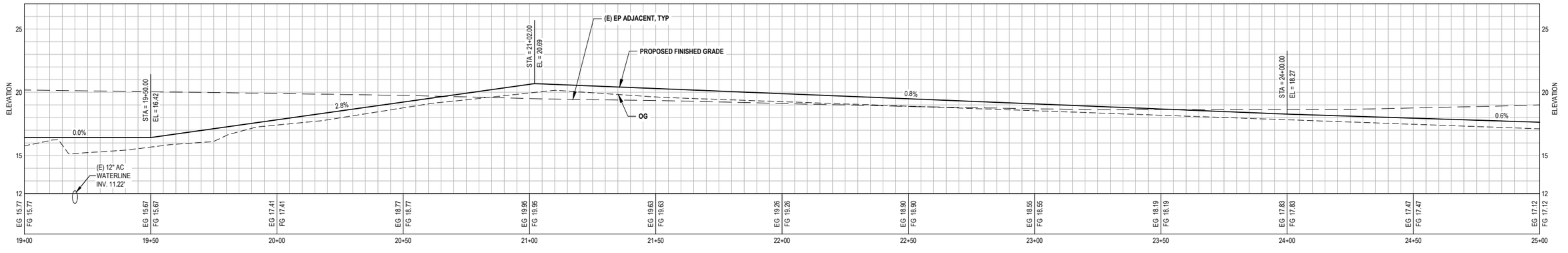


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- (N) ASPHALT PAVING

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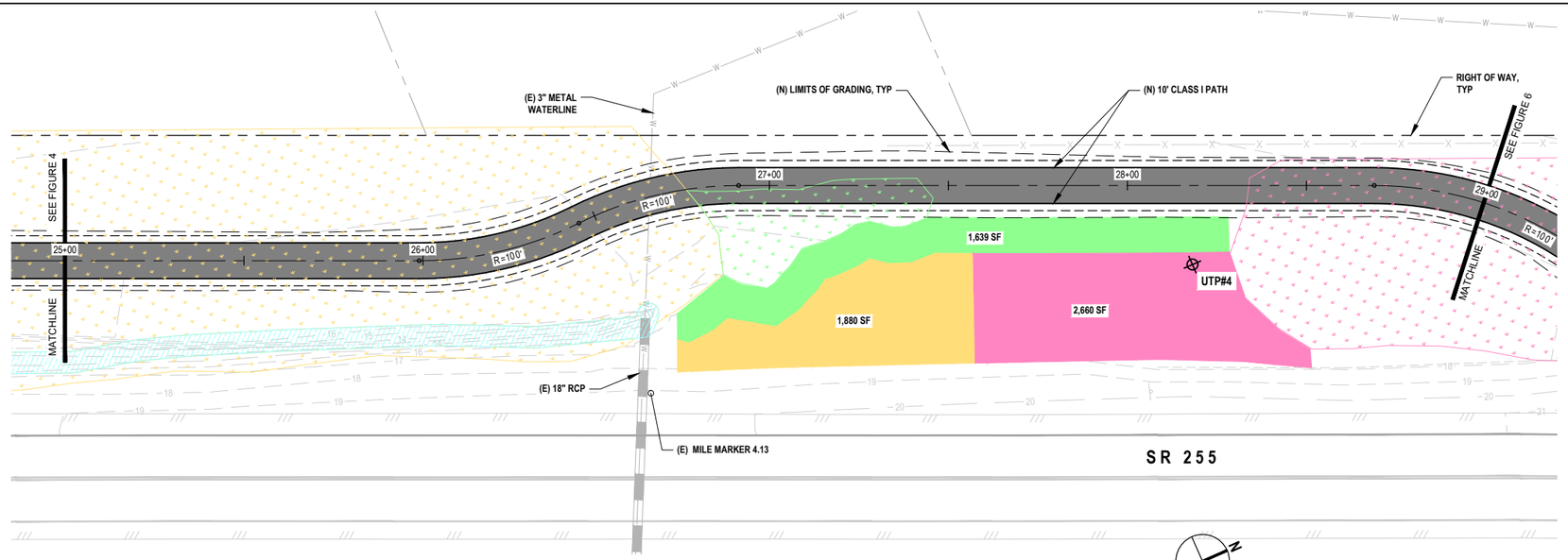
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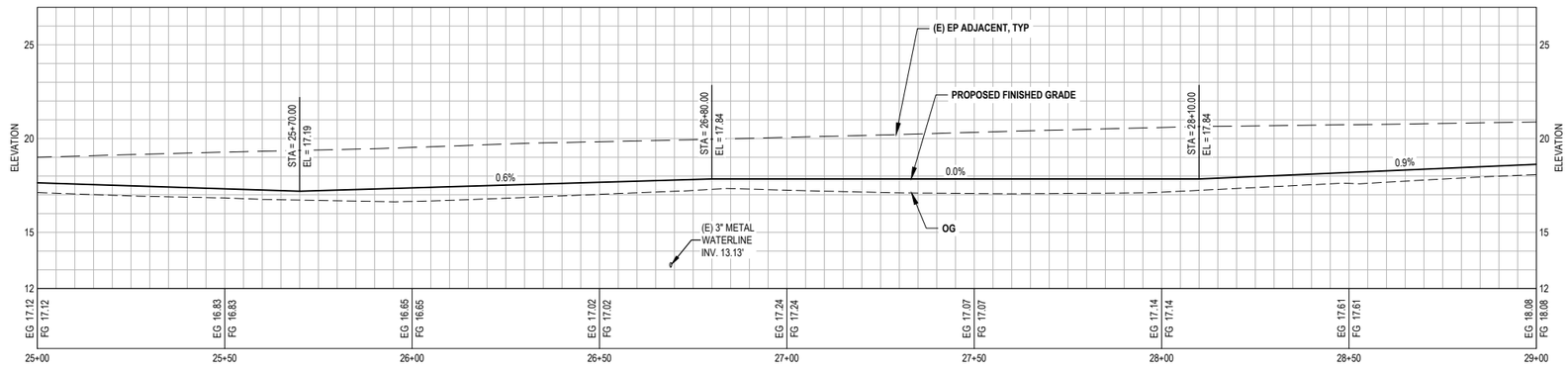


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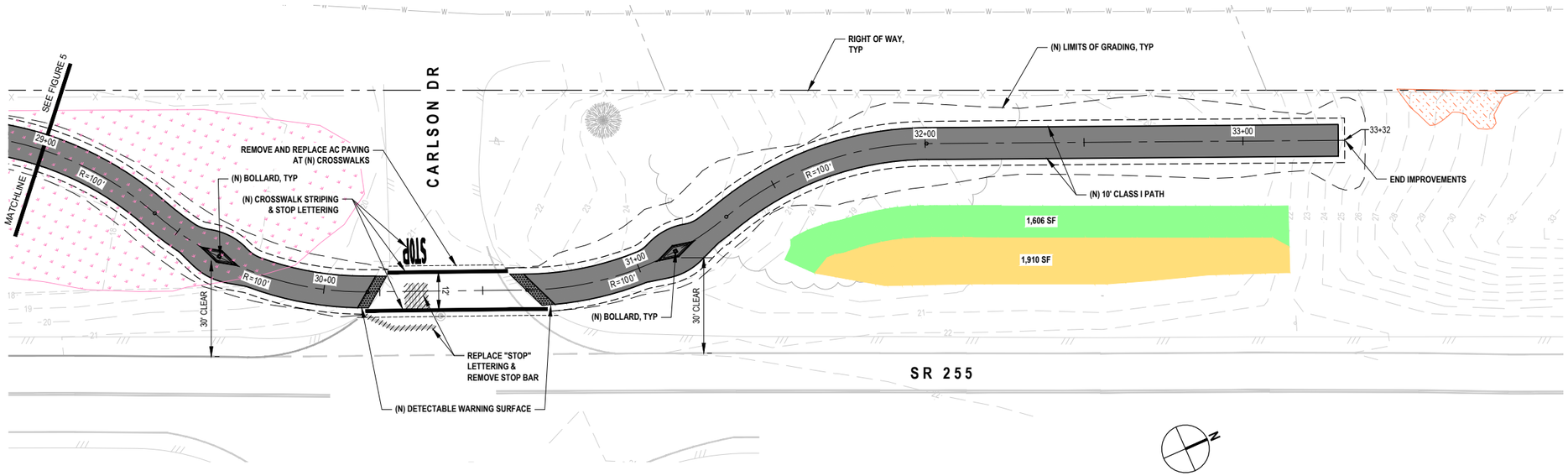
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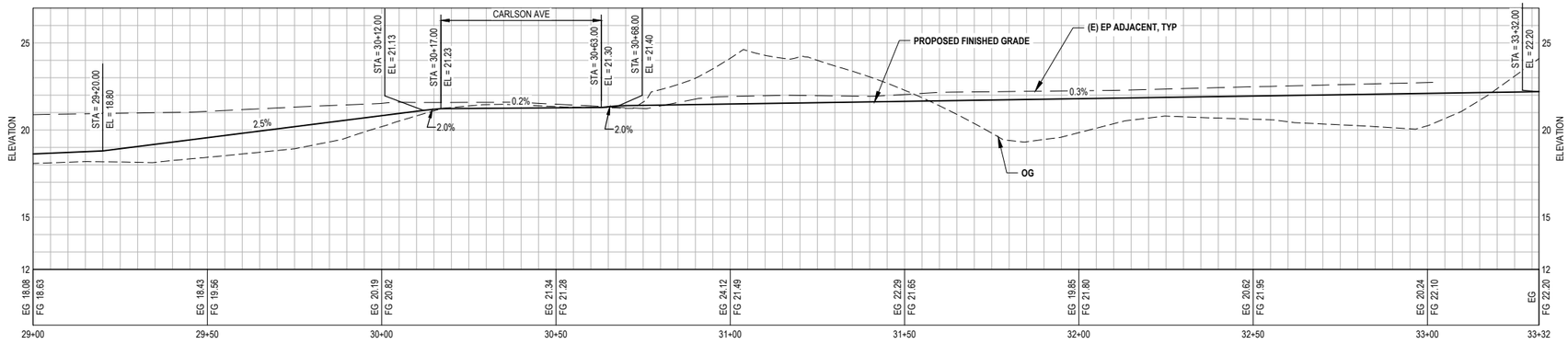
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Sheet No. FIGURE 5
Sheet 5 of 7

Plot Date: 19 November 2018 - 9:47 AM Plotted By: Owen Goode Filename: \\ghdnetghd\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\06-CAD\Figures\Manila Trail_Wetland Mitigation Figures1-7.dwg



IMPROVEMENT PLAN & PROFILE STA 29+00 TO 33+32

0 20' 40'



PROFILE VIEW STA 29+00 TO 33+32

0 20' 40' HORIZONTAL
0 4' 8' VERTICAL

LEGEND

- PALUSTRINE EMERGENT WETLAND
- PALUSTRINE SCRUB SHRUB WETLAND
- COASTAL WETLAND
- WATERS
- RUBUS URSINUS (COASTAL BRAMBLES)
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE EMERGENT
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE SCRUB-SHRUB
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: COASTAL
- TEST PIT LOCATION: WTP = WETLAND TEST PIT UTP = UPLAND TEST PIT
- (N) CONCRETE
- (N) ASPHALT PAVING

NOTE:
GRADING DEPTH UNCERTAIN DUE TO LACK OF GROUNDWATER DATA

PRELIMINARY
NOT FOR CONSTRUCTION

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0 1"

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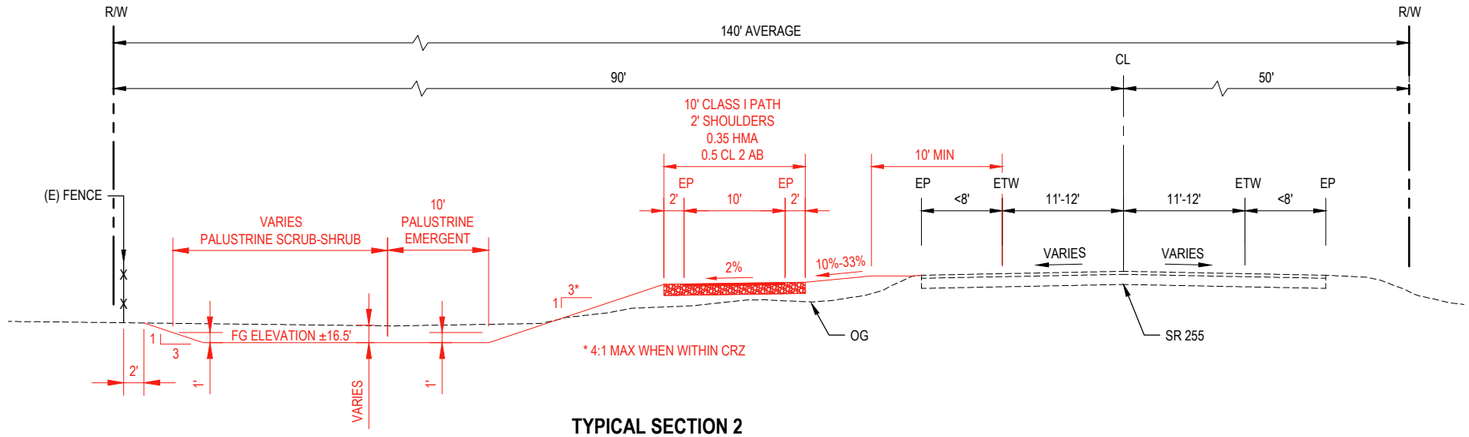
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718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

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Drafting Check	J.WOLF	Design Check	J.WOLF
Project Manager	J.WOLF	Date	11/19/2018
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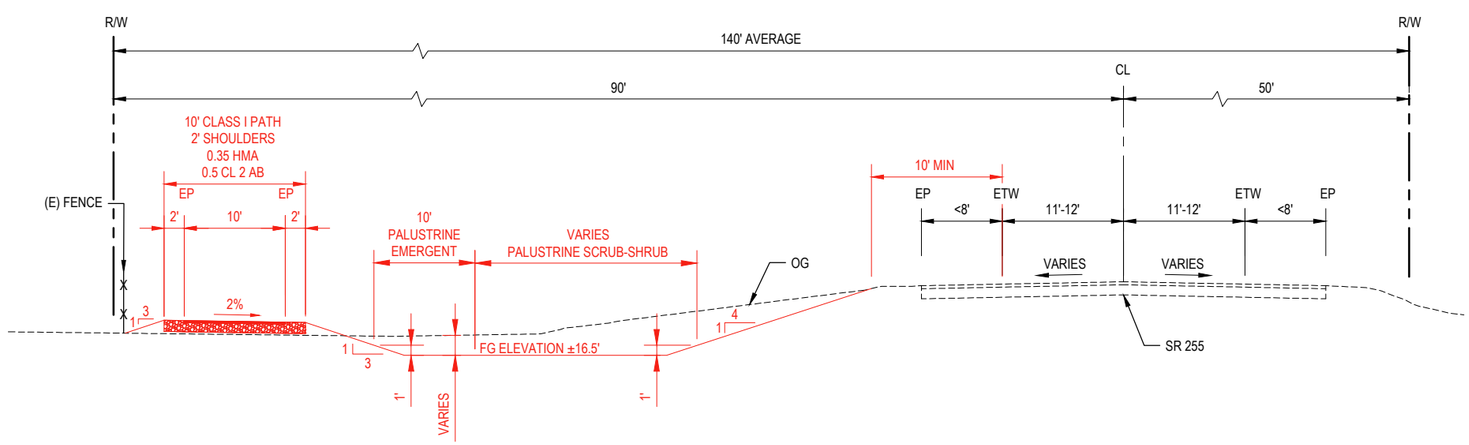
Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 BIKE PATH PROJECT
Title PRELIMINARY WETLAND CREATION PLAN
Project No. 11145210
Original Size ANSI D
Sheet No. FIGURE 6
Sheet 6 of 7

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TYPICAL SECTION 2

NOT TO SCALE



TYPICAL SECTION 3

NOT TO SCALE

NOTE:
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T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

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Project Manager	J.WOLF	Date	11/19/2018
		Scale	AS SHOWN

Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 BIKE PATH PROJECT
Title PRELIMINARY WETLAND CREATION PLAN
Project No. 11145210
Original Size ANSI D
Sheet No. FIGURE 7
Sheet 7 of 7

Plot Date: 19 November 2018 - 1:29 PM Plotted By: Owen Goode Filename: \\ghdnet\ghd\US\Eureka\Projects\11\11145210 Manila Hwy 255 Trail\06-CAD\Figures\Manila Trail_Wetland Mitigation Figures1-7.dwg

Appendix C

Mitigation and Monitoring Program

County of Humboldt
Manila State Route 255
Shared Use Pathway Project

To avoid, reduce or mitigate significant effects resulting from the proposed Project, Public Resources Code Section 21081.6 requires that monitoring and reporting procedures take place through implementation of a Mitigation Monitoring and Reporting Program (MMRP). Table C-1 provides the MMRP for the proposed Project in accordance with those guidelines.

Mitigation, Monitoring, and Reporting Program
County of Humboldt – Manila State Route 255 Shared Use Pathway Project
August 2021

Monitoring Measure	Individual Responsible for Monitoring and/or Reporting	Individual or Organization Responsible for Verifying Compliance	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria	Proposed Funding
7.1 Aesthetics						
AES-1 Replanting of Vegetative Visual Screening Only the minimum required vegetation required for clearing north of Lupin Avenue shall be performed, based on measurements of where the shared use pathway would be located. Lost vegetative visual screening would be replanted in specific locations behind the six residences on Locke Street bordering the Project north of Lupin Avenue. Planting locations would be identified in the final 100% construction plans. Plantings would include combinations of native willow cuttings and/or container stock (1-gallon minimum) for California wax myrtle and/or other appropriate native tree and shrub species that mature in excess of eight feet in height. Planting would occur in the autumn and winter months following completion of construction, concurrent with revegetation of the entire Project Area.	Contractor and County of Humboldt	County of Humboldt	Autumn/Winter following Project construction	Once following revegetation.	County design standards as shown in the final 100% construction designs	County of Humboldt
7.3 Air Quality						
AQ-1 BMPs to Reduce Air Pollution The contractor shall implement the following BMPs during construction: – All exposed surfaces (e.g., staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day or as required by site conditions and current weather patterns. – All visible mud or dirt track-out onto adjacent public roads shall be removed using street sweepers at least once per day, or as needed to alleviate dust and debris on the roadway. – All vehicle speeds on unpaved roads shall be limited to 15 miles per hour, unless the unpaved road surface has been treated for	Contractor	County of Humboldt	During Construction	Check Daily Jobsite compliance as needed.	County standards	County of Humboldt

Monitoring Measure	Individual Responsible for Monitoring and/or Reporting	Individual or Organization Responsible for Verifying Compliance	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria	Proposed Funding
dust suppression with water, rock, wood chip mulch, or other dust prevention measures. – All areas to be paved shall be completed as soon as possible. – Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. – All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.						
7.4 Biological Resources						
BIO-1 Protect Migratory and Nesting Birds Seasonal avoidance of the 14 March – 16 August nesting season would be utilized when feasible, to avoid impacts on native bird species protected under the federal MBTA and California FGC that may be present within the Project Area or adjacent area during construction. Clearing of shrubs or other vegetation for construction or maintenance shall be conducted if possible during the fall and/or winter months from 17 August to 13 March, outside of the active nesting season. If vegetation removal or ground disturbance cannot be confined to work during the non-breeding season, the County would have a qualified ornithologist conduct preconstruction surveys within the vicinity of the Project Area, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The ornithologist shall conduct a minimum of one-day preconstruction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified ornithologist shall conduct a supplemental avian survey before Project work is reinitiated. If an active nest is found, the qualified ornithologist would determine the extent of an appropriate construction free buffer zone to be established around the nest and/or operational restrictions in consultation with the CDFW. Buffer zones would be delineated with flagging and maintained until the nests have fledged or nesting activity has ceased. Buffer sizes would take into account factors such as: (1)	County of Humboldt's Biologist	County of Humboldt	If surveys necessary: Prior to Project construction	If working within the nesting bird season, pre-construction surveys need to occur a maximum of 7 day prior to construction	Federal and State Standards	County of Humboldt

Monitoring Measure	Individual Responsible for Monitoring and/or Reporting	Individual or Organization Responsible for Verifying Compliance	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria	Proposed Funding
highway and other ambient noise levels, (2) distance from the nest to the highway and distance from the nest to the active construction area, (3) noise and human disturbance levels at the construction-site at the time of the survey and the noise and disturbance expected during the construction activity, (4) distance and amount of vegetation or other screening between the construction-site and the nest, and (5) sensitivity of individual nesting species and behaviors of the nesting birds.						
BIO-2 Protect Northern Red-legged Frogs – A qualified biologist would conduct a pre-construction survey of the work zone no more than one week prior to the initiation of ground disturbance. The qualified biologist would relocate any Northern Red-legged Frogs that occur within the work-impact zone to nearby suitable habitat. – Construction within areas of standing water shall be limited to the period of the year between 1 July and 30 October to avoid disturbance to breeding Northern Red-legged Frogs. After 1 July, a qualified biologist would inspect any work areas containing surface water (not including puddles resulting from rainfall) to ensure tadpoles or metamorphosing frogs are not present. If they are present, the qualified biologist would implement a rescue and relocation operation to move any tadpoles or metamorphosing frogs to a safe location in nearby suitable habitat.	County of Humboldt's Biologist	County of Humboldt	Prior to Project construction	A maximum of one week prior to Project construction	Federal and state standards	County of Humboldt
BIO-3 Protect and Implement Compensatory Mitigation for Sensitive Natural Communities and Wetlands Prior to beginning work on the Project, all crew and team members that work on-site would attend an environmental awareness training conducted by a qualified biologist detailing the measures to be implemented to protect sensitive resources. Ground disturbance and vegetation clearing and/or trimming would be confined to the minimum area necessary to facilitate Project implementation. Project activities would be restricted to the Project footprint. A qualified biologist would identify and mark all SNCs in the BSA adjacent to the Project footprint prior to any construction activities. Additionally, the County shall implement the Habitat Mitigation and Monitoring Plan (HMMP; GHD 2020b) prepared for the Project and	County of Humboldt's Biologist	County of Humboldt	Prior to Project construction	Five years of Annual Monitoring	Federal and State standards	County of Humboldt

Monitoring Measure	Individual Responsible for Monitoring and/or Reporting	Individual or Organization Responsible for Verifying Compliance	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria	Proposed Funding
approved by the USACE and North Coast Regional Water Quality Control Board (NCRWQCB) in executed CWA Section 404 and Section 401 authorizations, which includes: – On-site compensatory mitigation for impacts of 0.77 acres at a ratio of 1:1.2, resulting in the creation of 0.92 acres of mitigated wetlands following the specified species lists and planting requirements – Removal of invasive species within the Project Area – Five years of annual monitoring and reporting, including achievement of the following success criteria: • Year 1 – 50% relative cover and no more than 25% of absolute cover of target invasive plants • Year 3 – 60% relative cover and no more than 15% of absolute cover of target invasive plants • Year 5 – 78% relative cover and no more than 15% of absolute cover of target invasive plants • Year 1, 3, and 5 – Native wetland species consist of obligate, facultative, and facultative wet species; no large non-vegetated bare spots (greater than 25%) or erosional areas; no permanent inundation during five-year monitoring period In addition to the on-site wetland creation through implementation of the HMMP, the County shall implement additional compensatory mitigation at a ratio of 4:1 by deducting a credit of 3.1 acres (i.e., 0.77 acres times four) from the existing mitigation bank associated with the off-site CDFW Fay Slough Wildlife Area. The total wetland mitigation ratio is 5.2:1.						
7.5 Cultural Resources						
CR-1 Inadvertent Discovery of Archaeological Material A pre-construction meeting shall be held with field contractors, where the protocols for inadvertent discovery (described below) would be communicated. The following provides means of responding to the circumstance of a significant discovery implementation of the proposed undertaking. If cultural materials for example: chipped or ground stone, historic debris, building foundations, or bone are	County of Humboldt Contractor/ Professional Archaeologist	County of Humboldt	Pre-construction	Throughout ground disturbance	County standards	County of Humboldt

Monitoring Measure	Individual Responsible for Monitoring and/or Reporting	Individual or Organization Responsible for Verifying Compliance	Timing of Initial Action	Frequency and/or Duration of Monitoring	Performance Criteria	Proposed Funding
discovered during ground-disturbance activities, work shall be stopped within 66 feet of the discovery, per the requirements of CEQA (Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Tribal representatives shall be notified.						
CR-2 Inadvertent Discovery of Human Remains If human remains are discovered during project construction, work would stop at the discovery location, within 66 feet, and any nearby area reasonably suspected to overlie adjacent to human remains (PRC, Section 7050.5). The Humboldt County Coroner would be contacted to determine if the cause of death must be investigated. If the Coroner determines that the remains are of Native American origin, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC, Section 5097). The Coroner would contact the NAHC. The descendants or most likely descendants of the deceased would be contacted, and work would not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in PRC, Section 5097.98.	County of Humboldt	County of Humboldt	If human remains are discovered during construction	Throughout ground disturbance	State Standards	County of Humboldt

Appendix D

Site Photos

PHOTOGRAPHS
SR 255 Manila Shared Use Pathway



Photo 1 (December 8, 2014): View facing south of intersection between SR 255 and Pacific Avenue.



Photo 2 (December 8, 2014): View facing south of west side of SR 255 near Pacific Avenue intersection.



Photo 3 (September 27, 2019): View facing north of west side of SR 255 between Pacific Avenue and Lupin Avenue.



Photo 4 (February 12, 2020): View facing north of west side of SR 255 between Lupin Avenue and Carlson Road.



Photo 5 (August 16, 2018): View facing south of west side of SR 255 at Carlson Drive.



Photo 6 (November 9, 2018): View facing north of Project area.



Photo 7 (November 9, 2018): View facing north of Project area.



Photo 8 (November 9, 2018): View facing north of Project area.



Photo 9 (November 9, 2018): View facing south of Project area.



Photo 10 (November 9, 2018): View facing south of Project area.

Appendix E

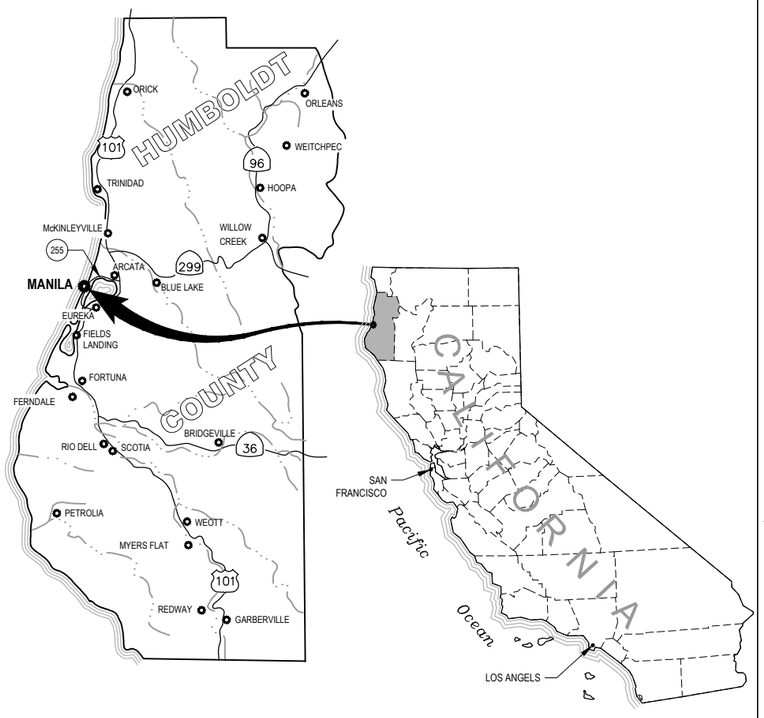
90% Designs

MANILA HIGHWAY 255 SHARED USE PATH

COUNTY OF HUMBOLDT

January 2020

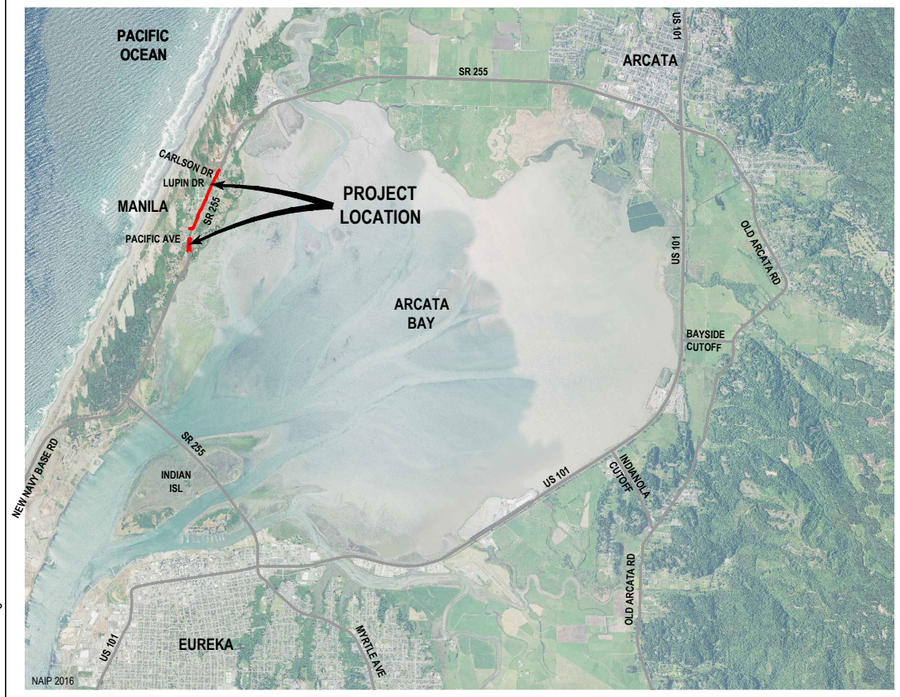
AREA MAP



N

NOT TO SCALE

LOCATION MAP



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SHEET INDEX

Sheet	Sheet No.	Title
GENERAL		
1	G-001	COVER SHEET
2	G-002	SHEET KEY - SURVEY CONTROL - LINE CURVE TABLE
3	G-003	SUMMARY OF QUANTITIES AND PAY LIMITS
4	G-004	TYPICAL SECTIONS
5	G-005	TYPICAL SECTIONS
CIVIL IMPROVEMENTS		
6	C-101	PATH PLAN & PROFILE STA 2+77 TO STA 7+65
7	C-102	PATH PLAN & PROFILE STA 7+65 TO STA 13+75
8	C-103	PATH PLAN & PROFILE STA 13+75 TO STA 20+00
9	C-104	PATH PLAN & PROFILE STA 20+00 TO STA 26+20
10	C-105	PATH PLAN & PROFILE STA 26+20 TO STA 31+50
11	C-106	PATH PLAN & PROFILE STA 31+50 TO STA 33+14.30
12	C-401	SIDEWALK PLAN
CIVIL CONSTRUCTION DETAILS		
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14	C-502	CONSTRUCTION DETAILS
15	C-503	CONSTRUCTION DETAILS
16	C-504	CONSTRUCTION DETAILS
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17	L-001	PLANTING MIX TALBLES AND PERMIT SCHEDULE
18	L-101	WETLAND CREATION AREAS 1 - 3
19	L-102	WETLAND CREATION AREAS 4 - 7
20	L-103	WETLAND CREATION AREA 8
21	L-501	WETLAND CREATION DETAILS
LIGHTING IMPROVEMENTS		
22	E-101	LIGHTING PLAN

APPROVED

HANK SEEMANN
DEPUTY OF PUBLIC WORKS - ENVIRONMENTAL SERVICES
COUNTY OF HUMBOLDT

DATE

90% PLANS

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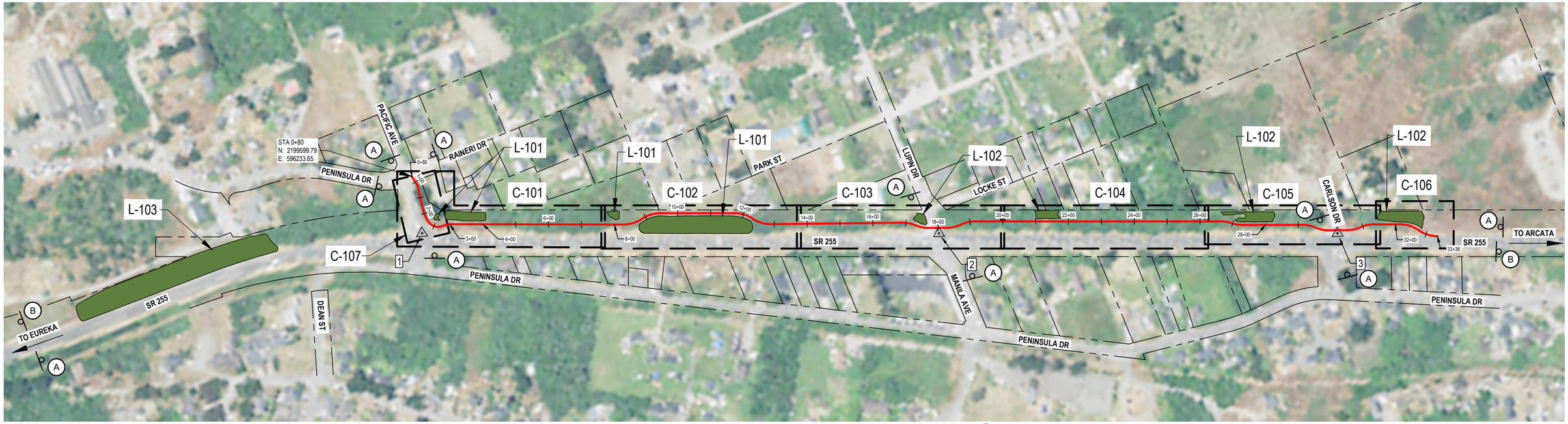
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Project Manager	J.WOLF	Date	1/30/2020
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Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title COVER SHEET
Project No. 11145210
Original Size ANSI D
Sheet No. G-001
Sheet 1 of 22



NOTE: CONSTRUCTION AREA SIGN SPACING NOT SHOWN TO SCALE

SHEET KEY MAP 0 150' 300'

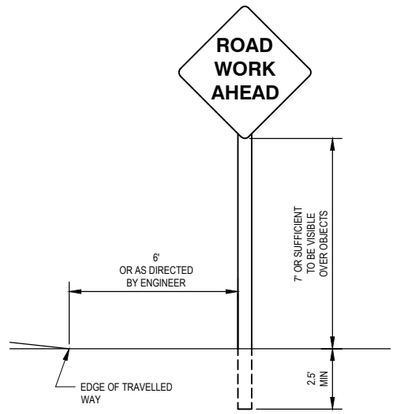
CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2199558.67	5962504.11	20.68	CL MONUMENT WELL
2	2200997.87	5963137.12	19.65	2.5" BRASS DISK
3	2202107.85	5963625.37	20.99	CL MONUMENT WELL

LINE AND CURVE TABLE							
TAG		STATION	NORTHING	EASTING	BEARING	LENGTH	RADIUS
L1	BEGIN END	0+80.00 1+06.91	2199599.97 2199604.08	5962333.65 5962360.24	N81°13'25"E	26.91	
C1	BC EC	1+06.91 1+14.64	2199604.08 2199603.96	5962360.24 5962367.93	S89°09'00"E	7.729	23.00
L2	BEGIN END	1+14.64 1+90.36	2199603.96 2199590.19	5962367.93 5962442.39	S79°31'25"E	75.73	
C2	BC EC	1+90.36 2+33.83	2199590.19 2199592.49	5962442.39 5962485.40	N86°56'25"E	43.470	92.00
C3	BC EC	2+33.83 2+74.14	2199592.49 2199622.15	5962485.40 5962508.92	N38°24'31"E	40.312	33.00
C4	BC EC	2+74.14 3+09.81	2199622.15 2199656.63	5962508.92 5962517.28	N13°37'49"E	35.666	100.00
L3	BEGIN END	3+09.81 8+27.58	2199656.63 2200130.20	5962517.28 5962726.62	N23°50'52"E	517.77	
C5	BC EC	8+27.58 8+87.43	2200130.20 2200188.76	5962726.62 5962733.50	N06°42'07"E	59.851	100.00
C6	BC EC	8+87.43 9+47.10	2200188.76 2200247.15	5962733.50 5962740.30	N06°38'58"E	59.668	100.00
L4	BEGIN END	9+47.10 11+71.76	2200247.15 2200452.79	5962740.30 5962830.76	N23°44'35"E	224.66	

LINE AND CURVE TABLE							
TAG		STATION	NORTHING	EASTING	BEARING	LENGTH	RADIUS
C7	BC EC	11+71.76 12+30.38	2200452.79 2200496.71	5962830.76 5962868.32	N40°32'11"E	58.620	100.00
C8	BC EC	12+30.38 12+90.10	2200496.71 2200541.63	5962868.32 5962906.31	N40°13'19"E	59.717	100.00
L5	BEGIN END	12+90.10 16+89.24	2200541.63 2200908.73	5962906.31 5963063.00	N23°06'51"E	399.14	
C9	BC EC	16+89.24 17+30.42	2200908.73 2200942.26	5963063.00 5963086.40	N34°54'42"E	41.181	100.00
C10	BC EC	17+30.42 17+71.31	2200942.26 2200975.52	5963086.40 5963109.69	N34°59'44"E	40.888	100.00
L6	BEGIN END	17+71.31 18+27.90	2200975.52 2201027.51	5963109.69 5963132.06	N23°16'55"E	56.59	
C11	BC EC	18+27.90 18+71.50	2201027.51 2201070.00	5963132.06 5963140.15	N10°47'29"E	43.600	100.00
C12	BC EC	18+71.50 19+15.91	2201070.00 2201113.23	5963140.15 5963148.57	N11°01'19"E	44.405	100.00
L7	BEGIN END	19+15.91 26+63.89	2201113.23 2201797.90	5963148.57 5963449.74	N23°44'35"E	747.98	
C13	BC EC	26+63.89 26+96.91	2201797.90 2201825.41	5963449.74 5963467.74	N33°12'10"E	33.021	100.00

LINE AND CURVE TABLE							
TAG		STATION	NORTHING	EASTING	BEARING	LENGTH	RADIUS
C14	BC EC	26+96.91 27+30.13	2201825.41 2201853.09	5963467.74 5963485.82	N33°08'51"E	33.215	100.00
L8	BEGIN END	27+30.13 29+12.33	2201853.09 2202020.02	5963485.82 5963558.86	N23°37'56"E	182.21	
C15	BC EC	29+12.33 29+53.53	2202020.02 2202053.35	5963558.86 5963582.58	N35°26'07"E	41.201	100.00
C16	BC EC	29+53.53 29+95.47	2202053.35 2202087.35	5963582.58 5963606.59	N35°13'34"E	41.932	100.00
L9	BEGIN END	29+95.47 30+51.61	2202087.35 2202138.95	5963606.59 5963628.72	N23°12'49"E	56.15	
C17	BC EC	30+51.61 30+92.85	2202138.95 2202179.09	5963628.72 5963636.81	N11°23'57"E	41.240	100.00
C18	BC EC	30+92.85 31+35.02	2202179.09 2202220.08	5963636.81 5963645.27	N11°39'50"E	42.164	100.00
L10	BEGIN END	31+35.02 32+13.84	2202220.08 2202292.24	5963645.27 5963677.01	N23°44'35"E	78.83	
C19	BC EC	32+13.84 32+74.80	2202292.24 2202337.39	5963677.01 5963716.54	N41°12'17"E	60.953	100.00
C20	BC EC	32+74.80 33+35.66	2202337.39 2202382.46	5963716.54 5963756.04	N41°13'48"E	60.865	100.00

NOTE:
SEE PLAN AND PROFILE SHEETS FOR CORRESPONDING CALL-OUTS FOR THESE LINE AND CURVE TABLES.



TYPICAL STATIONARY CONSTRUCTION AREA SIGNS

CONSTRUCTION SIGN NOTES:

1. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD) AND CALTRANS 2018 STANDARD PLANS.
2. SIGN SPACING PER CALIFORNIA MUTCD.
3. EXACT SIGN LOCATIONS AND POSITIONS TO BE APPROVED BY THE ENGINEER.
4. ALL WARNING SIGNS SHALL HAVE A BLACK LEGEND AND BORDER ON ORANGE BACKGROUND.
5. ALTERNATIVE POST CONFIGURATION TO BE APPROVED BY ENGINEER.
6. MAINTAIN ALL SIGNS THROUGHOUT DURATION OF CONSTRUCTION.
7. PROVIDE FLAGGERS AS REQUIRED TO ACCOMMODATE CONSTRUCTION.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS					
SIGN LABEL	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER & POST SIZE	NO. OF SIGNS
A	W20-1	36"x36"	ROAD WORK AHEAD	(1) 4"x4"	10
B	G20-2	36"x18"	END ROAD WORK	(1) 4"x4"	2

LEGEND

- TRAIL AND SIDEWALK ALIGNMENT
- WETLAND CREATION AREAS

90% PLANS
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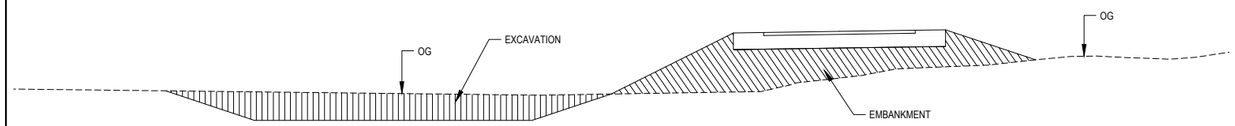
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GHD Inc.
718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

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Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title SHEET KEY - SURVEY CONTROL - LINE CURVE TABLE
Project No. 11145210
Original Size ANSI D
Sheet No. G-002
Sheet 2 of 22

Plot Date: 30 January 2020 - 3:17 PM Plotted By: Owen Goode Filename: \\ghdnet\ghd\US\Eureka\Projects\111\11145210 Manila Hwy 255 Trail\06-CAD\Sheets\11145210_02_G002.dwg



PAY LIMITS

NOT TO SCALE

ITEM NO.	ITEM CODE		ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
1	50000		Construction Surveys	LS	1
2	70030		Lead Compliance Plan	LS	1
3	120090		Construction Area Signs	LS	1
4	120100		Traffic Control System	LS	1
5	130100		Job Site Management	LS	1
6	130610		Temporary Check Dam	LF	200
7	130640		Temporary Fiber Roll	LF	4500
8	130680		Temporary Silt Fence	LF	4500
9	130900		Temporary Concrete Washout	LS	1
10	170103		Clearing and Grubbing (LS)	LS	1
11	190101	F	Roadway Excavation	CY	7123
12	198010	F	Imported Borrow (CY)	CY	1895
13	198050	F	Embankment	CY	1895
14	204008		Plant (Group H)	EA	119
15	204020		Plant (Group P)	EA	1861
16	204035		Plant (Group A)	EA	22
17	210212		Dry Seed (SQFT)	SQFT	43560
18	210280		Rolled Erosion Control Product (Blanket)	SQFT	21300
19	210300		Hydromulch	SQFT	43560
20	210420		Straw	SQFT	43560
21	210431		Hydroseed (Trail Embankment)	SQFT	21300
22	260203		Class 2 Aggregate Base (CY)	CY	905
23	390132		Hot Mix Asphalt (Type A)	TON	820
24	510057	F	Structural Concrete, Sidewalk Retaining Footing	SQFT	202
25	510055	F	Structural Concrete, Boardwalk	CY	23
26	641114		24" Plastic Pipe (HDPE Type S)	LF	45
27	703235		Sidewalk Underdrain	EA	1
28	705315		24" Alternative Flared End Section	EA	2
29	723085		Rock Slope Protection (60 lb, Class II, Method B) (TON)	TON	10
30	730011		Minor Concrete (A1-6 Curb) (LF)	LF	215
31	730012		Minor Concrete (6" Warning Curb) (LF)	LF	267
32	730070		Detectable Warning Surface	SQFT	226
33	731522		Minor Concrete (Sidewalk) (SF)	SQFT	1267
34	731624		Minor Concrete (Curb Ramp) (SF)	SQFT	368
35	750503		Removable Metal Bollard	EA	4
36	760015		Remove Piezometer	EA	8
37	760100		Piezometer	EA	8
38	800321		Chain Link Fence (Type CL-4, Vinyl-Clad)	LF	120
39	820590		Relocate Roadside Sign-One Post	EA	4
40	820840		Roadside Sign - One-Post	EA	13
41	820855		Roadside Sign - Two-Post (Interpretative Sign)	EA	1
42	840504		4" Thermoplastic Traffic Stripe	LF	350
43	840505		6" Thermoplastic Traffic Stripe	LF	430
44	840515		Thermoplastic Pavement Marking	SQFT	680
45	846035		Remove Thermoplastic Pavement Marking	SQFT	470
46	870200		Lighting System	LS	1
47	999990		Mobilization	LS	1

QUANTITIES

NOT TO SCALE

SIGN SCHEDULE

LOCATION (STA)	OFFSET	SIGN CODE	SIGN MESSAGE / DESCRIPTION	PANEL SIZE (L" x H")
2+57.50	6' RT	R1-1	STOP	18" x 18"
3+11	10' RT	R5-3	NO MOTOR VEHICLES	24" x 24"
3+73	10' LT	M4-6	END	24" x 12"
		D11-1	BIKE ROUTE	24" x 18"
8+66	17' RT	CUSTOM	INTERPRETIVE	36" x 24"
17+35	10' LT	R5-3	NO MOTOR VEHICLES	24" x 24"
17+67	10' RT	R1-1	STOP	18" x 18"
18+29	8' LT	R1-1	STOP	18" x 18"
18+67	10' RT	R5-3	NO MOTOR VEHICLES	24" x 24"
29+00	10' RT	M4-6	END	24" x 12"
		D11-1	BIKE ROUTE	24" x 18"
29+58	10' LT	R5-3	NO MOTOR VEHICLES	24" x 24"
29+88	10' RT	R1-1	STOP	18" x 18"
30+60	7' LT	R1-1	STOP	18" x 18"
30+91	7' RT	R5-3	NO MOTOR VEHICLES	24" x 24"
33+08	10' LT	R5-3	NO MOTOR VEHICLES	24" x 24"

SIGN RELOCATION SCHEDULE

RELOCATE FROM (STA)	RELOCATE TO (STA / OFFSET)	SIGN CODE	SIGN MESSAGE / DESCRIPTION	PANEL SIZE (L" x H")
1+17	1+12 / 5' LT		MANILA DUNES COMMUNITY CENTER	
1+77	1+77 / 5' LT	R2-1	SPEED LIMIT 25 MPH	
17+70	17+76 / 10' LT	R1-1	STOP	36" x 36"
32+81	33+00 / 11 ' RT	CANT FIND :(	HAZARD ZONE	

90% PLANS

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718 Third Street
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Client COUNTY OF HUMBOLDT

Project MANILA HIGHWAY 255 SHARED USE PATH

Title SUMMARY OF QUANTITIES AND PAY LIMITS

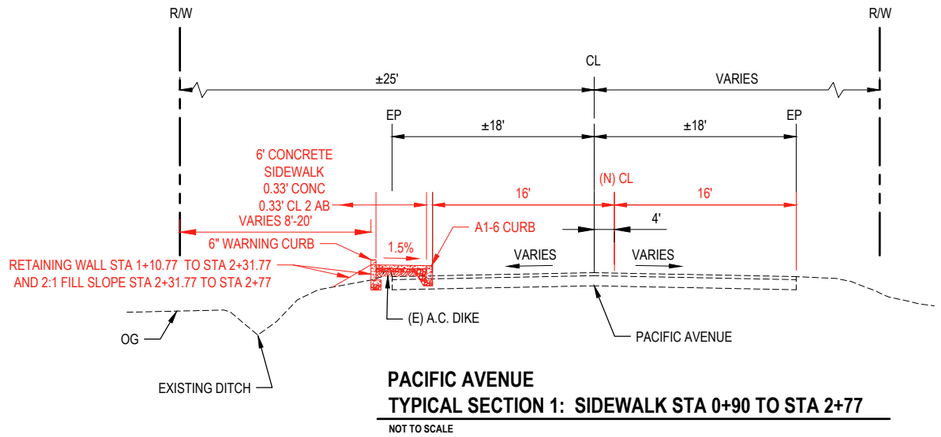
Project No. 11145210

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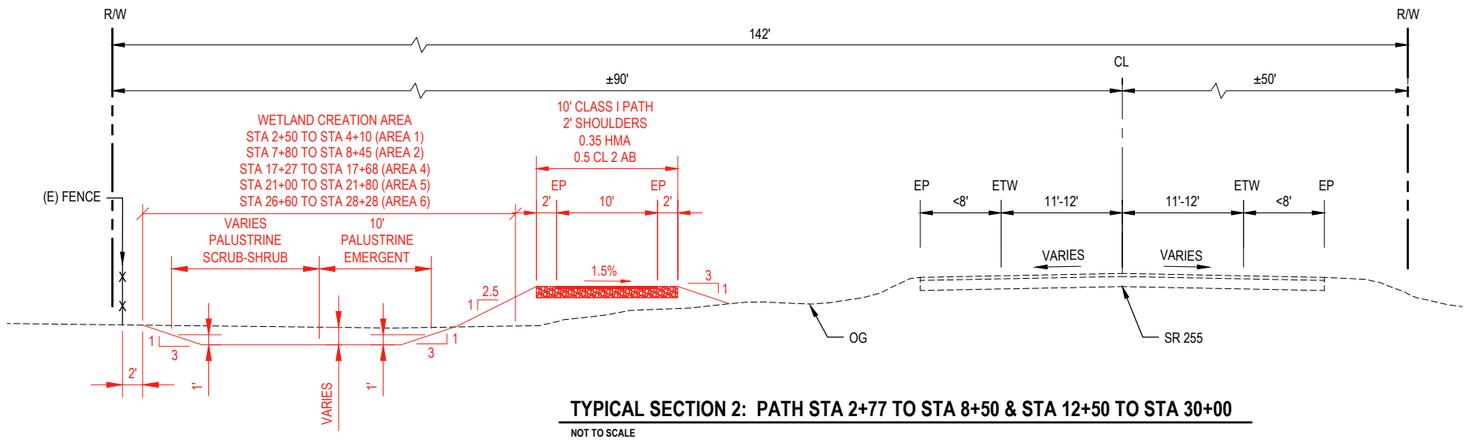
Sheet No. G-003

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PACIFIC AVENUE
TYPICAL SECTION 1: SIDEWALK STA 0+90 TO STA 2+77
NOT TO SCALE



TYPICAL SECTION 2: PATH STA 2+77 TO STA 8+50 & STA 12+50 TO STA 30+00
NOT TO SCALE

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COUNTY OF HUMBOLDT
The Home of the Redwoods

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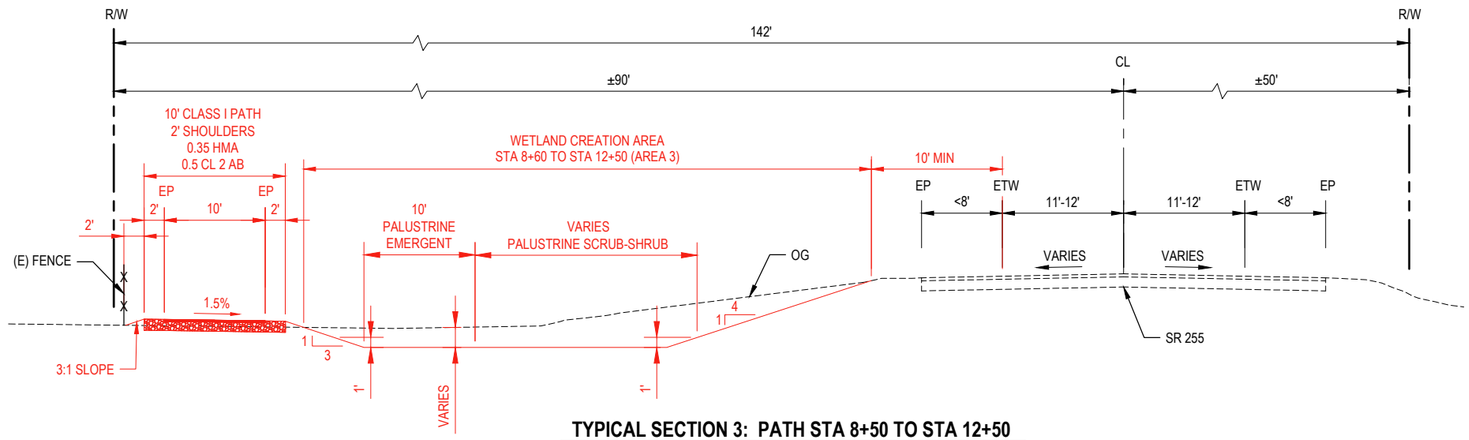
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No. C70358
CIVIL
STATE OF CALIFORNIA

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718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

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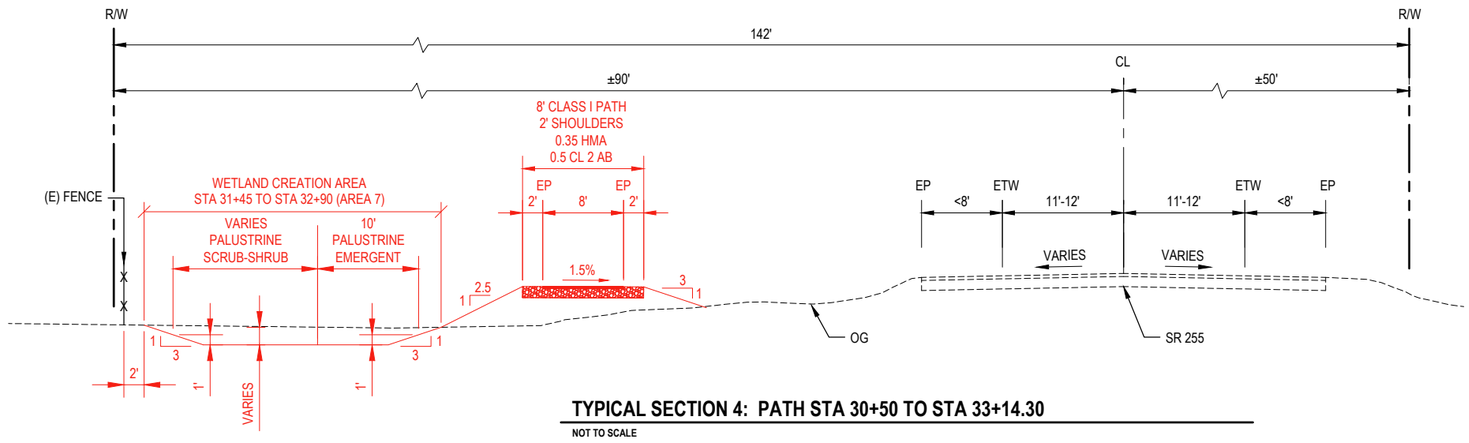
Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title TYPICAL SECTIONS
Project No. 11145210
Original Size ANSI D
Sheet No. G-004
Sheet 4 of 22

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TYPICAL SECTION 3: PATH STA 8+50 TO STA 12+50

NOT TO SCALE



TYPICAL SECTION 4: PATH STA 30+50 TO STA 33+14.30

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JOSHUA A. WOLF
No. C70358
CIVIL
STATE OF CALIFORNIA

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718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330 W www.ghd.com

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Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title TYPICAL SECTIONS

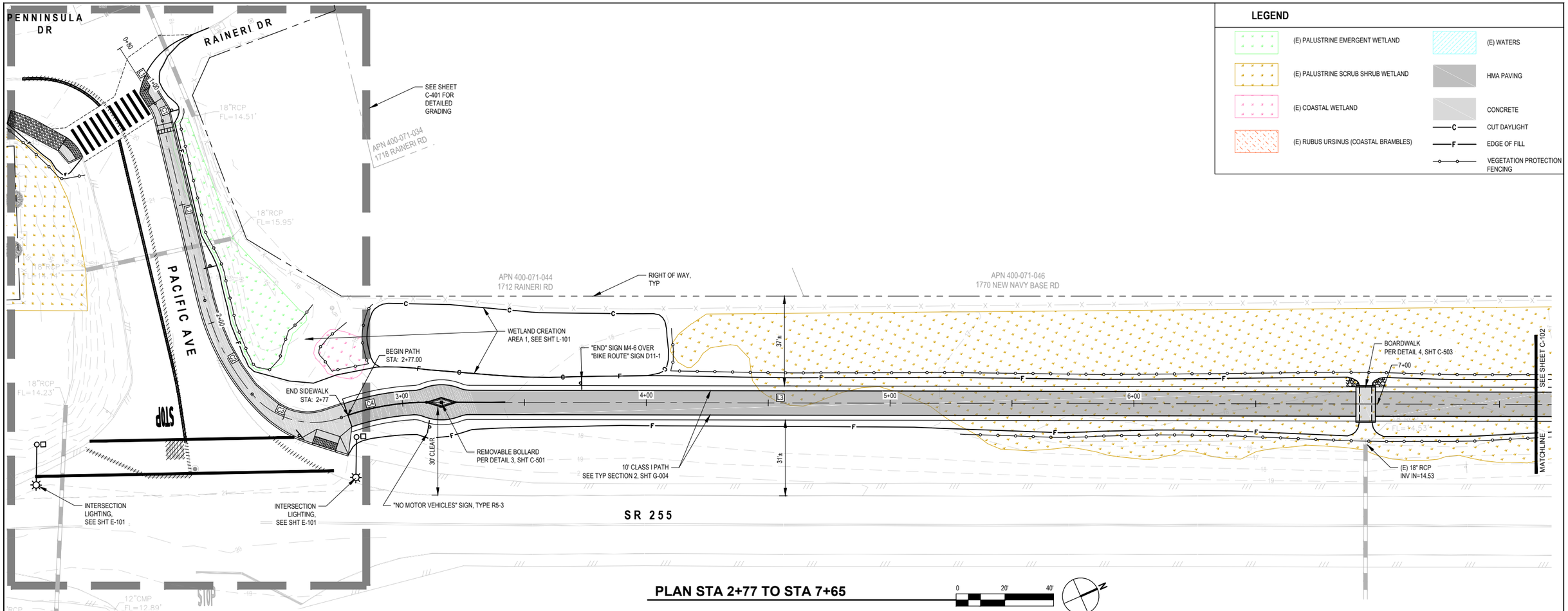
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Original Size ANSI D

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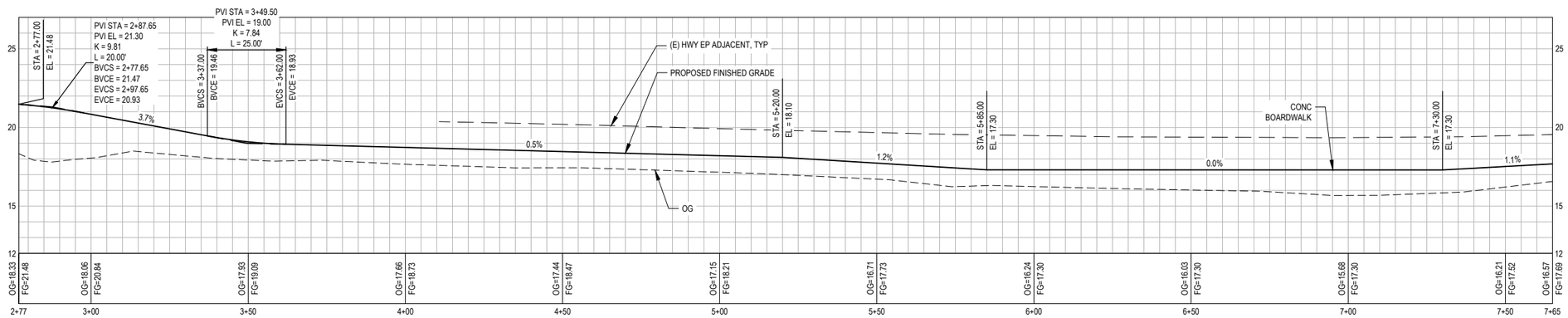
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PLAN STA 2+77 TO STA 7+65

0 20' 40'



PROFILE STA 2+77 TO STA 7+65

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

90% PLANS

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Project MANILA HIGHWAY 255 SHARED USE PATH

Title PATH PLAN & PROFILE STA 2+77 TO STA 7+65

Project No. 11145210

Original Size ANSI D

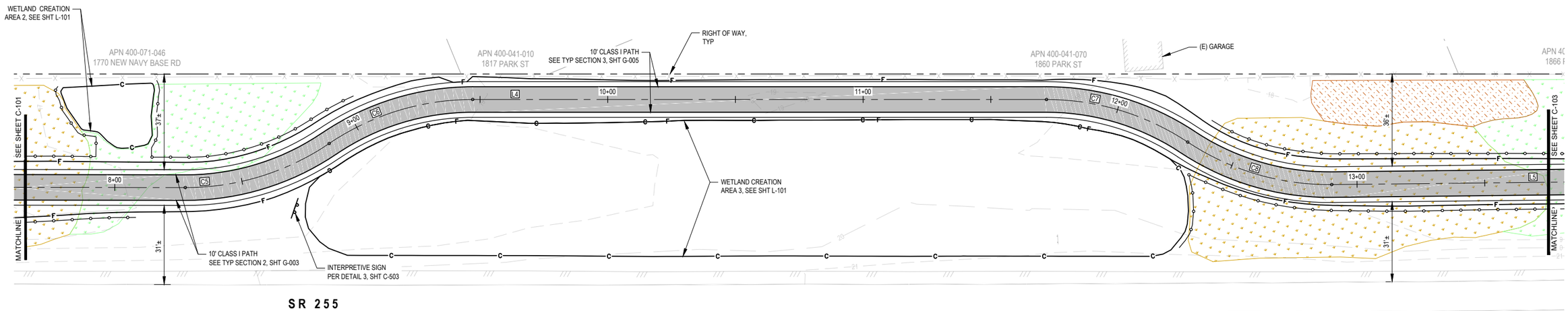
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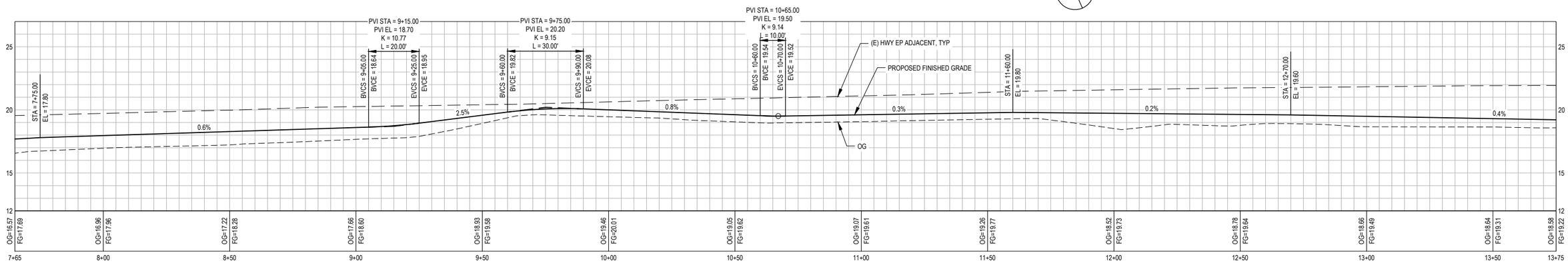
LEGEND

- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- HMA PAVING
- CONCRETE
- C — CUT DAYLIGHT
- F — EDGE OF FILL
- VEGETATION PROTECTION FENCING



PLAN STA 7+65 TO STA 13+75

0 20' 40'



PROFILE STA 7+65 TO STA 13+75

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

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Project MANILA HIGHWAY 255 SHARED USE PATH

Title PATH PLAN & PROFILE STA 7+65 TO STA 13+75

Project No. 11145210

Original Size ANSI D

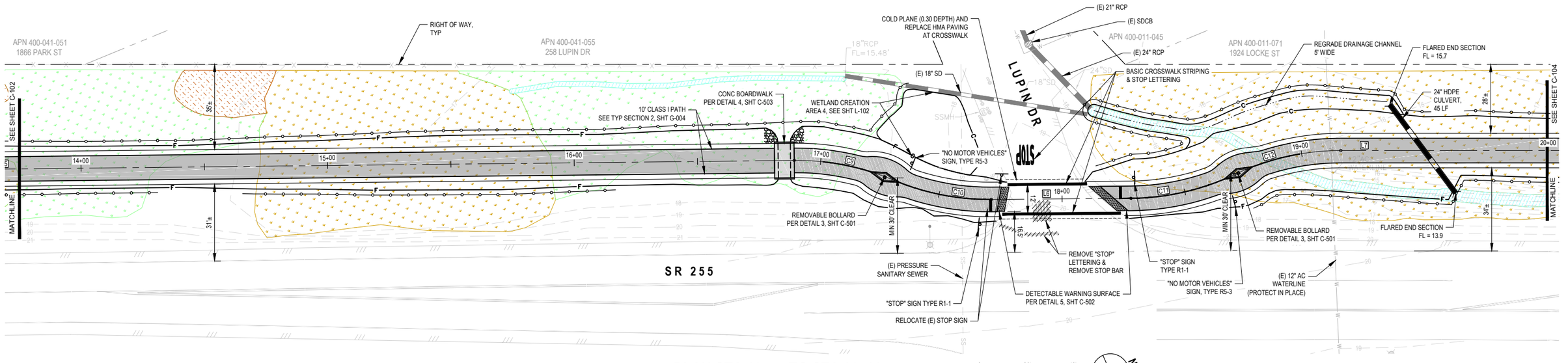
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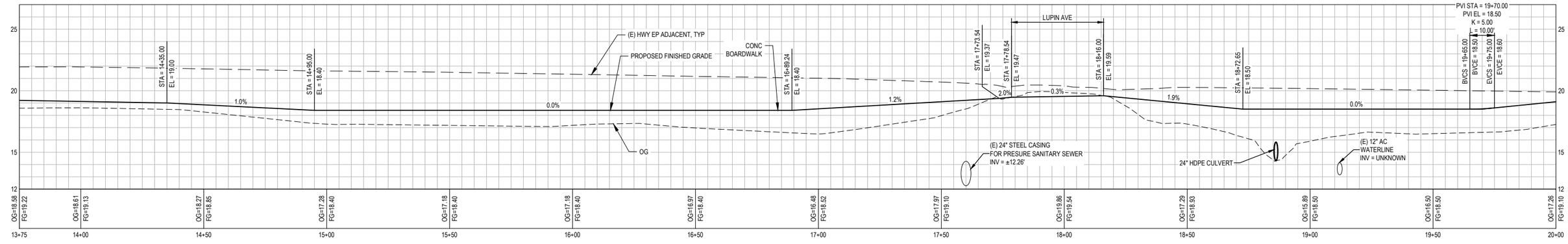
LEGEND

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- (E) COASTAL WETLAND
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- (E) WATERS
- HMA PAVING
- CONCRETE
- C — CUT DAYLIGHT
- F — EDGE OF FILL
- VEGETATION PROTECTION FENCING



PLAN STA 13+75 TO STA 20+00

0 20' 40'



PROFILE STA 13+75 TO STA 20+00

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

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Project MANILA HIGHWAY 255 SHARED USE PATH

Title PATH PLAN & PROFILE STA 13+75 TO STA 20+00

Project No. 11145210

Original Size ANSI D

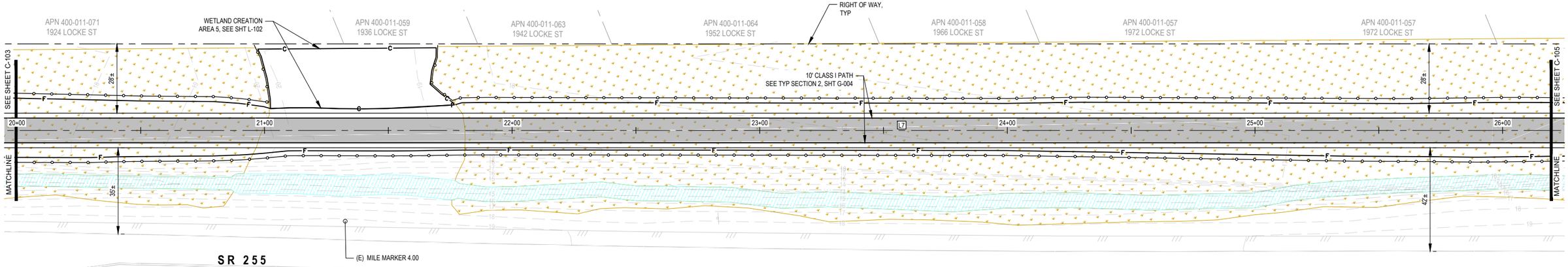
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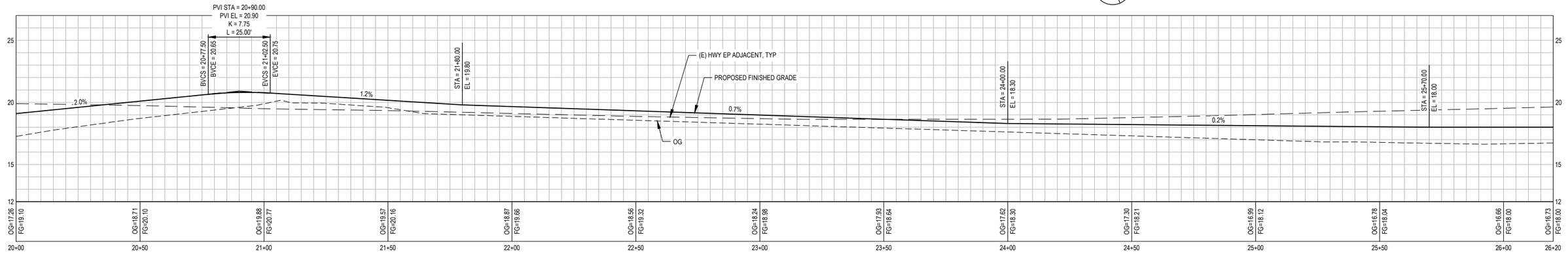
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- VEGETATION PROTECTION FENCING



PLAN STA 20+00 TO STA 26+20

0 20' 40'



PROFILE STA 20+00 TO STA 26+20

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

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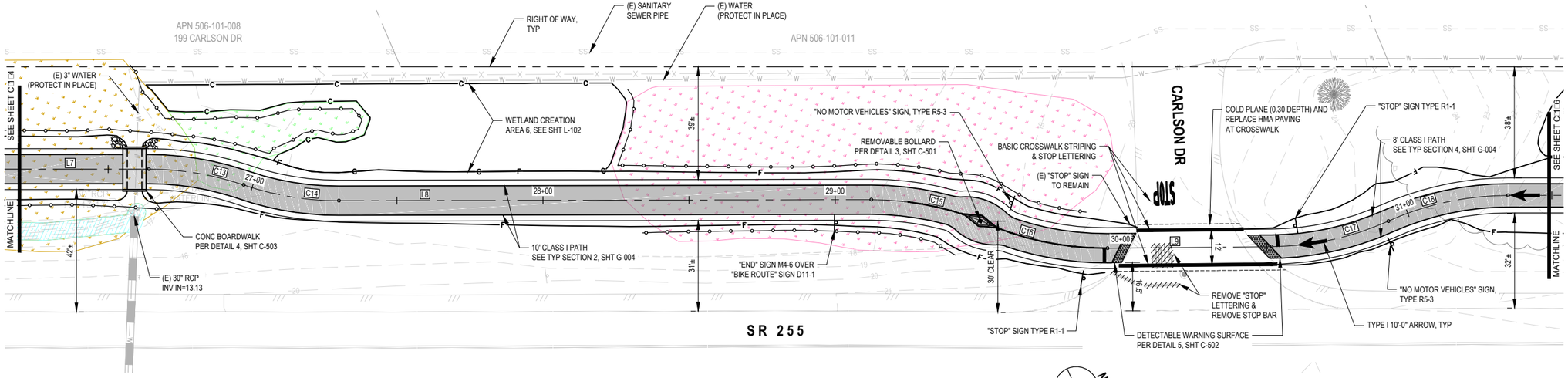
Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title PATH PLAN & PROFILE STA 20+00 TO STA 26+20

Project No. 11145210
Original Size ANSI D
Sheet No. C-104
Sheet 9 of 22

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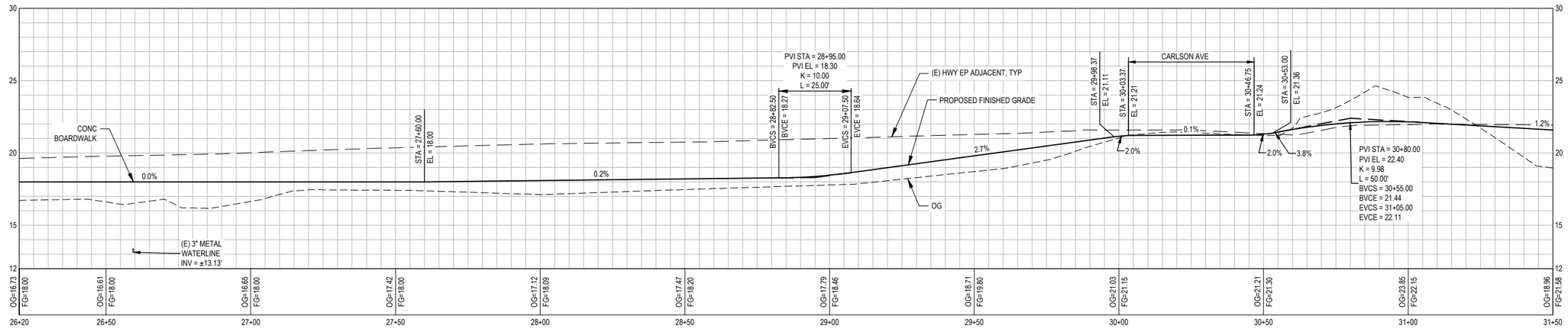
LEGEND

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- VEGETATION PROTECTION FENCING



PATH STA 26+20 TO STA 31+50

0 20' 40'



PROFILE STA 26+20 TO STA 31+50

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

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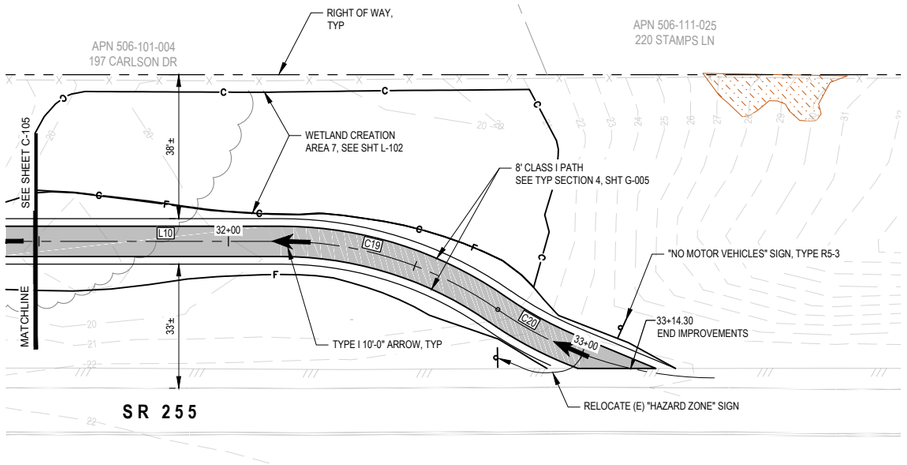
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		Scale	AS SHOWN

Client **COUNTY OF HUMBOLDT**
Project **MANILA HIGHWAY 255 SHARED USE PATH**
Title **PATH PLAN & PROFILE STA 26+20 TO STA 31+50**
Project No. **11145210**
Original Size **ANSI D**
Sheet No. **C-105**
Sheet **10** of **22**

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LEGEND

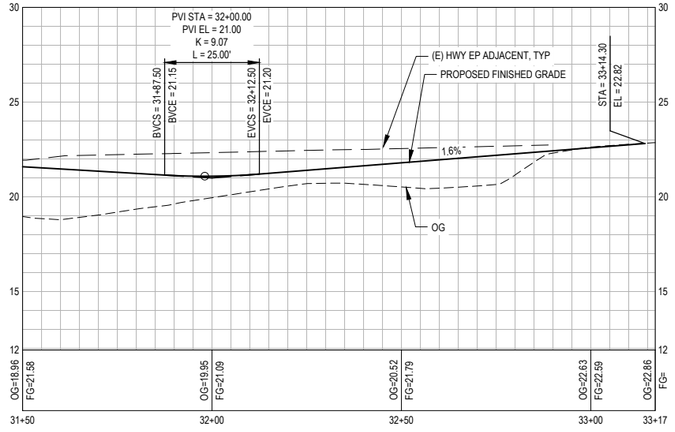
- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- HMA PAVING
- CONCRETE
- C — CUT DAYLIGHT
- F — EDGE OF FILL
- VEGETATION PROTECTION FENCING



PATH STA 31+50 TO STA 33+14.30

0 20' 40'

N



PROFILE STA 31+50 TO STA 33+14.30

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

90% PLANS

NOT FOR CONSTRUCTION

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0 1"

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Project Manager	J.WOLF	Date	1/30/2020
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Client COUNTY OF HUMBOLDT

Project MANILA HIGHWAY 255 SHARED USE PATH

Title PATH PLAN & PROFILE STA 31+50 TO STA 33+14.30

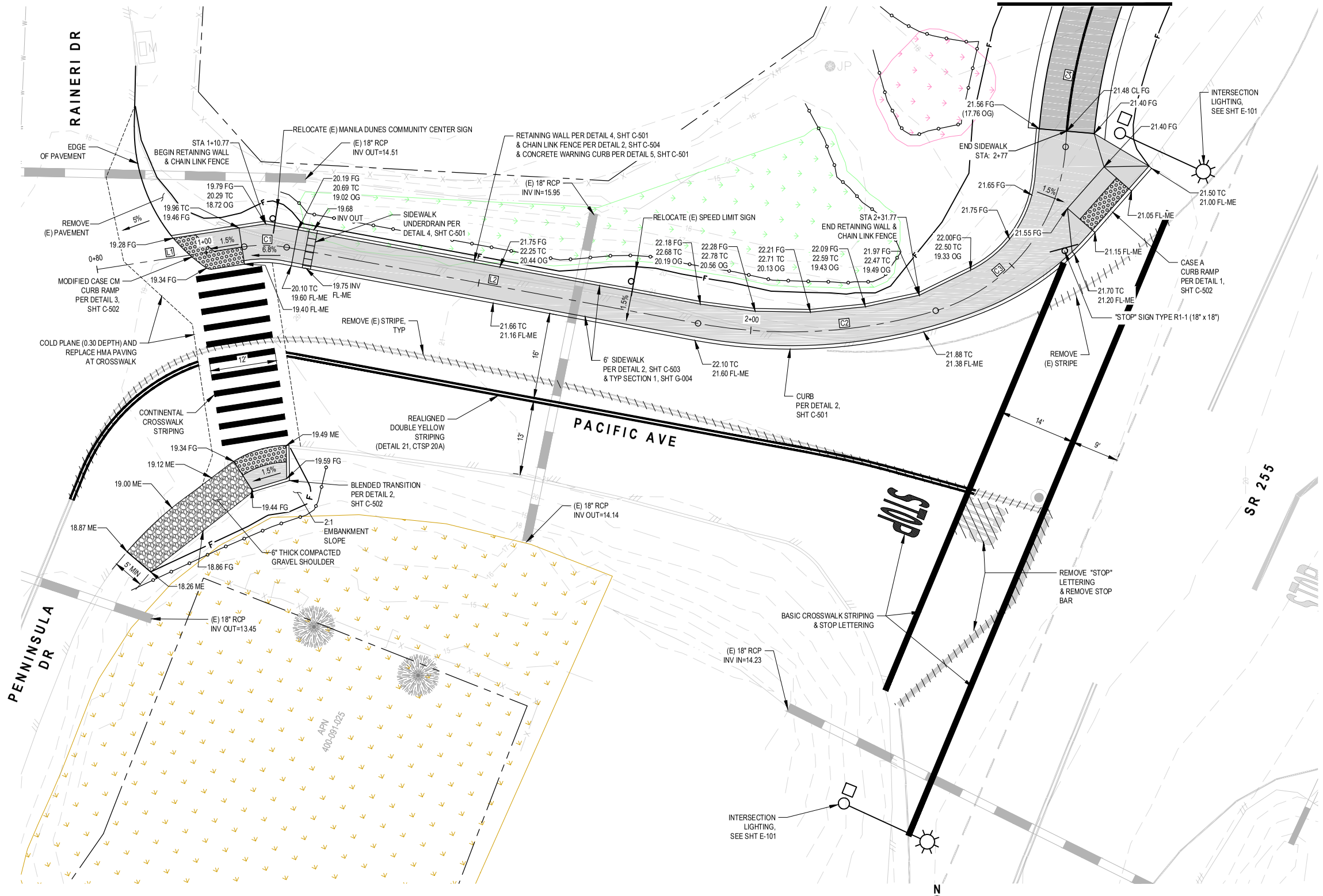
Project No. 11145210

Original Size ANSI D

Sheet No. C-106

Sheet 11 of 22

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LEGEND

- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- HMA PAVING
- CONCRETE
- C — CUT DAYLIGHT
- F — EDGE OF FILL
- VEGETATION PROTECTION FENCING

ABBREVIATIONS (TO SUPPLEMENT CALTRANS 2018 STD PLAN A3A)

TC	TOP OF CURB
FL-ME	FLOWLINE - MATCH EXISTING
CTSP	2018 CALTRANS STANDARD PLAN

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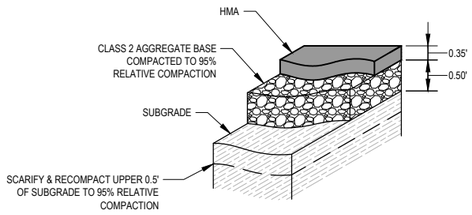
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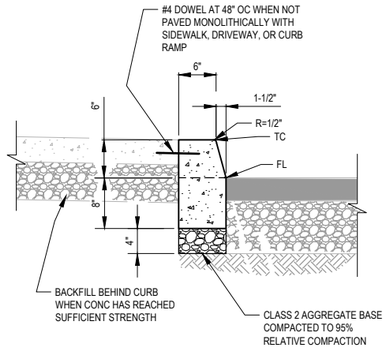
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Project MANILA HIGHWAY 255 SHARED USE PATH
Title SIDEWALK PLAN
Project No. 11145210
Original Size ANSI D
Sheet No. C-401
Sheet 12 of 22

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1 C-501 TYPICAL PAVEMENT SECTION

SCALE: NTS

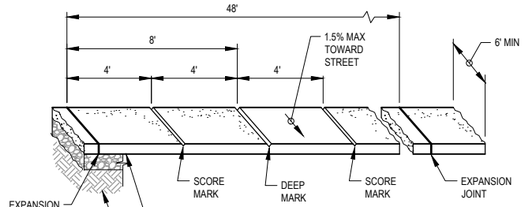


NOTES:

1. DRILL AND DOWEL (2) #4'S WHEN JOINING EXISTING CURBS.

2 C-501 TYPICAL CURB DETAIL - TYPE A1-6

SCALE: NTS

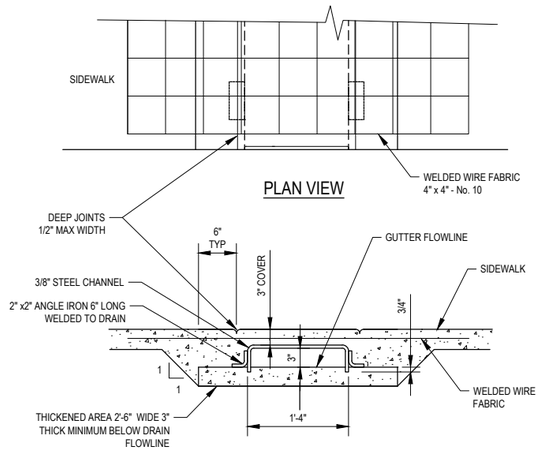


NOTES:

1. DEEP SCORE MARK OR WEAKENED PLANE-DEPTH EQUAL TO 3/4".
2. EXPANSION JOINT MATERIAL TO BE 1/4" THICK PREMOLDED JOINT FILLER FULL THICKNESS OF CONCRETE. EXPANSION JOINTS TO ALIGN WITH EXPANSION JOINTS IN CURB & GUTTER.
3. SIDEWALK SHALL BE BROOM FINISHED. DIRECTION OF BROOMING SHALL BE PERPENDICULAR TO DIRECTION OF TRAVEL.
4. CONTRACTOR TO DRILL AND DOWEL #4'S AT 24" O.C. INTO EXISTING SIDEWALK AT JUNCTIONS TO EXISTING SIDEWALK, DRIVEWAY CURB, AND / OR GUTTER.
5. PROVIDE THICKENED EDGE (8" THICK BY 6" WIDE) WHEN FLUSH WITH VEHICULAR AREAS.
6. WIDTH OF SCORE MARK TO BE 1/2" MAX.

3 C-501 TYPICAL SIDEWALK DETAIL

SCALE: NTS

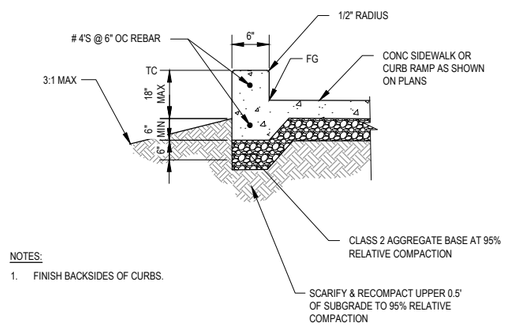


NOTES:

1. BOTTOM OF DRAIN SHALL BE SLOPED AT 1% MIN. AWAY FROM THE ROAD GUTTER AND SHALL BE SMOOTHED PRIOR TO SETTING CHANNEL IN WET CONCRETE.
2. AFTER SETTING CHANNEL, THICKENED AREA WILL BE ALLOWED TO SET UP ENOUGH TO PREVENT FURTHER SINKING OF CHANNEL. A COLD JOINT IS ACCEPTABLE.
3. WIRE FABRIC SHALL BE 4' LONG (MIN.). WIDTH SHALL EQUAL SIDEWALK WIDTH MINUS 4".
4. MITER CHANNEL AS NECESSARY TO BE FLUSH WITH CURB FACE.

4 C-501 TYPICAL SIDEWALK UNDERDRAIN DETAIL

SCALE: NTS

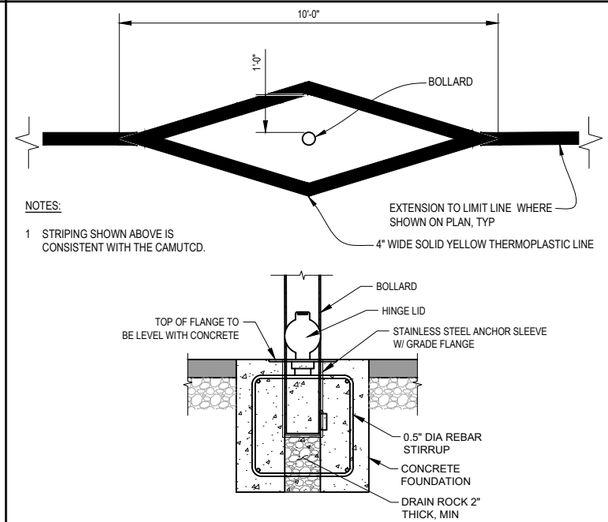


NOTES:

1. FINISH BACKSIDES OF CURBS.

5 C-501 CONCRETE SIDEWALK WARNING CURB DETAIL

SCALE: NTS



NOTES:

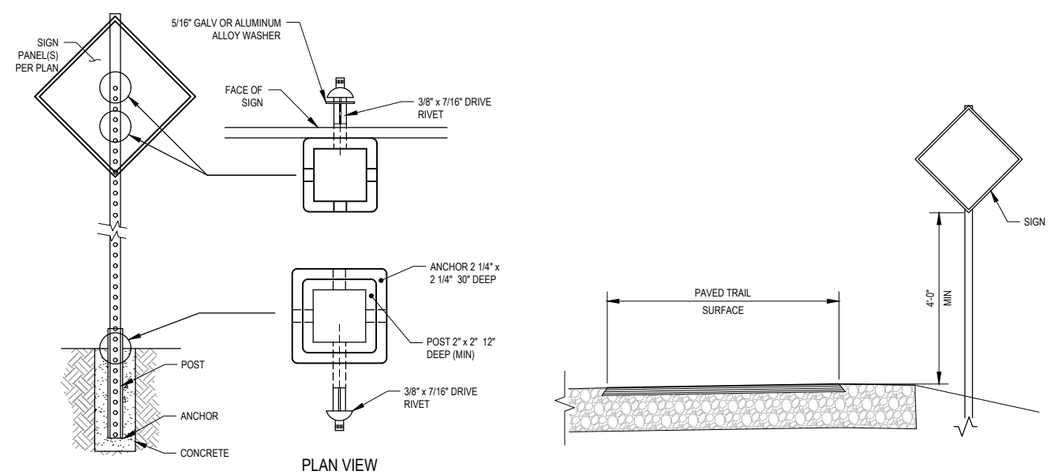
1 STRIPING SHOWN ABOVE IS CONSISTENT WITH THE CAMUTCD.

NOTES:

1. BOLLARDS SHALL BE FACTORY COATED, COLOR BLACK.

6 C-501 TYPICAL REMOVABLE BOLLARD & STIRPING DETAILS

SCALE: NTS



NOTE:

1. POST, SLEEVE AND ANCHOR SHALL BE HOT DIPPED GALVANIZED STEEL CONFORMING TO ASTM A653 DES. G90.

7 C-501 ROADSIDE SIGN INSTALLATION DETAIL

SCALE: NTS

90% PLANS

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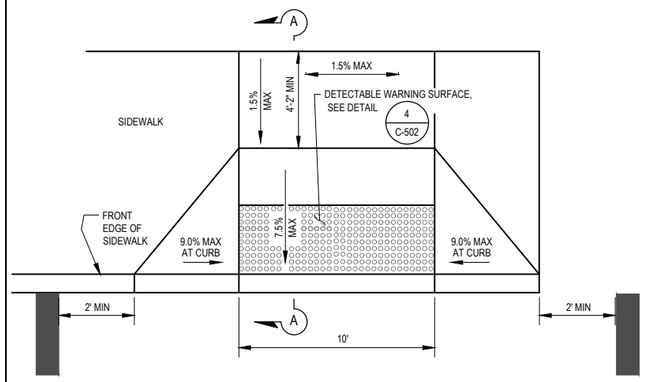
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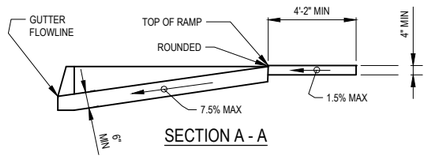
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Project No. 11145210
Original Size ANSI D
Sheet No. C-501
Sheet 13 of 22

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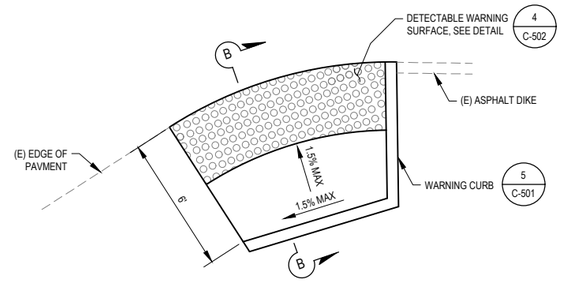
CASE A - PLAN VIEW

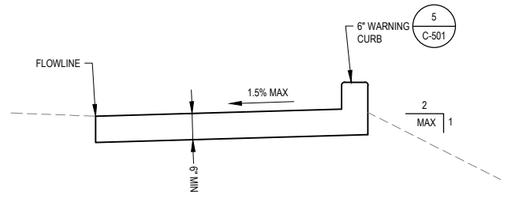


SECTION A - A

1 C-502 CURB RAMP DETAIL - CASE A

SCALE: NTS





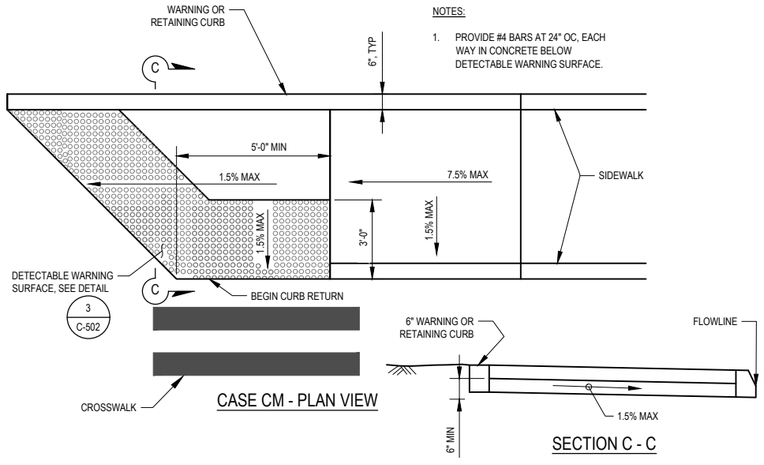
SECTION B - B

2 C-502 BLENDED TRANSITION

SCALE: NTS

PEDESTRIAN ACCESS NOTES:

1. THE CURB RAMP STANDARDS DEPICTED HERE MAY NOT BE APPROPRIATE FOR ALL LOCATIONS. FIELD CONDITIONS AT INDIVIDUAL LOCATIONS MAY REQUIRE SPECIFIC DESIGNS. DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS (CURRENT EDITION) AND SUBSEQUENT REVISED STANDARD PLANS TO THE MAXIMUM EXTENT FEASIBLE.
2. CURB RAMP SHALL BE 6" THICK (MINIMUM) CONCRETE PLACED OVER 4" OF CLASS 2 AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION. SCARIFY SUBGRADE 6" DEEP, MOISTURE CONDITION AND RECOMPACT TO 95% RELATIVE COMPACTION.
3. TRANSITIONS FROM RAMPS AND LANDINGS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
4. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 2'-0" OF THE CURB RAMP.
5. DRILL AND DOWEL #4'S AT 24" O.C. INTO EXISTING CURB, GUTTERS, DRIVEWAYS AND SIDEWALKS.
6. A 6" HIGH WARNING CURB IS REQUIRED PER CBC WHENEVER THERE IS AN ABRUPT CHANGE IN GRADE ELEVATION OFF THE EDGE OF A WALKING SURFACE THAT EXCEEDS 4" VERTICAL EXCEPT BETWEEN A SIDEWALK AND AN ADJACENT STREET. LOCATIONS TO BE AS DIRECTED DURING CONSTRUCTION.
7. WHEN AN EXISTING ACCESSIBLE PATH OF TRAVEL IS TO BE BLOCKED OR REMOVED, THE CONTRACTOR SHALL SUBMIT A TEMPORARY ACCESS PLAN FOR APPROVAL. NO WORK SHALL COMMENCE UNTIL AN ACCESS PLAN HAS BEEN APPROVED BY THE AGENCY HAVING JURISDICTION
8. IF THE CONSTRUCTION WORK AREA IS WITHIN AN EXISTING FACILITY (E.G. BUS STOPS, CROSSWALKS, ETC.), CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCE NOTICE TO OWNERS OF THE FACILITY INDICATING THE AFFECTED LOCATION AND DURATION OF WORK. NO TWO FACILITIES OR PROGRAMS IN SEQUENCE SHALL BE BLOCKED OR CLOSED FOR PUBLIC USE
9. PAYMENT FOR PROVIDING A CONTINUOUS PATH OF TRAVEL SHALL BE CONSIDERED AS INCLUDED IN VARIOUS ITEMS OF WORK AND NO SEPARATE PAYMENT SHALL BE MADE. PROVISIONS FOR CONTINUOUS PATH OF TRAVEL SHALL INCLUDE INSTALLATION AND MAINTENANCE OF TEMPORARY RAMPS, POTHOLING OF UTILITIES, RESTORATION OF EXISTING STREET IMPROVEMENTS, COORDINATION OF WORK, TRAFFIC CONTROLS AND ALL ASSOCIATED WORK NEEDED TO COMPLETE THIS REQUIREMENT.



CASE CM - PLAN VIEW

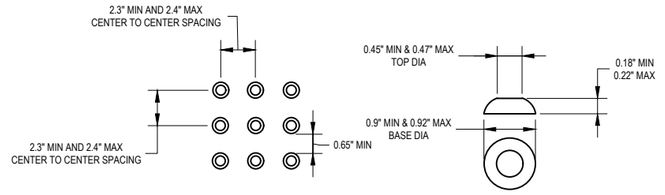
NOTES:

1. PROVIDE #4 BARS AT 24" OC, EACH WAY IN CONCRETE BELOW DETECTABLE WARNING SURFACE.

SECTION C - C

3 C-502 CURB RAMP DETAIL - MODIFIED CASE CM

SCALE: NTS



RAISED TRUNCATED DOME PATTERN (IN-LINE)

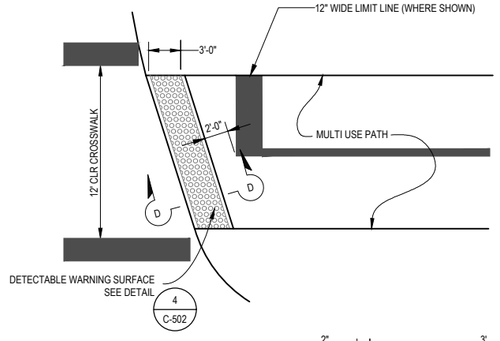
RAISED TRUNCATED DOME

NOTES:

1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'-0" DEPTH OF RAMP. SEE RAMP DETAILS ON THIS SHEET FOR DETECTABLE WARNING LAYOUT.
2. THE EDGE OF THE DETECTABLE WARNING SHALL BETWEEN 6" AND 8" AWAY FROM THE STREET GUTTER FLOWLINE EXCEPT FOR PARALLEL CURB RAMPS OR BLENDED TRANSITIONS, WHERE THE DETECTABLE WARNING SURFACE SHALL BE BETWEEN 0" AND 2" AWAY FROM THE STREET GUTTER FLOWLINE.
3. DETECTABLE WARNING SHALL BE A PREFORMED MATERIAL AS APPROVED BY THE ENGINEER. THE DETECTABLE WARNING SHALL BE CAST-IN, NOT SURFACE APPLIED UNLESS NOTED OTHERWISE. THE USE OF CONCRETE STAMPING IS NOT PERMITTED. NEW RAMPS SHALL BE CAST-IN-PLACE AND EXISTING RAMPS SHALL BE SURFACE-APPLIED.
4. DETECTABLE WARNING SURFACE SHALL BE FEDERAL YELLOW.

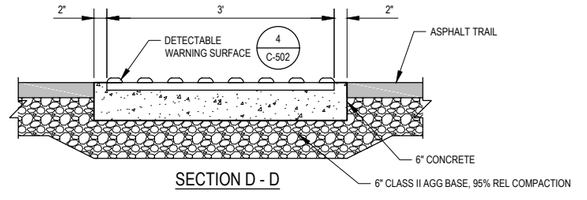
4 C-502 DETECTABLE WARNING SURFACE DETAILS

SCALE: NTS



NOTE:

1. TRANSITIONS TO WALKS, GUTTERS OR STREETS SHALL BE FREE OF ABRUPT CHANGES.



SECTION D - D

5 C-502 DETECTABLE WARNING SURFACE AT VEHICLULAR CROSSING DETAILS

SCALE: NTS

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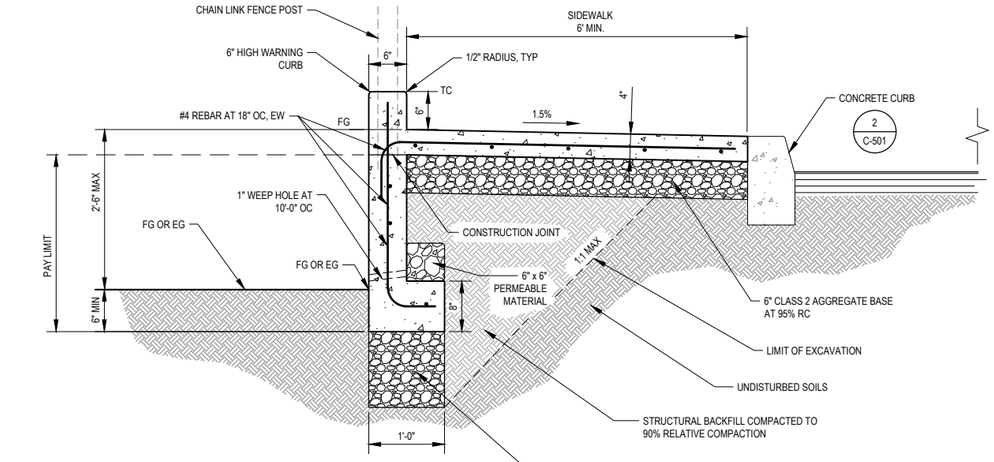
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Project MANILA HIGHWAY 255 SHARED USE PATH
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Project No. 11145210
Original Size ANSI D
Sheet No. C-502
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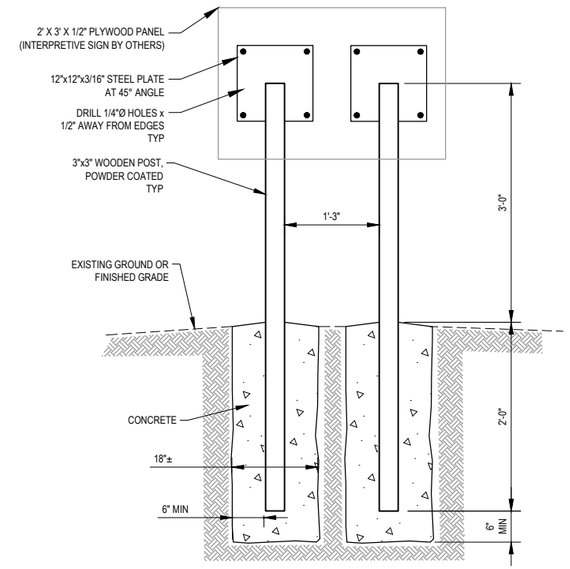


NOTES:

1. 1/2" EXPANSION JOINTS AT 50' OC.
2. ALL BARS DISCONTINUOUS AT EXPANSION JOINTS.
3. GRANULAR BACKFILL SHALL BE CLASS 1 PERMEABLE MATERIAL PER CALTRANS STANDARD SPECIFICATIONS, OR APPROVED MATERIAL.
4. PROVIDE JOINTS PER 3 / C-501

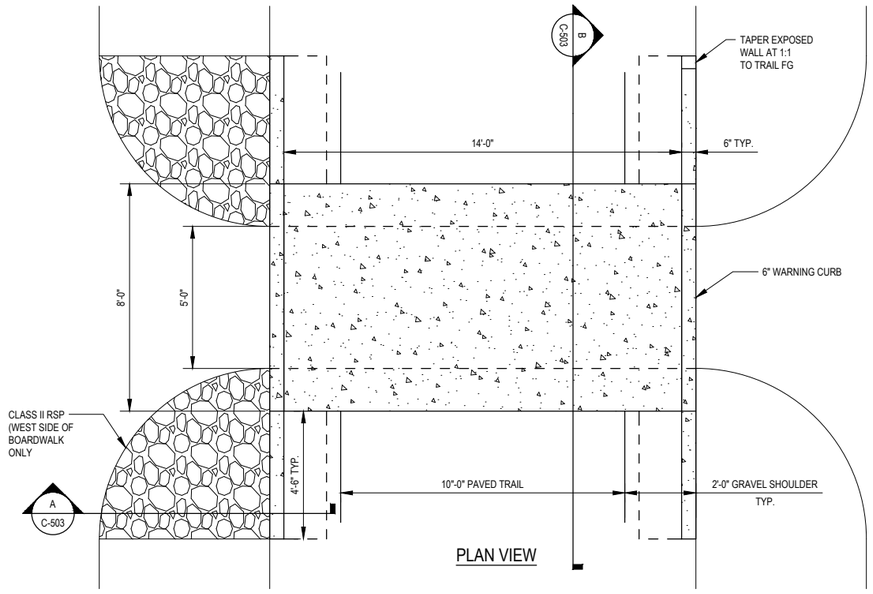
1 / C-503 TYPICAL SIDEWALK WITH RETAINING FOOTING DETAIL

SCALE: NTS

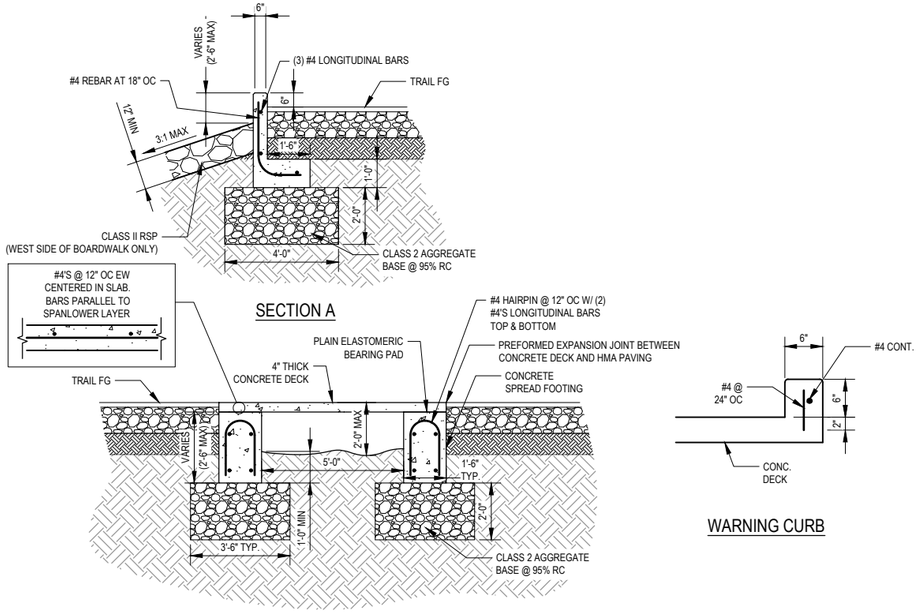


2 / C-503 INTERPRETIVE SIGN DETAIL

SCALE: NTS



PLAN VIEW



3 / C-503 CONCRETE BOARDWALK DETAIL

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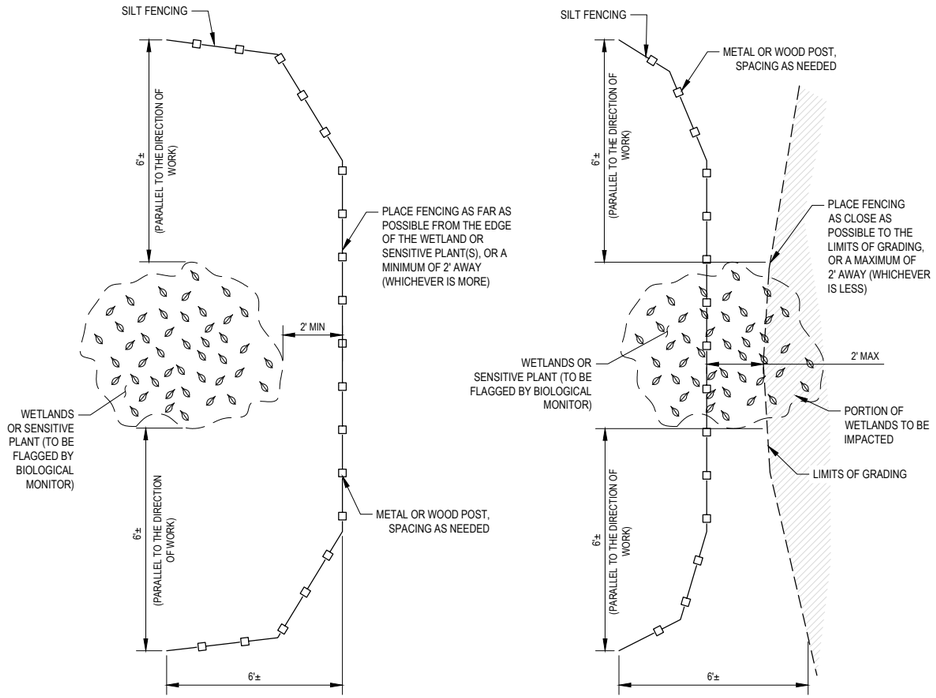
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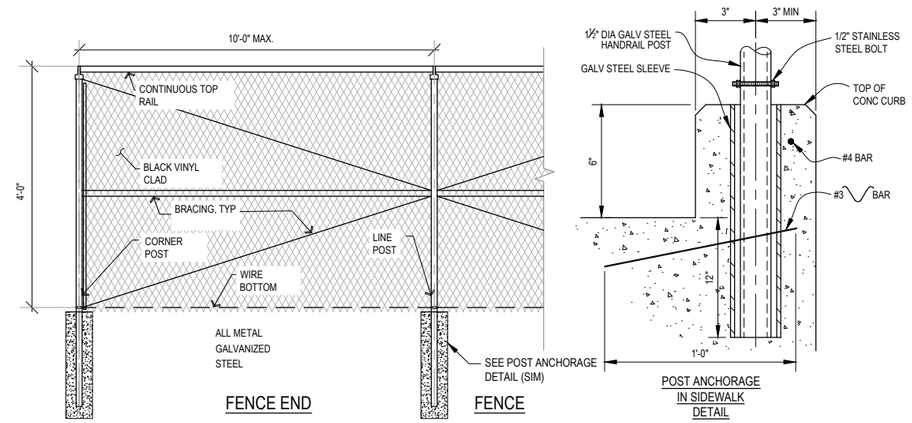


WORKING ADJACENT TO WETLANDS OR SENSITIVE AREAS

WORKING WITHIN WETLANDS OR SENSITIVE AREAS

1 C-504 **TEMPORARY VEGETATION PROTECTION FENCING**

SCALE: NTS



FENCE POST NOTE:

TERMINAL POSTS SHALL BE 2-3/8" DIAMETER AND LINE POSTS SHALL BE 1-5/8" DIAMATER.

2 C-504 **TYPICAL CHAIN LINK FENCE DETAIL**

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Project MANILA HIGHWAY 255 SHARED USE PATH

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PLANTING MIX A: PALUSTRINE EMERGENT (TOTAL AREA 5,765 SF / 0.13 ACRES)

Symbol	Overall Spacing (feet on center)	Spacing Type (1 or seed)	Quantity per Acre	Frequency (%)	Vegetation Strata	Common Name	Unit	Plant Group Designation	Plant Quantities
	3	Random	1,761	35%	Obligate Wetland Plant	small-fruit bulrush	4" Plug	P	229
			1,509	30%	Obligate Wetland Plant	slough sedge	4" Plug	P	196
			755	15%	Obligate Wetland Plant	Pacific oenanthe	4" Plug	P	98
			503	10%	Obligate Wetland Plant	Pacific silverweed	4" Plug	P	65
			503	10%	Facultative Wetland Plant	salt rush	4" Plug	P	65

PLANTING MIX B: PALUSTINE SCRUB - SHRUB (TOTAL AREA 26,282 SF / 0.6 ACRES)

Symbol	Overall Spacing (feet on center)	Spacing Type	Quantity per Acre	Frequency (%)	Vegetation Strata	Common Name	Unit	Plant Group Designation	Plant Quantities
	10	Random	91	20%	Facultative Wetland Plant	coastal willow	Cutting	H	54
	10		91	20%	Facultative Wetland Plant	Pacific willow	Cutting	H	54
	20		22.8	20%	Facultative Wetland Plant	California wax myrtle	1-gal container	A	14
	3		1,006	20%	Obligate Wetland Plant	slough sedge	4" Plug	P	604
	3		1,006	20%	Obligate Wetland Plant	Pacific oenanthe	4" Plug	P	604

PLANTING MIX C: ONE PARAMETER COASTAL WILLOW WETLANDS (TOTAL AREA 2,642 SF / 0.06 ACRES)

Symbol	Overall Spacing (feet on center)	Spacing Type	Quantity per Acre	Frequency (%)	Vegetation Strata	Common Name	Unit (lbs/acre)	Plant Group Designation	Plant Quantities
	20	Random	45.6	40%	Facultative Wetland Plant	California wax myrtle	1-gal container	A	3
	10		91	20%	Facultative Wetland Plant	California blackberry	1-gal container	A	5
	10		181	40%	Facultative Wetland Plant	coastal willow	Cutting	H	11

PLANTING MIX D: WETLAND EDGE SEED MIX (TOTAL 43,561 SF / 1.0 ACRES)

Symbol	Quantity per Acre (lbs/acre)	Frequency (%)	Vegetation Strata	Common Name	Plant Quantities (lbs per acre)
	10	20	Facultative Plant	Pacific American-aster	10
	15	20	Facultative Wetland Plant	Pacific rush	15
	10	20	Obligate Wetland Plant	bulrush	10
	15	20	Facultative Plant	red fescue	15
	10	20	Obligate Wetland Plant	slough sedge	10

PLANTING MIX TABLES

NOT TO SCALE

PLANT INSTALLATION SCHEDULE

ACTIVITY DESCRIPTION	DATE(S) / TIMELINE
PIEZOMETER INSTALLATION	PRIOR TO SEED APPLICATION AND PLANT INSTALLATION
SEED, STRAW AND HYDROMULCH APPLICATION	SEPTEMBER 15 TO OCTOBER 31
PLANT INSTALLATION	NOVEMBER 1 TO DECEMBER 15

90% PLANS

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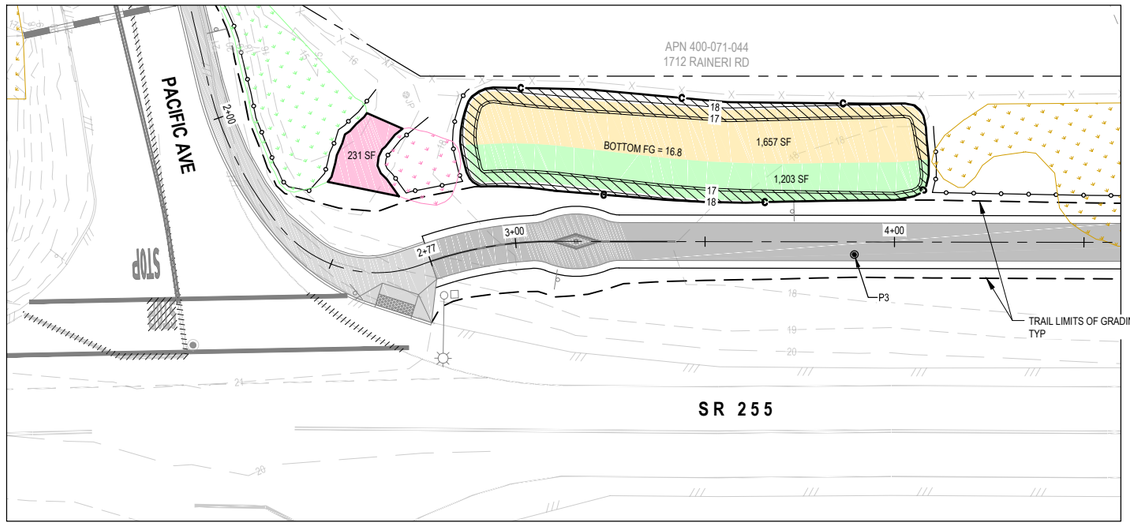
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Drafting Check	J.WOLF	Design Check	J.WOLF
Project Manager	J.WOLF	Date	1/30/2020
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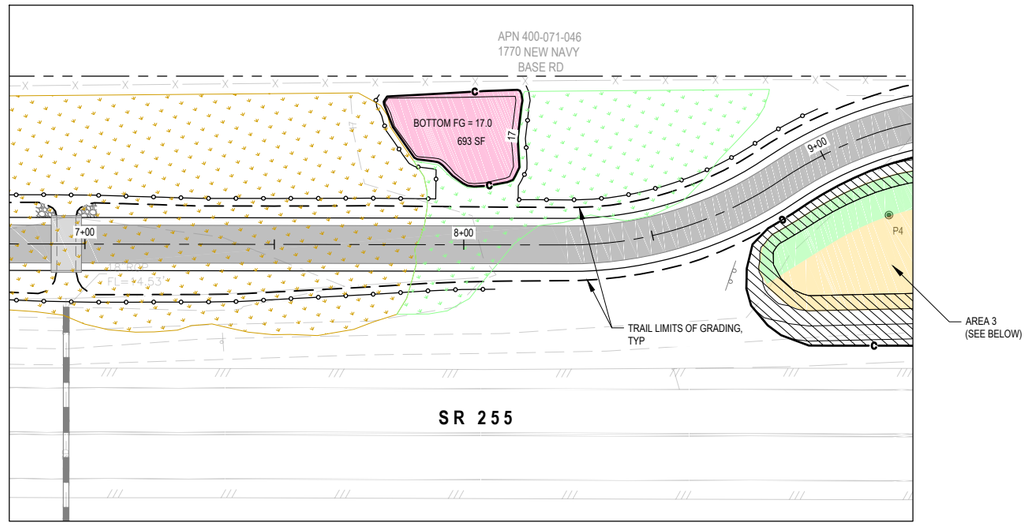
Client COUNTY OF HUMBOLDT
Project MANILA HIGHWAY 255 SHARED USE PATH
Title WETLAND CREATION
PLANTING MIX TALBLES AND PERMIT SCHEDULE
Project No. 11145210

Original Size ANSI D | Sheet No. L-001 | Sheet 17 of 22

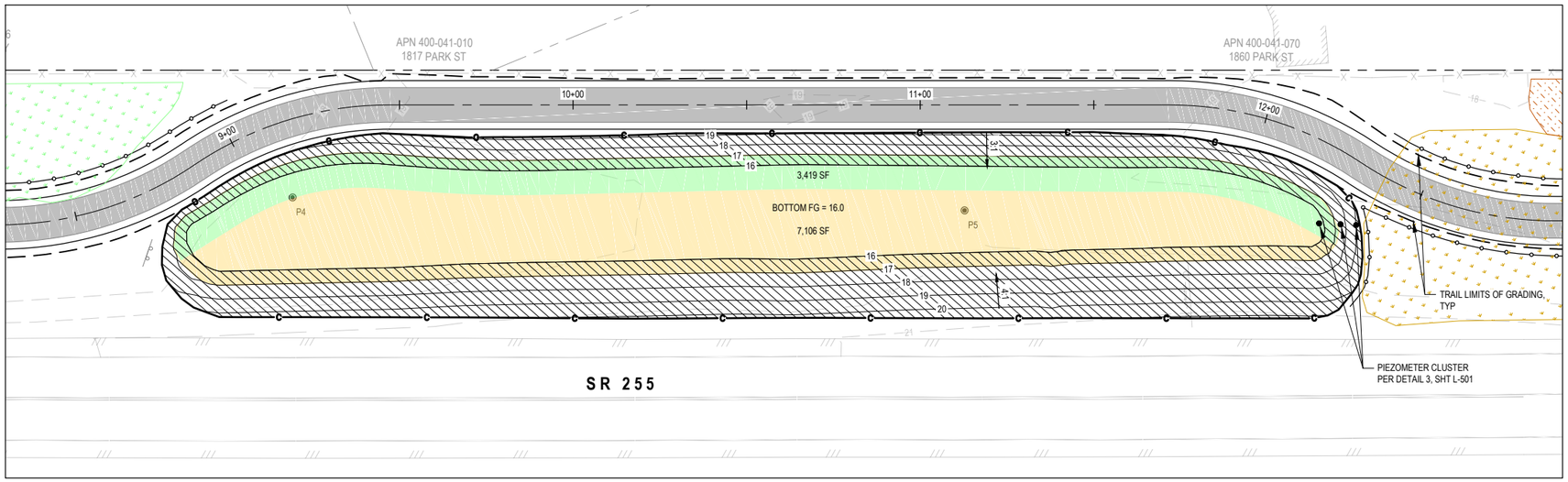
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AREA 1
3,091 SF TOTAL



AREA 2
693 SF TOTAL



AREA 3
10,525 SF TOTAL

0 20' 40'

N

LEGEND

- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- (E) PIEZOMETER
- SF PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE EMERGENT
- SF PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE SCRUB-SHRUB
- SF PROPOSED ON-SITE WETLAND CREATION AREA: COASTAL
- (N) HMA PAVING
- WETLAND SEED MIX
- VEGETATION PROTECTION FENCING
- C CUT DAYLIGHT

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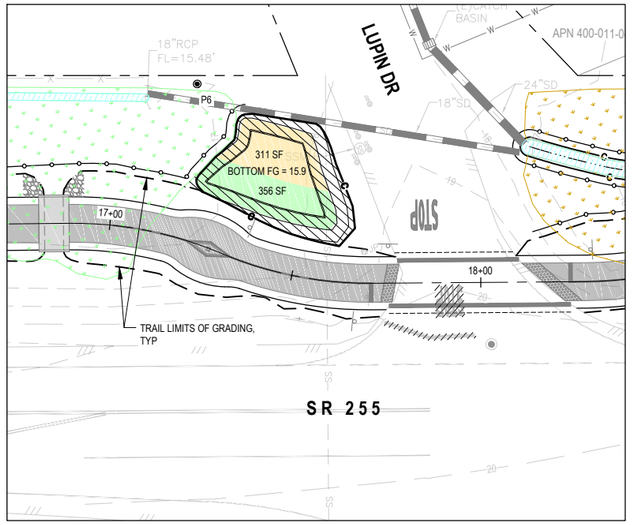
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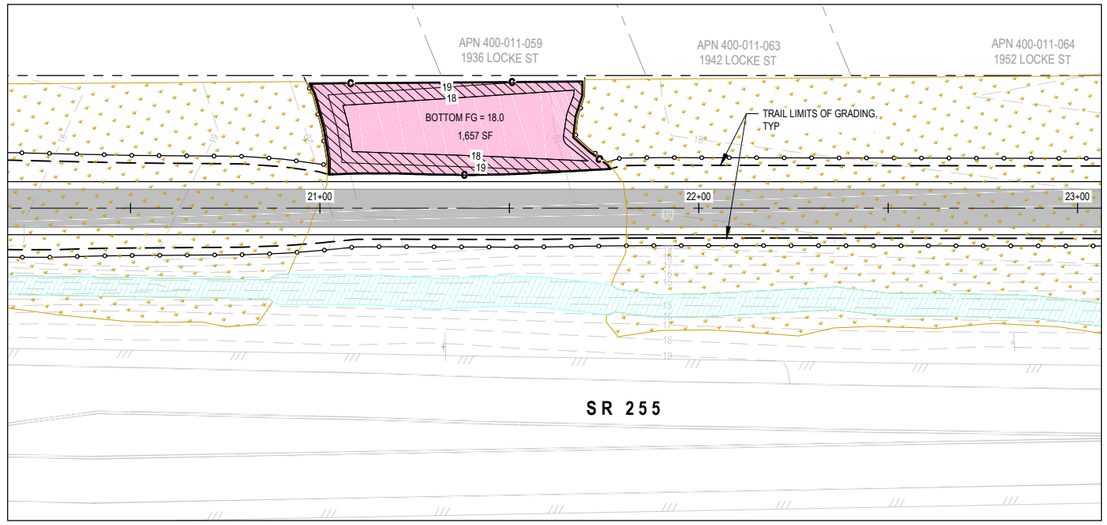
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Project MANILA HIGHWAY 255 SHARED USE PATH
Title WETLAND CREATION AREAS 1 - 3
Project No. 11145210
Original Size ANSI D
Sheet No. L-101
Sheet 18 of 22

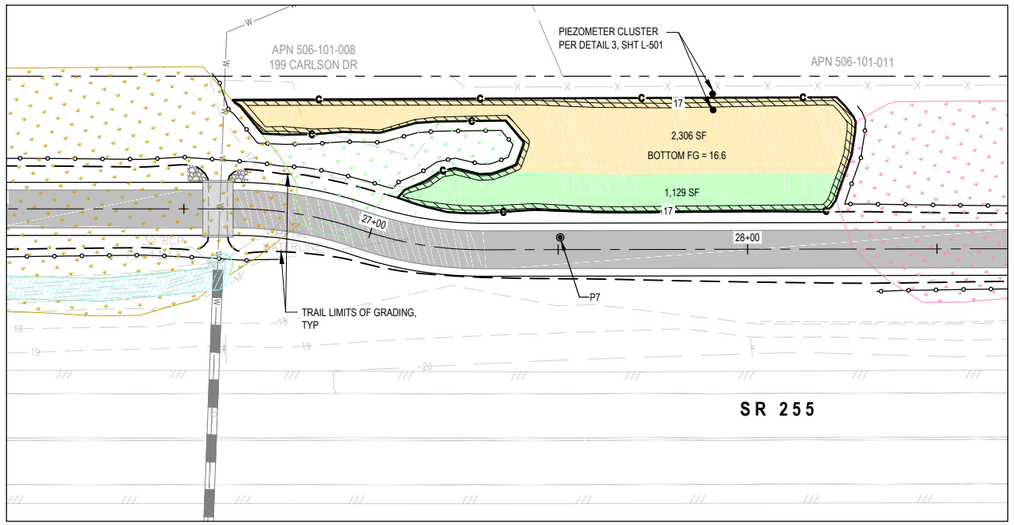
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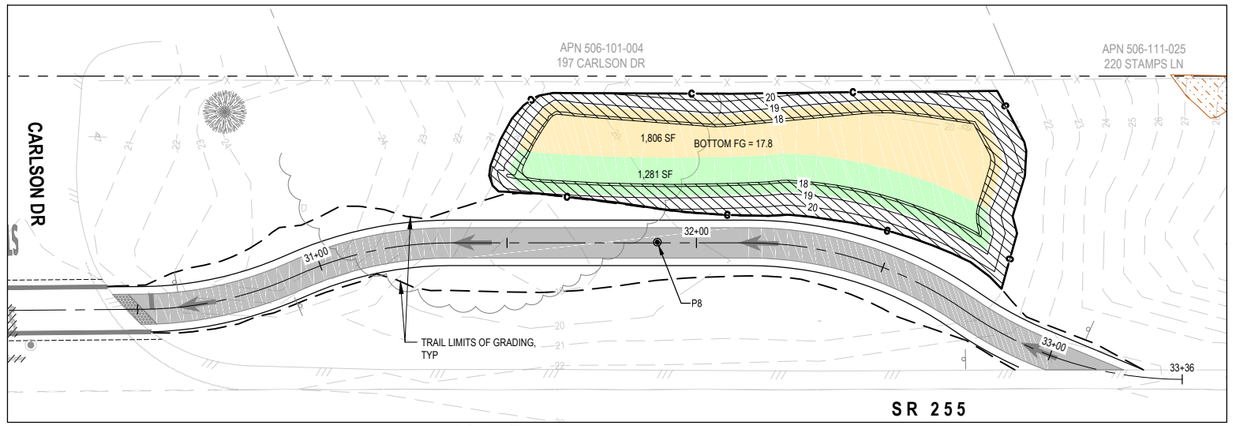
AREA 4
667 SF TOTAL



AREA 5
1,657 SF TOTAL



AREA 6
3,435 SF TOTAL



AREA 7
3,086 SF TOTAL

LEGEND

- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- (E) PIEZOMETER
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE EMERGENT
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE SCRUB-SHRUB
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: COASTAL
- (N) HMA PAVING
- WETLAND SEED MIX
- VEGETATION PROTECTION FENCING
- C — CUT DAYLIGHT

0 20' 40'

N

90% PLANS
NOT FOR CONSTRUCTION

COUNTY OF HUMBOLDT
The Home of the Redwoods

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CIVIL
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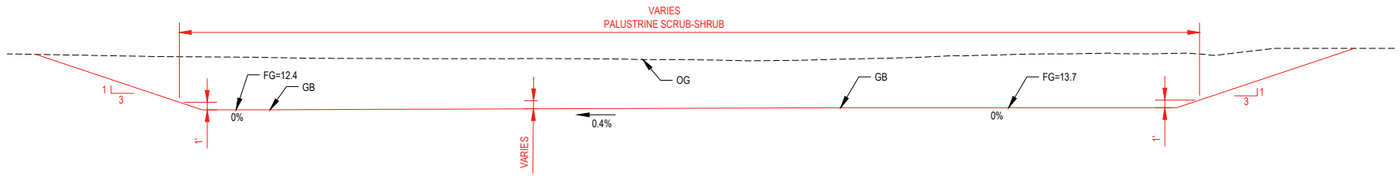
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Project MANILA HIGHWAY 255 SHARED USE PATH
Title WETLAND CREATION AREAS 4 - 7

Project No. 11145210

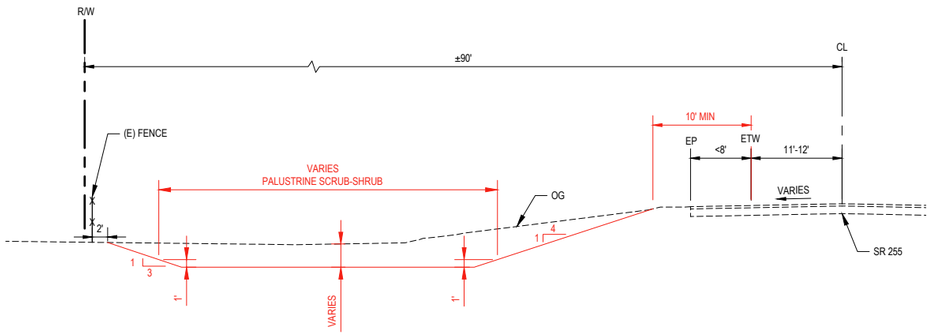
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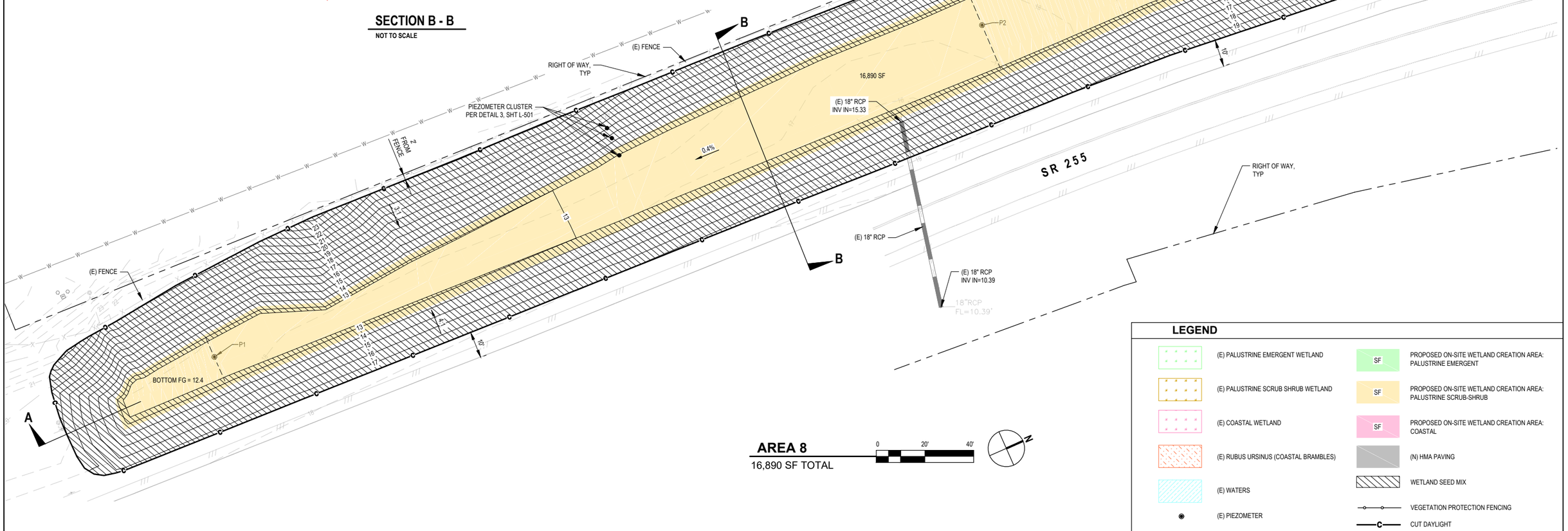
SECTION A - A

NOT TO SCALE



SECTION B - B

NOT TO SCALE



AREA 8

16,890 SF TOTAL

0 20' 40'

N

LEGEND

- (E) PALUSTRINE EMERGENT WETLAND
- (E) PALUSTRINE SCRUB SHRUB WETLAND
- (E) COASTAL WETLAND
- (E) RUBUS URSINUS (COASTAL BRAMBLES)
- (E) WATERS
- (E) PIEZOMETER
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE EMERGENT
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: PALUSTRINE SCRUB-SHRUB
- SF — PROPOSED ON-SITE WETLAND CREATION AREA: COASTAL
- (N) HMA PAVING
- WETLAND SEED MIX
- VEGETATION PROTECTION FENCING
- C — CUT DAYLIGHT

90% PLANS

NOT FOR CONSTRUCTION

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Title WETLAND CREATION AREA 8

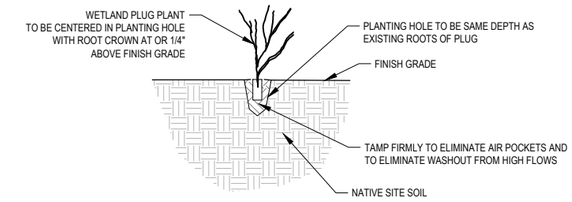
Project No. 11145210

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Sheet No. L-103

Sheet 20 of 22

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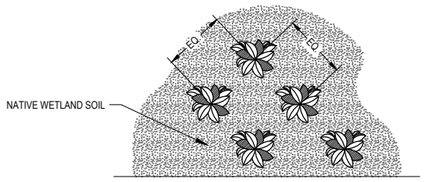


SECTION

NOTES:

1. USE SPADE OR TROWEL TO DIG HOLE BY HAND.
2. SCARIFY SIDES AND BOTTOM OF PLANTING HOLE.

PLUG INSTALLATION



PLAN VIEW

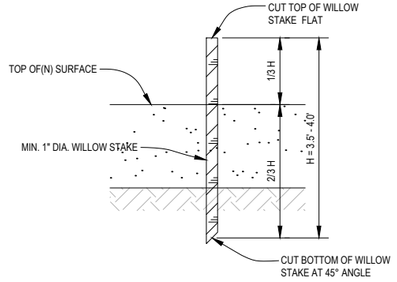
NOTES:

1. SEE PLANTING SCHEDULE L-001 FOR WETLAND PLUG SPECIES, SIZE, AND SPACING DIMENSION.

PLUG PLACEMENT

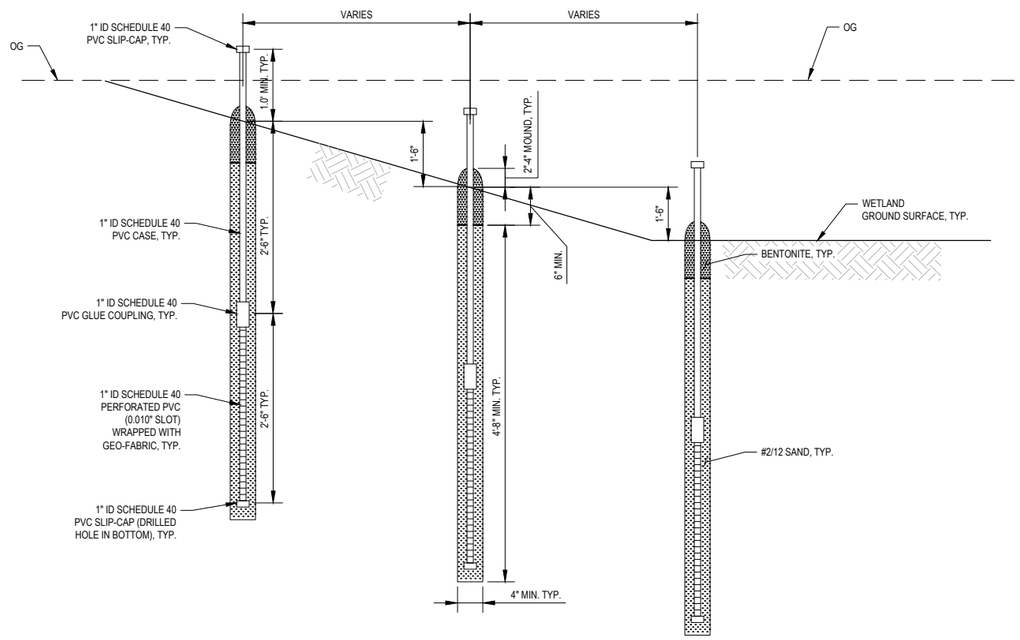
1 L-501 **PLUG PLANTING DETAIL**

NOT TO SCALE



2 L-501 **LIVE WILLOW STAKE DETAIL**

NOT TO SCALE



3 L-501 **PIEZOMETER CLUSTER DETAIL**

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Project **MANILA HIGHWAY 255 SHARED USE PATH**

Title **WETLAND CREATION DETAILS**

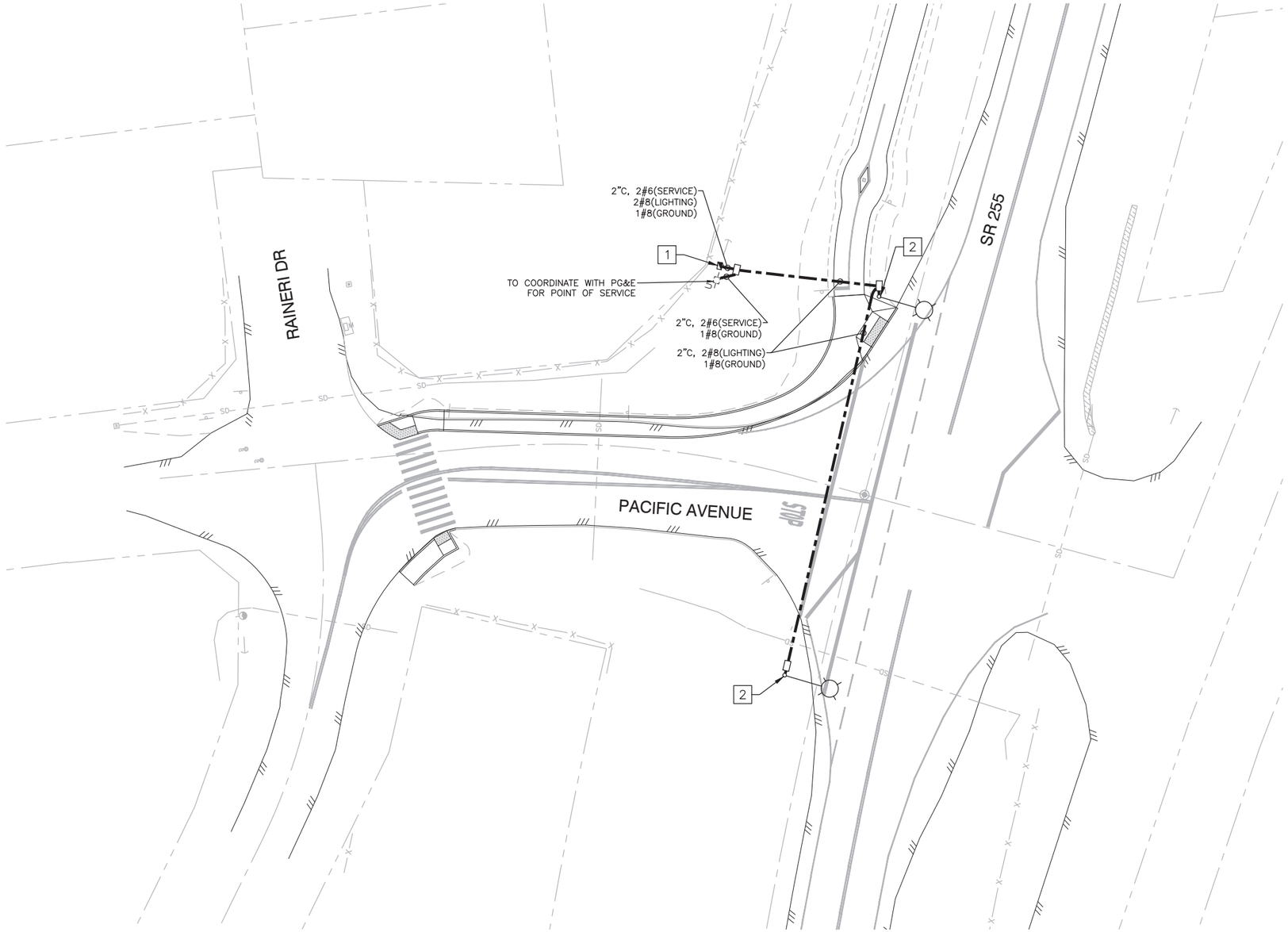
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Original Size **ANSI D**

Sheet No. **L-501**

Sheet **21** of **22**

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GENERAL ELECTRICAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF HUMBOLDT COUNTY IMPROVEMENT STANDARDS AND THE 2018 CALTRANS STANDARD PLANS AND SPECIFICATIONS AND REVISED SECTIONS.
2. ELECTRICAL PLANS ARE DIAGRAMATIC AND ARE CORRECT FOR GENERAL DESIGN ONLY. THE EXACT LOCATIONS OF EQUIPMENT AND APPURTENANCES SHALL BE DETERMINED IN THE FIELD BY THE ELECTRICAL ENGINEER.
3. POLES AND PULL BOXES, SHALL BE LOCATED IN THE PRESENCE OF THE ENGINEER OR INSPECTOR. LOCATIONS SHALL BE APPROVED BY THE ENGINEER OR INSPECTOR PRIOR TO INSTALLATION. CONTRACTOR SHALL CONTACT ENGINEER OR INSPECTOR AT LEAST 2 WORKING DAYS PRIOR TO LOCATING EQUIPMENT TO ARRANGE FOR THE PRESENCE OF THE ENGINEER OR INSPECTOR.
4. ALL UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY OVERHEAD AND UNDERGROUND CLEARANCE WITH P.G.&E., AT&T, AND OTHER AFFECTED UTILITIES PRIOR TO THE START OF WORK.
5. THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.
6. ALL NEW PULL BOXES SHALL BE NO. 5 UNLESS OTHERWISE NOTED.
7. CONDUIT INSTALLATION ACROSS ROADWAYS AND THROUGH WETLANDS SHALL BE BY JACKING AND DIRECTIONAL DRILLING METHODS UNLESS NOTED OTHERWISE.
8. CONTRACTOR SHALL CONTACT PG&E TO VERIFY SERVICE POINT FOR THE STREET LIGHTING SYSTEM AND POLE NUMBERS FOR ALL LUMINAIRE POLES PRIOR TO START OF WORK.
9. ALL CONDUIT SHALL BE 2" UNLESS OTHERWISE NOTED ON THE PLAN.

LEGEND:

- EXISTING UTILITY POLE
- PROPOSED TYPE 15-SB STREET LIGHT POLE (LED 87W)
- PROPOSED NO. 5 PULL BOX
- PROPOSED TYPE III-AF SERVICE PEDESTAL
- PROPOSED CONDUIT

PROJECT NOTES:

1. FURNISH AND INSTALL TYPE III-AF SERVICE PEDESTAL WITH 30A STREET LIGHTING CIRCUIT BREAKER.
2. FURNISH AND INSTALL TYPE 15-SB POLE PER CALTRANS STANDARD PLAN ES-6A.

N

0 20' 40'

SCALE: 1"=20'

90% PLANS

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DRAFT
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CIVIL
STATE OF CALIFORNIA

TJKM
4305 Hacienda Drive, Suite 550
Pleasanton, CA 94588
tjkm@tjkm.com

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Project MANILA HIGHWAY 255 BIKE PATH PROJECT
Title LIGHTING PLANS
Project No. 11145210
Original Size ANSI D
Sheet No. E-101
Sheet 22 of 22

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